



REQUEST FOR PROPOSAL

for

**Work Package for Electronics / Instrumentation
related activities**

at

PROPULSION RESEARCH & STUDIES ENTITY (PRSE)

LIQUID PROPULSION SYSTEMS CENTRE

INDIAN SPACE RESEARCH ORGANISATION

VALIAMALA

THIRUVANANTHAPURAM

1.0. **PREAMBLE:**

1.1 Liquid Propulsion Systems Centre (LPSC)/ISRO is looking for reputed companies/agencies having highly capable and diligent personnel to carry out the activities related to Work package for the **Assembly & Test Facility Instrumentation Division (ATFID)** in connection with the Electronics / Instrumentation related activities at the following facilities at LPSC Valiamala, Thiruvananthapuram.

- 1 Low Thrust Engine Test Facility – VMC (LTET-V)
- 2 Low Thrust Engine Test Facility – TERLS (LTET-T)
- 3 Integrated Assembly & Test Facility for Satellite Thrusters (IATF-ST)
- 4 Vibration Lab for IATF-ST
- 5 PRG Cold Flow Facility (PCFF)
- 6 Vacuum Degassing Facility (VDF)
- 7 Large Vacuum Chamber Facility (LVCF)
- 8 Small Vacuum Chamber Facility (SVCF)
- 9 Rotor Dynamics & Turbo Pump Lab (RD & TPL)
- 10 Combustion Research Lab (CRL)
- 11 Assembly & Integration Instrumentation & Data Acquisition Facility (A&I IDAF)

1.2 LPSC proposes to avail the services related to **ATFID in connection with Electronics / Instrumentation related activities at the above mentioned facilities** from a reputed agency.

2.0 **DEFINITIONS:**

- 2.1 The term “Service Receiver” means Liquid Propulsion Systems Centre (LPSC), a Centre under the Indian Space Research Organization (ISRO) of the Department of Space (DOS) hereinafter called “Service Receiver” includes its Units/Entities/Groups/Divisions of LPSC located at Valiamala P.O, Thiruvananthapuram - 695547.
- 2.2 The term “Service Provider” includes any registered Establishment which will be deemed responsible and held accountable for performing the work contract.
- 2.3 The term “Work Package” shall mean a Work Package Contract to provide services at different Entities/Groups/Divisions of Service Receiver as per the Scope of Work.
- 2.4 The terms “Employees” shall mean all the employees, supervisors and staff of the Service Provider deployed by the Service Provider to carry out the Work Package tasks as defined in the Work Package Order(s).

- 2.5 The term “Focal Point” shall mean the designated officials of Service Receiver, who will be coordinating with the Supervisor of the Service Provider. The Focal point of Service Receiver shall be mentioned in the Work Package Order(s).
- 2.6 The term “Supervisor” shall mean the Identified/ qualified persons of “Service Provider”, who will supervise the works carried out by the qualified work force of “Service Provider”
- 2.7 The term “Paying Authority” shall mean the Accounts Officer of the Service Receiver.

3.0 SERVICE PROVIDER PRE-REQUISITES

The Service Provider shall fulfil the following requirements.

- a. Should be a registered firm/Company/society and not an individual.
- b. Should have valid registration certificate issued by any Government Agency. The Bye-Law/Registration Certificate should permit undertaking the proposed work.
- c. Should have Registration with Labour Department, EPF Organization and ESI Corporation.
- d. Should have Income Tax (PAN)
- e. Should have GST Registration
- f. Should have employees with adequate experience/ expertise to undertake activities elaborated in Annexure 1.
- g. Should submit 6 months’ Bank statement showing minimum bank balance for paying at least 4 months’ wages to the work force.

4.0 Mandatory Documents

The following documents shall be submitted by the Service Provider along with documentary proof (wherever required); without which your offer will NOT be considered.

No.	Details	Annexure
1.	The details of Service Provider’s establishment in their letter head	A
2.	Declaration Form	B
3.	Declaration with respect to Court Cases, if any pending or being contemplated against the Service Provider	C
4.	“Near Relative” Certificate declaration in the format in line with Para 4.1	D
5.	Compliance Statement	E
6.	Bank statements for six months	
7.	ITR for the last two financial years	

8.	Balance sheet or P & L Account for the last two years	
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The Service Provider shall engage required number of employees with relevant qualifications for the execution of work as per Scope of Work (Section 6.0).

4.1 Near Relative: -

- The Service Provider shall furnish a Declaration (Annexure-D) of the details of “Near Relative” of the Service Provider (of the owner, partner, member of board of directors, members of governing body, or similar authorized bodies responsible to perform the management functions of the Service Provider’s Firm) who is/are working/employed in VSSC & IISU, Liquid Propulsion Systems Centre (LPSC), a Centre of ISRO located at Thiruvananthapuram and any other ISRO Centre/Unit. The “Near Relative (s) means:
 - a) Spouse
 - b) The one is related to the other in a manner as father, mother, son(s) & son’s wife (daughter-in-law), daughter(s) & daughter’s husband (son-in-law), brother(s) and brother’s wife, sister, sister-in-law, sister’s husband (brother-in-law) in relation to the Partner / Shareholders / Directors / Executives / Office bearers of the Service Provider.
- Declaration of the details of “Near Relative”
If any “Near Relative” are engaged as above (Para 4.1), a declaration to the effect that the said employees of ISRO has no connection/ partnership/share-holding or any other business interest in the Service Provider’s firm shall be certified and provided.

5.0 Period of Work Package Order:

The proposed Work Package Order(s) will be valid for a period of 24 months from commencement of the contract with an option to extend the same for a further period of one year, with the same terms and conditions on mutual consent. The commencement of the contract shall be within one month from the date of placement of work contract.

6.0 Scope of Work:

- 6.1 The details work content for this “Work Package” is mentioned at Annexure 1 and which includes the scope of work, category of work force and the minimum number required to execute the work.
- 6.2 The Service Provider shall ensure that the works assigned to them are completed within the prescribed time-limit, under their supervision.

6.3 The Service Provider shall engage required number of persons with relevant qualifications and experience to carry out various activities listed in Annexure 1.

6.4 LPSC reserves the right to increase or decrease number of personnel to be deployed based on the project requirement or exigency.

7.0 Working Hours

7.1 Normal Working Hours: Generally, the working hours of the center are from 08.45 hours to 17.15 hours with half an hour lunch break. The Service Provider has to execute the work from Monday to Friday in the normal working hours.

