



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
Chennai 600 036



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The Manager (Project Purchase)

Date: 13.02.2023

Open Tender Reference No: AM/SATH/28/IOE23/DCELELD

GEM NAR ID: GEM/GARPTS/09022023/WBR3IN141U53

Due Date/Time: 27.02.2023@ 3:00 PM

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, Tenders are invited in two bid system from Class-I local suppliers and Class II local suppliers, for the supply of “**DC electronic load and power supply**” Conforming to the specifications given in **Annexure -A**.

Tender Documents may be downloaded from Central Public Procurement Portal <https://etenders.gov.in/eprocure/app>. Aspiring Bidders who have not enrolled / registered in e-procurement should enroll / register before participating through the website <https://etenders.gov.in/eprocure/app>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at “**Help for contractors**”. [Special Instructions to the Contractors/Bidders for the e-submission of the bids online through this eProcurement Portal”]

Bidders can access tender documents on the website (For searching in the NIC site, kindly go to Tender Search option and type ‘IIT’. Thereafter, click on “GO” button to view all IIT Madras tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://etenders.gov.in/eprocure/app> as per the schedule attached.

1)	Pre-bid Meeting Details	:	NA
2)	ICSR Vendor Registration	:	Vendor registration code. Vendor registration with IC&SR (IITM) is mandatory for bidders to participate in tenders. ** For Vendor Registration & Guidelines, Please follow the website : https://icandsr.iitm.ac.in/vendorportal ; Helpdesk: vendorhelpdesk@icsrpis.iitm.ac.in

No manual bids will be accepted. All tender documents including Technical and Financial bids should be submitted in the E-procurement portal.

Last date for receipt of tender	:	27.02.2023 @ 3:00 PM
Date & time of opening of tender	:	28.02.2023 @ 3:00 PM

3. Instructions to the Bidder:

<u>A)</u>	Searching for tender documents	:	<ul style="list-style-type: none"> • There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal. • Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective “My Tender” folder. This would enable the CPP Portal to intimate the bidders through SMS / email in case there is any corrigendum issued to the tender document. • The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.
<u>B)</u>	Assistance to bidders	:	<ul style="list-style-type: none"> • Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender. • Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is [0120-4200462, 0120-4001002, 0120-4001005]
<u>C)</u>	Enrollment Process to Bidders	:	<p><u>REGISTRATION</u></p> <ul style="list-style-type: none"> • Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal URL:https://etenders.gov.in/eprocure/app by clicking on “Online Bidder Enrollment”. Enrollment on the CPP Portal is free of charge. • As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts. • Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal. • Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.) • Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse. • Bidder then may log in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.

			<ul style="list-style-type: none"> • Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through https://etenders.gov.in/e procure/app • Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site https://etenders.gov.in/e procure/app under the “Information about DSC”.
<u>D)</u>	Preparation of bids	:	<ul style="list-style-type: none"> • Bidder should take into account any corrigendum published on the tender document before submitting their bids. • Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid. • Bidder, in advance, should prepare the bid documents to be submitted as indicated in the tender document / schedule and generally shall be in PDF / XLS formats as the case may be. Bid documents may be scanned with 100 dpi with black and white option. • To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, GSTIN Details, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Documents” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.
<u>E)</u>	Submission of bids	:	<ul style="list-style-type: none"> • Bidder should log into the site well in advance for bid submission so that he/she can upload the bid in time i.e. on or before the bid submission date and time. Bidder will be responsible for any delay due to other issues. • The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document. • Bidder has to select the bid security declaration. Otherwise, the tender will be summarily rejected. • A standard BOQ format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BOQ file, open it and complete the detail with their respective financial quotes and other details (such as name of the bidder). If the BOQ file is found to be modified by the bidder, the bid will be rejected. • The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for

		<p>submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.</p> <ul style="list-style-type: none"> • The