7.2 Extended working hours: Based on the requirement, the Service Provider should be prepared to undertake the work during extended hours as well as on holidays.

7.3 Change in working hours: The Service Provider shall also adhere to any changes made in the present shift timings in the specified area of the Service Receiver and shall follow the said changed timings.

8.0 Legal:

8.1 The Service Provider shall abide by the Law of the land including, CLR Act, EPF, ESI Minimum Wages, TDS Liabilities, Service Tax etc. Service Receiver shall in no way be responsible for any default regarding statutory obligation. The Service Provider has to ensure compliance of the provisions at the time of submission of bill to the Service Receiver and while making payments to their work force at all times during the currency of the Work Package.

8.2 Compensation Act 1923 -**Keeping in view of liability under Employees Compensation Act, 1923, in case of the occurrence of any Accident during the course of execution of this Contract/ Order/Agreement involving any of the persons engaged by the Contract/agency/firm/company occupied within the premises of the work site specified by LPSC and during the discharge of duties, resulting in:**

Death or permanent disability from loss of both limbs or In the event of other permanent disability

- **The victim/dependant shall be eligible for a compensation of Rs.10 lakhs and Rs.7 lakhs for a & b, respectively. This compensation is applicable irrespective of whether or not there has been any wrongful act, neglect or default and notwithstanding anything contained in any other law. The liability for this shall rest with the Contractors/Agencies/Firms/Companies concerned. Whenever such incident occurs, as per the guidelines of the Department, Department shall make arrangements for disbursing this**

amount and shall recover the same from the Contractors/Agencies/Firms/Companies concerned.

- For this purpose, without limiting any of the other obligations or liabilities, the Contractors/Agencies/Firms/Companies concerned shall at his own expense take a Comprehensive Insurance for his workforce and for all the work during the execution period from any of the Insurance Companies as approved by the Insurance Regulatory & Development Authority of India (IRDA).
- The Contractors/Agencies/Firms/Companies concerned shall have to furnish originals along with premium receipts and other papers related thereto to the Officer concerned at LPSC within 15 days from the date of placement of Contract/Order/Agreement and work shall commence only thereafter.

8.4 The Service Provider shall discharge all the legal obligations in respect of the workforce engaged by them for the execution of the work in respect of their remuneration and Service Conditions and shall also comply with all the rules and regulations and provisions of the law in force that may be applicable to them from time to time. The Service Provider shall indemnify and keep indemnified Service Receiver from any claim, loss or damages that may be caused to it on account of any failure to comply with the obligations under various laws. In case of any dispute, the decision of Service Receiver shall be final and binding on the Service Provider.

8.5 The timely payment of remuneration to the workforce, remittance of EPF and ESI shall be the sole responsibility of the Service Provider. For any default with regard to statutory obligation, the Service Provider is solely responsible.

8.6 The Service Provider shall also be liable for all Taxes, Levies, Cess etc., on account of service rendered by them to the concerned authorities from time to time as per extant rules and regulations in the manner.

8.7 The Service Provider shall completely be responsible to maintain the Attendance, Acquittance of wages paid, EPF, ESI and Comprehensive Medi-claim policy as the case may be. Government authorities shall have the right to inspect these records at any time and take necessary penal action for non-compliance of these provisions, if any.

8.8 The Service Provider is fully responsible for timely claiming and disbursing monthly payment of remuneration to their work force engaged in the campus of the Service Receiver, within the time limit prescribed in the relevant Act/Rules.

8.9 Payment disbursement shall be made to the Service Provider by the Service Receiver on monthly basis for the actual units of work completed on receipt of the invoice/bill which is duly certified by the Focal Points and approved by

Divisional Head / Group Head of the Service Receiver/JRT, as the case may be and submitted to the Accounts Officer, LPSC, in the prescribed format together with the following documentary proof.

- i. Proof of payment of remuneration made to the work force for the preceding month duly certified by the Service Provider.
- ii. Proof of remittance of both Employees' and Employer's contribution towards EPF, ESI or Medi-claim Policy, as the case may be, made for the preceding month.

8.10 The Service Provider should issue signed wage slip/statement on their letter head to the work-force containing details of remuneration paid, recoveries made etc.

8.11 The Service Provider upon being served with the Work Package Order(s) shall engage the work force as per the requirements sought for the Service Receiver for which the Service Provider shall provide the bio-data of their qualified workforce.

8.12 **Issue of entry pass:** For arranging entry pass to enter the Service Receiver's premises, the Service Provider should submit the details of their work force to the respective focal point and the same shall contain the following documents. The respective focal point shall scrutinize the same and shall forward it to the Senior Administrative Officer, GAD/P&GA duly approved by their Divisional Head:

- a. Police Clearance Certificate
- b. ID card issued by the Service Provider
- c. Any valid Photo Id card issued by any Government Agency and
- d. Two copies of Stamp size photographs.

- i. Police Clearance Certificate

It is the responsibility of the Service Provider to arrange the character and antecedents of the work force engaged for duty. The Service Provider shall engage the work force who is not having any criminal background. The character and antecedents shall be got verified through record check by Service Provider at their own cost from the concern Police authorities (Police Clearance Certificate) and submit the original report.

- ii. Identity Card to be issued by the Service Provider

The Service Provider shall issue tamper proof necessary Identity Card in their firm's/society's/agency's /company's logo to the work force deployed by them to Service Receiver.

- 8.13 The Service Provider shall submit to the respective Paying authority of the Service Receiver, the detail of the monthly remuneration in the form of a pay slip made by them to their workforce including the deduction, by 10th of the following month.
- 8.14 In case, the Service Provider fails to comply with any statutory/taxation liability under the appropriate law and as a result, if Service Receiver is put under any loss/obligation, monetary or otherwise, Service Receiver will be entitled to get itself reimbursed either out of the outstanding bills against any of the Work Package Order(s) or from the Security Deposit to the extent of the loss or obligation in monetary terms.
- 8.15 The Service Provider shall be bound by the details furnished by them to the Service Receiver while submitting the tender or at any subsequent stages. In case, any of the documents furnished by them is found to be false at any stage, it would be deemed to be a breach of the Terms and conditions of the Work Package Order(s) making the Service Provider liable for legal action besides termination of Work Package Order(s) and forfeiture of Security deposit.
- 8.16 The Service Provider shall be solely responsible for the redressal of grievances/resolution of disputes relating to the work-force engaged by them. Service Receiver shall in no way be responsible for the settlement of such disputes. Service Provider should maintain a record of grievance received from the work force and action taken for settlement.
- 8.17 For all intents and purposes, the Service Provider shall be the “Employer: within the meaning of different Labour Legislations in respect of the work force engaged by the Service Provider by Service Receiver’s site. The work force engaged by the Service Provider to the Service Receiver shall not have any claim whatsoever of “Master and Servant” relationship nor have any “Principal and agent” relationship with or the Service Receiver for the said services.
- 8.18 The Service Provider upon being served with the Work Package Order(s) by the Service Receiver shall obtain all necessary labour license from the Labour Department and all the license shall be valid till the currency of the Work Package Order(s) and shall be extended whenever required.
- 8.19 Any other terms, conditions or clauses not covered in this document shall be in accordance with other statutory rules/acts applicable to DOS/ISRO.

- 8.20 In case of termination of the Work Package Order(s) on its expiry or otherwise, the work-force engaged by the Service Provider shall not be entitled to and shall have no claim whatsoever for any kind of employment in the Service Receiver's establishment and shall be made known by the Service Provider to their work force before being engaged.
- 8.21 The status of the Service Provider shall be that of an independent Service Provider. The Service Provider and its work force performing under this Work Package shall not be the employees of Service Receiver. Neither the Service Provider nor its work force shall be considered as employees of Service Receiver. Such work force has no right for subsequent regularization.
- 8.22 The Service Provider shall not assign, transfer or convey in whole or part, this work/Work Package Order(s) to anyone. The Service Provider shall also not delegate any of its obligations or duties under this Work Package Order(s) to anyone. The Service Provider shall not assign, pledge or collateral, grant a security interest in, create a lien against or otherwise encumber any payments that may or will be made to the Service Provider under this Work Package Order(s).
- 8.23 The Service Provider shall be bound to accept all instructions/directions issued by the focal point or any other person duly authorized by them relating to the execution of the Work Package Order(s).
- 8.24 The Service Provider shall maintain a register for the execution of the work and get endorsement of the same from the focal point of the Service Receiver for having completed the work satisfactorily.
- 8.25 The details of work handled by the work force, Supervisor and establishment should be kept secret and should not be divulged to any person or outside agencies. An undertaking in this regard shall be mandatorily provided by the Service Provider as specified in Annexure B.
- 8.26 The Service Receiver reserves the right to reject any of the work-force engaged by the Service Provider, if the present or activity of such work force is detrimental to the interest or discipline or security of the Service Receiver.
- 8.27 The work force once engaged for the Service shall not be changed without the prior concurrence of the Focal Point of the Service Receiver. It is the responsibility of the Service Provider to replace/substitute suitable personnel, in case of discontinuation/termination of the service personnel.

8.28 The Government of India has enacted the Micro, Small and Medium Enterprises Development (MSMED) Act 2006 and the preferences that are extendable to the MSME units including women and SC/ST Entrepreneur's as issued by the Government of India from time to time and wherever feasible, will be applicable for this RFP. In order to avail of the benefits extended by the Government of India to Micro and Small enterprises, Service Providers are requested to submit entrepreneur Memorandum Part II duly signed by the General Manager, District Industries Centre or NISC Registration. Udhog Aadhar, Udhyaam details.

9.0 Financial

9.1 Service Receiver shall pay the rates agreed upon to the Service Provider on monthly basis on completion of the assigned work units mentioned in the Work Package Order.

9.2 The rate(s) mentioned in the Work Package Order(s) shall be firm and fixed during the currency of the Order/Contract.

9.3 The Service Provider shall ensure that the remuneration paid to workforce engaged shall not be less than the Minimum Wages fixed by the Ministry of Labour and Employment, Government of India/State Government whichever is beneficial to the workforce engaged.

9.4 It may specifically be noted that the bids quoted with unreasonably low prices to undercut or predatory pricing with an intention to obtain the Work Package Order(s) are liable to be rejected by Service Receiver in order to ensure quality.

9.5 In case of breach of any conditions under the Work Package Order(s), the Security Deposit shall be liable to be forfeited by the Service Receiver. In addition, the Work Package Order(s) is also liable to be terminated and any amount due to the Service Provider from the Service Receiver is also liable to be appropriated.

9.6 In case of partnership firm "power of attorney" should be signed by one person on behalf of others. Any breach of these conditions by the Service Provider in relation to the bidding firm, the tender/Work Package order(s) will be cancelled and security deposit will be forfeited at any stage whenever it is so noticed. The Service Receiver will not pay any damages to the Service Provider. The Service Provider will also be debarred from further participation in the concerned unit of the Service Receiver.

10.0 Submission of Bills and Payment:

- 10.1 The Service Provider's bill shall be submitted before 3rd(third) of every month with due certification from JRT (Committee formed by Service Receiver including members from Service receiver and Service Provider) and approved by GD/Entity Chief to the respective Paying Authority with the following components:
- 10.2 Income Tax or any other Tax/Taxes/Fees/Cess/Levy(ies) as applicable and payable by the Service Provider as per rules will be recovered from the monthly bills payable to the Service Provider.
- 10.3 In case the Service Receiver is made liable to pay any statutory liability arising due to the default of the Service Provider in relation to the Work Package Order(s), the Service Receiver shall be entitled to deduct/recover the same from the payment against the Work Package Order(s) due to the Service Provider.

11.0 Safety and Security:

- 11.1 The Service Receiver's premises being a High Security Area, the workforce engaged for the work by the Service Provider, will be required to follow the security requirements such as possessing a valid Entry Pass issued by the Service Receiver and ID Card issued by the Service Provider while entering the campus, maintaining high order of discipline while on duty. It should be ensured by the Service Provider that only Indian nationals between the age of above 18 years and up to 60 years are included in the workforce and they should not have any criminal back ground. Individual Character and Antecedents (Police Clearance Certificate) in respect of the workforce are to be submitted for issue of Entry Pass.
- 11.2 The Service Provider shall take all safety precautions required for the execution of the work. They shall be responsible for any loss or damages caused to Service Receiver's Property/Personnel due to negligence of the workforce and shall make good the losses by the Service Provider at their own cost, failing which cost thereof, shall be recovered from the outstanding/running bills/Security Deposit of the Service Provider.
- 11.3 The Service Receiver shall not be responsible for any damages, losses, claims, financial or other injury to any of the work force engaged by the Service

Provider in the course of performing the functions/duties, or for payment towards any compensation. The work force shall adequately be insured by the Service Provider against accidents including loss of life.

- 11.4 The Service Provider shall solely be responsible for any theft, pilferage or misbehaviour committed by any of the workforce while carrying out the Service(s) and the Service Receiver reserves the right to forfeit the Security Deposit/Running bills/ any outstanding payment to the Service Provider.
- 11.5 In case, the workforce engaged by the Service Provider commits any act of omission/commission that amounts to misconduct/indiscipline/incompetence, the Service Provider shall forthwith remove the workforce, in addition, shall take appropriate disciplinary action against such persons under intimation to the Focal Point. The Service Provider shall replace immediately any of its workforce who is/are found unacceptable because of security risks, incompetence, conflict of interest, improper conduct etc. upon receiving written notice from Service Receiver.
- 11.6 The workforce engaged by the Service Provider at the Service Receiver's campus shall not carry any Technical/Electronic Gadgets inside the Service Receiver's Campus and shall follow all security and safety norms as prescribed by the Service Receiver, from time to time.
- 11.7 The Service Provider shall ensure that the work force engaged by them are disciplined and do not participate in any acts prejudicial to the interest of the Service Receiver.
- 11.8 The Service Provider shall solely be responsible for the redressal of grievances/dispute relating to work force engaged.
- 11.9 The workforce engaged by the Service Provider at Service Receiver's campus shall wear uniform dress while they are at work and the colour of the said uniform shall be decided by the Service Provider in consultation with the Service Receiver.
- 12.0 Joint and several liability

If the Service Provider is a joint entity, consisting of more than one, partnership, corporation or other business organization, all such entities shall be jointly and severally liable for carrying out the activities and obligations of this Work Package and for any default of activities and obligations.

12.1 Severability:

If any provision of this Work Package Order(s) is determined by a Court of competent jurisdiction to be invalid or unenforceable, such determination shall not affect the validity or enforceability of any other part or provision of this Work Package Order(s).

12.2 Immunity from liability:

Every person who is a party to the Work Package Order(s) is hereby notified and agrees that the State, LPSC and all its employees, agents, successors and assigns are immune from liability and suit for or from Service Provider's activities involving third parties and arising from the Work Package.

13.0 Transportation of the work force to LPSC and back shall be the responsibility of the Service Provider.

14.0 Intellectual Property:

The Service Provider agrees that they should not use the Name/logos of the Service Receiver in any manner, including commercial advertising or as a business reference, including ID cards without the approval of the Service Receiver. Any violation will result in cancellation of the Work Package Order(s) including forfeiture of Security Deposit.

15.0 Down Time Compensation:

15.1 In case Service Provider fails to complete the required work units specified/month by the focal point, down time compensation @ 0.5% of cost of the non-completed work units will be recovered per week. The quantum of Down Time Compensation to be recovered will be decided by the Service Receiver after assessing the quantum of work units not completed and the decision will be final and binding on the Service Provider.

15.2 The Service Provider is responsible to complete the assigned work as specified in the Work Package Order(s) and as required by the Service Receiver and in case of absence of the work force, the successful Service Provider should provide suitable replacement and for this purpose to ensure timely completion and the Service Provider shall keep a panel of work force whose character and antecedents are verified.

16.0 Termination and Short Closing of Contract:

16.1 Under the normal circumstances, termination/short closing of the Work Package is not foreseen. However, in case of repeated non-performance of the Work Package, owing to deficiency of service, breach of order conditions or cessation of the requirement, the Service Receiver reserves the right to

terminate the Work Package Order(s) wholly or partially by giving a prior notice of not less than 30 days, without any obligation on its side.

- 16.2.0 The Work Package Order(s) is liable to be terminated without notice and the security deposit under the Work Package Order(s) shall be liable to be forfeited in the following circumstances.
- 16.2.1 For the breach of any term, condition or provision of this Work Package Order(s) by Service Provider.
- 16.2.2 In case the Service Provider provides any statement, representation or certification and the same is found false, deceptive or incorrect or incomplete.
- 16.2.3 The Service Provider or any of its work force and agents commits or has committed or engages/engaged in fraud, misappropriation, embezzlement, malfeasance or misfeasance.
- 16.2.4 If the Service Provider terminates or suspends his business without giving prescribed notice.
- 16.2.5 The Service Provider's license or certification is suspended, terminated, revoked or forfeited.
- 16.2.6 If the Service Provider failed to comply with any applicable Law of the land.
- 16.2.7 In the event of sustenance of loss by the Service Receiver due to the premature termination of Work Package Order(s) by the Service Provider, the same shall be recovered from the security deposit.

17.0 Security Deposit

The Service Provider shall guarantee faithful execution of the Work Package Order(s) in accordance with the terms and conditions specified. As a performance security, the Service Provider shall furnish security deposit for 10% of total Work Package Order value apportioned for one year in the form of Demand Draft, Fixed Deposit Receipt, Banker's Cheques or Bank Guarantee issued by a Nationalised/scheduled bank as approved by the Reserve Bank of India and shall be valid beyond 2 months from the date of completion of the Contract. In the case of Fixed Deposit Receipt, it should be endorsed in favour of Accounts Officer, LPSC. The Security Deposit shall not carry any interest and shall be returned by the Service Receiver on completion of all the contractual obligations. The security deposit has to be executed within 30 days after the receipt of Work Package Order(s) as per the prescribed format. No extension of the date for submission of the Security Deposit will be entertained by the Service Receiver and failure to submit in time will result in cancellation of the Work Package Order(s).

18.0 Parallel/ Adhoc /Split Work Package Order(s)

Service Receiver reserves the right to enter in to parallel/ad-hoc Work Package with one or more Service Provider in order to facilitate deployment of work force during the currency of the Work Package for availing the same or similar services. The Service Receiver reserves the right to split the Work Package Order(s), if needed, to one or more Service Provider either equally or in any other ratio, and the Service Provider shall accept such split Work Package Order(s) at the L1 rates.

19.0 Volume of Work:

The requirement of workforce purely depends upon the activities of Service Receiver of the Work Package. The mere mention of the number of work force against this Work Package does not by itself confers any right on the Service Provider to demand that work relating to or any item thereof, should necessarily or exclusively be entrusted to the Service Provider. The Service Receiver reserves the option for allocation of work force to meet the works to be carried out and the Service Provider shall not have any right in this regard. No guarantee can be give as to the define volume of work which will be entrusted to the Service Provider at any time or during the period of the Work Package Order(s).

20.0 Force Majeure Clause:

In case, completion of job is delayed by any circumstances such as acts of god, sabotages, civil commotion, riots, insurrections, revolutions, earthquake, fire, flood or other natural events beyond the control of the Service Provider, which makes his workforce unable to complete the tasks assigned to them in time, then the Service Provider shall give notice within 15 days to the Service Receiver in writing of his claim for an extension of time. The Service Receiver on receipt of such notice after verification if necessary may agree to extend the period of Work Package as may be reasonable without prejudice to other terms and conditions of Work Package Order(s).

21.0 Applicable law, Jurisdiction and Arbitration:

The contract shall be interpreted, construed and governed by the laws in India. In the event of any dispute/s, difference/s or claim/s arising out of or relating of the interpretation and application of the Work Package Order(s)(s), such dispute/s of difference/s or claim/s shall be settled amicably by mutual consultations of the good office of the respective parties and recognizing their mutual interests attempt to reach solution satisfactory

to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation centre - Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the parties. The applicable language for Arbitration shall be “English” only.

Work under Work Package Order(s) shall be continued by the Service Provider during the pendency of arbitration proceedings, without prejudice to a final award in accordance with the decision of the Arbitrator unless otherwise directed in writing by the Service Receiver or unless the matter is such the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained.

22.0 Submission of Forged documents

If any of the Service Provider submits any forged or false documents along with their tender/Bid, such Tender/Bids will be summarily rejected and such Service Providers will be blacklisted for all future tenders/bids.

23.0 Compliance Statement

The Service Provider shall mandatorily submit the compliance statement as at Annexure along with their tender/bid failing which the said tender/bid will not be evaluated.

24.0 EVALUATION OF OFFERS:

Service providers will be qualified based on the following criteria.

- i. The compliance of all the pre-requisites
- ii. Experience/expertise in execution of work and the ability to provide employees of required qualification & expertise to carryout various technical activities as demanded in Work package.
- iii. Complying with all the Terms and Conditions.

In the absence of non-availability of any of the documents sought for, offer will NOT be considered by the Service Receiver.

25.0 Offer Validity

The offer/bid submitted by the Service Provider shall be valid for a minimum period of One hundred and twenty days (120 days) from the date of opening of the Bids/Tenders.

DETAILS OF THE SERVICE PROVIDER'S ESTABLISHMENT
(To be provided by the Service Provider with offer)

1	Name of the Service Provider	
2 (a)	Full postal address of the Service Provider	
2(b)	Telephone No.	
2 (c)	Mobile No. (Mandatory)	
2(d)	Fax. No.	
2(e)	E-mail id (mandatory)	
3.	Full Postal Address of operating branch office, if any	
3 (a)	Telephone No.	
3(b)	Mobile No. (Mandatory)	
3 (c)	Fax. No.	
3(d)	E-mail id (mandatory)	
4	Indicate the Organizational status of the Service Provider	1. Society 2. JV Firm 3. Partnership 4. Private Limited Co. 5. Public Limited Co. 6. PSU/PSE 7. Others (please indicate) (Please tick anyone of the above which is applicable)
5.	Act/Rule under which the Service Provider is registered	
6	Registration No. & Date of Registration	
7	Name of the Proprietor/ Manager/ President/Secretary/ Chief Executive with address and contact phone No.	
8	Name of Partners/Shareholders(of privately owned)/Director/ Executives/ Officers of the Service Provider (if required attach additional sheet)	
9	Whether any near relative of the proprietor/Office bearers is/ are working in LPSC/VSSC/IISU, if so details (Please see Para 4.1 of the tender document and fill in Annexure D)	
10	Copy of the Bye-law/Establishment registration Certificate issued by any Governmental Agency	
11	Labour Department Registration No.	
12	EPF Registration No.	

13	ESI Registration No.	
14	PAN No.	
15	Goods & Service Tax Registration No.	
16	Bank Account Details of Service Provider	Banker's Name
		Banker's Address
		Bank Account No.
		IFSC Code
		PFMS No. (if available)
17	Whether the Service Provider undertakes any contractual work at any establishments in Thiruvananthapuram other than LPSC/VSSC/IISU. If so, give the details	

Note: 1. If any of the above columns are kept unfilled and not supported by documentary proof, such offer will be summarily rejected by the Service Receiver.

DECLARATION

I/We hereby declare that the information furnished above are true and correct to the best of my/our knowledge and belief.

Date:
Seal)

(Signature of Authorised Signatory with

Place:

Name if full:

DECLARATION BY THE SERVICE PROVIDER
(To be provided by the Service Provider with offer
on the letter head of the Service Provider)

1. I/We,

Son/Daughter/Wife/Husband of Shri./Smt.

(Proprietor/Partner/Director/Authorised Signatory of the firm), I am
competent to sign the declaration and execute this offer.

2. I/We have carefully read and understood all the enclosed terms and conditions
and undertake to abide by the same.

3. The details of work handled by our work force, Supervisor and establishment
should be kept secret and should not be divulged to any person or outside
agencies.

4. The information/documents furnished along with the above application are
true and authentic to the best of my knowledge and belief. I/We am/are well
aware of the fact that furnishing of any false information/fabricated document
would lead to rejection of our offer at any stage besides liabilities towards
prosecution under appropriate law.

Date:
Seal)

(Signature of Authorised Signatory with

Place:

Name if full:

DECLARATION BY THE SERVICE PROVIDER REGARDING COURT CASES
(To be provided by the Service Provider with offer
on the letter head of the Service Provider)

I/We, hereby undertake that our establishment do not have any legal suit/criminal case either pending against me/us/partner(s)/proprietor or any of our Directors in the case of company) or being contemplated and have not been earlier convicted on the grounds of moral turpitude or for violation of laws in force.

OR

I/We hereby undertake that our establishment is having the following legal suit/criminal case pending against me/us/proprietor/ partner(s)/Directors in the case of company),of which the details are furnished below:

Sl.No.	Case Number and the details of the Honorable Court	Nature of the Case	Name of the parties involved
1.			
2.			
3.			

Note: Strike out whichever is not applicable.

Date:
Seal)

(Signature of Authorised Signatory with

Place:

Name if full:

PROFORMA FOR NEAR RELATIVE(S) CERTIFICATE*

I,

S/o or D/o Shri./Smt. _____ on behalf of
 _____ hereby certify that

- a. None of my relatives are working in VSSC/IISU/LPSC.
- b. Following relative(s) are defined in Clause 4.1 of the Tender Terms and conditions for work package is/are employed in LPSC/VSSC/IISU.

Sl.No.	Name of the person, Designation, Staff Code No., Organisation

- c. It is also certified that the employee/(s) as above of ISRO has/have no connection/partnership/share-holding or any other business interest in the Service Provider's firm.

In case at any stage, it is found that the information given by me/us is false/correct, the Department/ISRO shall have the absolute right to take any action as deemed fit, without any prior intimation to me/us.

(Signature of Authorised Signatory

Of the Service Provider/Service Provider with Seal)

Date:

Place:

Name if full:

COMPLIANCE STATEMENT

(to be provided by the Service Provider with offer)

Sl.No.	Conditions in tender Requirements	Compliance Yes/No	Explanation Comments	Details of relevant documents attached
1.	The details of Service Provider's establishment in their letter head (Annexure A of Tender document)			
2.	Declaration Form (Annexure B of Tender document)			
3.	Declaration with respect to Court cases, if any pending or being contemplated against the Service Provider (Annexure C to Tender document)			
4.	A declaration in line with "Near Relative" Certificate as at Para 4.1 (Annexure D to Tender document)			
5.	Valid Registration Certificate of Service Provider's Establishment issued by any Governmental Agency			
6.	The Bye-law/Registration Certificate issued by any Government Agency of such establishment of the Service Provider permitting the permit undertaking of the assigned work			
7.	Labour Department Registration			
8.	EPF organization Registration			
9.	ESI Corporation Registration			
10.	Bank Account Details			
11.	Copy of PAN card			
12.	Copy of the goods and service tax registration certificate			
13.	Acceptance of clauses from 3 to 25 in the RFP.			

Date:
Seal)

(Signature of Authorised Signatory with

Place:

Name if full:

SCOPE OF WORK

The Service Provider will be required to carry out tasks related to electronics / instrumentation activities at various facilities of ATFID / ESG / PRSE

1. Low Thrust Engine Test Facility – Valiamala (LTET-V)
2. Low Thrust Engine Test Facility – TERLS (LTET-T)
3. Integrated Assembly & Test Facility for Satellite Thrusters (IATF-ST)
4. Vibration Lab for IATF-ST
5. PRG Cold Flow Facility (PCFF)
6. Small Vacuum Chamber Facility (SVCF)
7. Rotor Dynamics & Turbo Pump Lab (RD & TPL)
8. Combustion Research Lab (CRL)
9. Assembly & Integration - Instrumentation & Data Acquisition Facility (A&I - IDAF)

LIST OF WORK & WORK UNITS

For assessment of the quantum of work, 1-hour duration of work per person is considered as a “work unit” and the total quantum of work carried out will be computed on monthly basis. The supplier shall be available for work not only during office hours but also during late office hours and on holidays if needed.

Following are the estimate of works and related work unit to carry out the activities at various facilities of ATFID by the deputed personnel at Thiruvananthapuram LPSC/ISRO Centre.

1. Low Thrust Engine Test Facility – VMC (LTET-V)

1.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 1 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in Initialization & Health Checking of all Instrumentation sub-systems as facility readiness activities at Command Room.	300
2.	Assisting in operation of CCTV Recorder at Command Room and preparation of back-up video file related Test Article monitoring camera .	300
3.	Assisting in In-situ calibration of PC measurement chain using Dead Weight Tester.	300
4.	Assisting in Electrical calibration of Flow and Temperature chain.	300
5.	Assisting in Sensor Integration with measurement chains.	300
6.	Assisting in Preparation for Data Acquisition, TTL command generation and execution of check list.	300
7.	Assisting in operation of Command System for Pre-test & Hot test activities including E/P valve operation for propellant charging or draining operation.	600
8.	Assisting in Acquisition of test data during hot test at low & high sampling.	1200
9.	Assisting in Off line data processing and Data transmission to Project person.	300
10.	Assisting in Post-test operations of Instrumentation system.	300
11.	Assisting in Periodical Test & Evaluation activities for Facility Instrumentation system and updating of documents.	200
12.	Assisting in Electrical functional test of AOCS, RCS, LAM & 800N Engine.	600
Total Work Units for 2 years		5000

1.2 Technician (ITI Electronic Mechanic) – 1 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in Initialization & Health Checking of all Instrumentation sub-systems as facility readiness activities.	300
2.	Assisting in preparation of CCTV Surveillance System, health monitoring of propellant vapour detector system & Public Address System.	300
3.	Assisting in Resistance & Insulation resistance measurement on test article valve when receiving hardware.	300
4.	Assisting in in-situ calibration of PC measurement chain using Dead Weight Tester.	300
5.	Assisting in electrical calibration of Flow and Temperature chain.	300
6.	Assisting in voltage checking at field terminal for solenoid valve & Latch valve command chain. Interfacing of all above valves to command chain.	300
7.	Assisting in T/C interconnecting to measurement chain and response verification by simulating heat with Hot air blower.	300
8.	Assisting in Instrumentation support for propellant charging or draining operation.	300
9.	Assisting in Instrumentation activities at Block House and attending all instruction from Command Room during hot test activities.	600
10.	Assisting in Instrumentation activities at Test bay area and attending all instruction from Command Room during hot test activities.	600
11.	Assisting in Post-test operations of Instrumentation system.	300
12.	Assisting in Preventive maintenance & up-keeping of Facility Instrumentation system.	480
13.	Assisting in Periodical Test & Evaluation activities for Facility Instrumentation system and updating of documents.	200
14.	Assisting in Electrical functional test of AOCS, RCS, LAM & 800N Engine valve.	420
	Total Work Units for 2 years	5000

2. Low Thrust Engine Test Facility – TERLS (LTET-T)

2.1 Technician (ITI Electronic Mechanic) – 2 nos.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in Initialization & Health Checking of all Instrumentation sub-systems as facility readiness activities.	480
2.	Assisting in preparation of CCTV Surveillance System & Public Address System. Preparation of back-up video file related Test Article monitoring camera .	300
3.	Assisting in Resistance & Insulation resistance measurement on test article valve when receiving hardware.	240
4.	Assisting in Thermocouple (T/C) bead preparation, welding the T/C bead to Hardware surface & continuity checking, harnessing of T/C lead with lacing thread, applying thermal cement over the welded T/C bead. (total 12 channels.	720
5.	Assisting in In-situ calibration of Pc measurement chain using Dead Weight Tester.	480
6.	Assisting in electrical calibration of OX & Fu Flow and Pyrometer chain.	240
7.	Assisting in voltage checking at field terminal for solenoid valve & Latch valve command chain. Interfacing of all above valves to command chain.	240
8.	Assisting in T/C interconnecting to measurement chain and response verification by simulating heat with Hot air blower.	240
9.	Assisting in Instrumentation support for propellant charging or draining operation.	240
10.	Assisting in Instrumentation activities at Block House and attending all instruction from Command Room during hot test.	1920
11.	Assisting in Instrumentation activities at Test bay area and attending all instruction from Command Room during hot test.	1920
12.	Assisting in post-test operations of Instrumentation system.	1200
13.	Assisting in preventive maintenance & up-keeping of Facility Instrumentation system.	1200
14.	Assisting in periodical Test & Evaluation activities for Facility Instrumentation system and updating of documents.	580
	Total Work Units for 2 years	10000

3. Integrated Assembly & Test Facility for Satellite Thrusters (IATF-ST) HAT & SL

3.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 2 nos.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in Initialization & Health Checking of all Instrumentation sub-systems at Command Room.	480
2.	Assisting in operation of CCTV Recorder at Command Room and Preparation of back-up video file related Test Article monitoring camera	240
3.	Assisting in In-situ calibration of Pc measurement chain using Dead Weight Tester.	320
4.	Assisting in Electrical calibration of OX & Fu Flow and Pyrometer chain.	320
5.	Assisting in Abort interlock validation for Thruster control valve command system.	320
6.	Assisting in Preparation for Pressure & Temperature Data Acquisition, Sequence generation and execution of check list.	320
7.	Assisting in Operation of Command System for Pretest & Hot test activities including E/P valve operation for propellant charging or draining operation.	1600
8.	Assisting in Acquisition of test data during hot test at low & high sampling.	3200
9.	Assisting in Offline data processing and Data transmission to Project person.	1600
10.	Assisting in Post-test operations of Instrumentation system.	960
11.	Assisting in Periodical Test & Evaluation activities for Facility Instrumentation system and updating of documents.	400
12.	Assisting in Electrical functional test of AOCS valves.	240
	Total Work Units for 2 years	10000

3.2 Technician (ITI Electronic Mechanic) – 1 nos.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in Initialization & Health Checking of all Instrumentation sub-systems as facility readiness activities.	320
2.	Assisting in Initialization and operation of CCTV System & Public Address System.	106
3.	Assisting in Resistance & Insulation resistance measurement on test article valve when receiving hardware.	106
4.	Assisting in Thermocouple (T/C) bead preparation, welding the T/C bead to Hardware surface & continuity checking, harnessing of T/C lead with lacing thread, applying thermal cement over the welded T/C bead.	426
5.	Assisting in In-situ calibration of Pc measurement chain using Dead Weight Tester.	213
6.	Assisting in Electrical calibration of OX& Fu Flow and Pyrometer chain.	106
7.	Assisting in Voltage checking at field terminal for solenoid valve & Latch valve command chain. Interfacing of all above valves to command chain.	106
8.	Assisting in T/C interconnecting to measurement chain and response verification by simulating heat with Hot air blower.	106
9.	Assisting in Instrumentation support for propellant charging or draining operation.	106
10.	Assisting in Instrumentation activities at Block House and attending all instruction from Command Room during hot test activities.	1066
11.	Assisting in Instrumentation activities at Test bay area and attending all instruction from Command Room during hot test activities.	1066
12.	Assisting in Post-test operations of Instrumentation system.	533
13.	Assisting in Preventive maintenance & up-keeping of Facility Instrumentation system.	400
14.	Assisting in Periodical Test & Evaluation activities for Facility Instrumentation system and updating of documents.	200
15.	Assisting in Electrical functional test of AOCs Valves.	140
	Total Work Units for 2 years	5000

4. Vibration Lab for IATF-ST

4.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 1 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in Powering and Health check of Vibration Shaker	480
2.	Assisting in Identification and visual inspection of test fixture	240
3.	Assisting in Identification of test level & entering it into test console	240
4.	Assisting in Selection of sensors as per test request	360
5.	Assisting in Mounting of Hardware & test fixture on vibration table	240
6.	Assisting in Sensor interfacing and wiring	480
7.	Assisting in Checking of vibration measurement channels	300
8.	Assisting in Conducting sine vibration, random vibration, resonance survey	480
9.	Assisting in Preparation and uploading of test results	480
10.	Assisting in Preparation of log book	180
11.	Assisting in Daily maintenance of vibration shaker	560
12.	Assisting in Checking of mains power supply & logging	560
13.	Assisting in Visual inspection of cabling from shaker to amplifier	200
14.	Assisting in Inspection of shaker blower	200
	Total Work Units for 2 years	5000

5. PRG Cold Flow Facility (PCFF)

5.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 2 no.

Sl.No. Sl.No.	Nature of work Nature of work	Work Unit for 2 Years
1.	Assisting in Initialization & health checking of all instrumentation sub-systems as facility readiness activities for Semi-cryogenic injector cold flow test facility, Back Pressure testing facility, Satellite injector characterisation facility, Automated Injector calibration facility, Throttleable flow control component test facility and Thermal lab	500
2.	Assisting in electrical calibration of pressure parameters	640
3.	Assisting in calibration of pressure sensors using dead weight tester	120
4.	Assisting in electrical calibration of temperature and Flow measurement chains	440
5.	Assisting in thermocouple bead preparation, bonding / welding connecting to hardware, connecting to measurement chain and response/polarity verification by hot air blower	500
6.	Assisting in functional verification of EP valves and control valves for tests	620
7.	Assisting in channel configuration, Data acquisition & data archiving.	5000
8.	Assisting in field wiring and rack wiring to meet various test requirements.	600
9.	Assisting in periodical Test & Evaluation activities	320
10.	Assisting in preventive maintenance & up-keeping of facility Instrumentation system	700
11.	Assisting in installation of various field instruments	60
12.	Assisting in post-test operations of Instrumentation system	500
	Total Work Units for 2 years	10000

6. Small Vacuum Chamber Facility (SVCF) & Commissioning of Gaseous Hydrogen Feed Circuit for Plasma Thruster Testing

6.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 1 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Providing support for the operation of roughing pumps, turbo pumps, cryo pumps, xenon heads, chiller units, air-compressors to reach and maintain Ultra-High Vacuum level for vacuum chamber during various tests and checks.	600
2.	Assisting in channel configuration, Data acquisition & data archiving.	800
3.	Assisting in setting the regulators, mass flow controller, opening of valves for xenon feed to thruster	800
4.	Assisting in installation and commissioning activities of GH2 gas feed circuit	420
5.	Assisting in electrical calibration of pressure parameters	160
6.	Assisting in electrical calibration of temperature and Flow measurement chains	160
7.	Assisting in thermocouple bead preparation, bonding / welding connecting to hardware, connecting to measurement chain and response/polarity verification by hot air blower	240
8.	Assisting in functional verification of EP valves and control valves for tests	600
9.	Assisting in field wiring and rack wiring to meet various test requirements.	400
10.	Assisting in periodical Test & Evaluation activities	160
11.	Assisting in preventive maintenance & up-keeping of facility Instrumentation system	360
12.	Assisting in post-test operations of Instrumentation system	300
	Total Work Units for 2 years	5000

7. Rotor Dynamics & Turbo Pump Lab (RD & TPL)

7.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 1 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in installation of various instruments like pressure transmitters, temperature transmitters, mass flow meters, mass flow controllers, control valves and electro pneumatic valves for the upcoming isrosene facility	860
2.	Assisting in initialization & health checking of all instrumentation sub-systems as facility readiness activities for SC bearing test facility, Cryo bearing test facility, Vikas dry bearing facility, high temperature pressure test of exhaust casing, isrosene facility and Spin facility	260
3.	Assisting in electrical chain calibration of pressure parameters	520
4	Assisting in calibration of pressure sensors using dead weight tester	240
5	Assisting in electrical calibration of temperature , Flow, load & speed measurement chains	520
6	Assisting in chain calibration of vibration measurements	520
7	Assisting in functional verification of EP valves and control valves for tests	520
8.	Assisting in field wiring and rack wiring to meet various instrumentation requirements.	200
9	Assisting in post-test operations of Instrumentation system	260
10	Assisting in periodical Test & Evaluation activities	200
11	Assisting in preventive maintenance & up-keeping of facility Instrumentation system	380
12	Assisting in channel configuration, Data acquisition & data archiving.	520
	Total Work Units for 2 years	5000

8. Combustion Research Lab (CRL)

8.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 1 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in initialization & health checking of all instrumentation sub-systems as facility readiness activities at command room	300
2.	Assisting in preparation of CCTV surveillance system and back-up video file generation during hot tests	300
3.	Assisting in insitu calibration of pressure transducers using Dead Weight Tester	300
4.	Assisting in electrical chain calibration of test facility and test article pressure measurement chains	300
5.	Assisting in electrical chain calibration of temperature and flow measurement chains	300
6.	Assisting in programming and verification & validation of auto sequence in control system for all hot tests	300
7.	Assisting in configuration of test article measurements in Data acquisition system for all hot tests	300
8.	Assisting in operation of command system for pre-test & hot test activities including E/P valve, injection valve & control valve operation for propellant charging/draining operations and flow trials	300
9.	Assisting in acquisition of test data during hot tests in control system	600
10.	Assisting in acquisition of test data during hot tests in data acquisition system	600
11.	Assisting in offline data processing in control system and data archiving	300
12.	Assisting in offline data processing in data acquisition and data archiving	300
13.	Assisting in post-test operations of instrumentation system	600
14.	Assisting in Test & Evaluation activities for facility instrumentation system and updating of documents	200
	Total Work Units for 2 years	5000

8.2 Technician (ITI Electronic Mechanic) – 1 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in initialization & health checking of all instrumentation sub-systems as facility readiness activities at rack room and field	300
2.	Assisting in preparation of CCTV surveillance system and back-up video file generation during hot tests	300
3.	Assisting in insitu calibration of pressure transducers using Dead Weight Tester	300
4.	Assisting in thermocouple bead preparation, bonding/welding connecting to hardware, connecting to measurement chain and response/polarity verification by hot air blower	300
5.	Assisting in electrical chain calibration of test facility and test article pressure measurement chains	300
6.	Assisting in electrical chain calibration of temperature and flow measurement chains	300
7.	Assisting in functional verification of EP valves and control valves for hot tests	300
8.	Assisting in igniter chain verification for hot tests	300
9.	Assisting in instrumentation support for propellant charging/draining operations and flow trials	300
10.	Assisting in involvement in activities at test bay area and attending all instruction from command room during hot test activities	1050
11.	Assisting in post-test operations of instrumentation system	750
12.	Assisting in preventive maintenance & up-keeping of facility instrumentation system	300
13.	Assisting in Test & Evaluation activities for facility instrumentation system	200
	Total Work Units for 2 years	5000

9. Assembly & Integration – Instrumentation & Data Acquisition Facility (A&I - IDAF)

9.1 Technical Assistant (Diploma in Electronics / Instrumentation) – 7 no.

Sl.No.	Nature of work	Work Unit for 2 Years
1.	Assisting in electrical testing of earth storable components and modules	4240
2.	Assisting in electrical testing of cryo and semicryo components and modules	720
3.	Assisting in electrical testing of satellite components	4870
4.	Assisting in flow testing of earth storable components and modules	11850
5.	Assisting in flow testing of cryo and semicryo components and modules	4140
6.	Assisting in valve level testing of earth storable components and modules	3060
7.	Assisting in valve level testing of cryo and semicryo components and modules	4920
8.	Assisting in testing of individual signal conditioner	1000
9.	Assisting in testing of data acquisition system	200
	Total Work Units for 2 years	35000

QUALIFICATIONS OF MANPOWER REQUIRED

1. Total no. of persons required is 21. ie 16 Technical Assistants and 5 Technicians.
2. The qualification for Technical Assistant is Diploma in Electronics / Electronics & Communication / Applied Electronics / Electronics & Instrumentation / Instrumentation Engineering
3. The qualification for Technician is ITI in Electronic Mechanic.
4. Person should have completed apprenticeship training in any centers of ISRO or PSU or minimum 1-year experience in electronics / instrumentation / testing area.
5. LPSC reserves the right to verify the conformance of the qualifications and other details mentioned above.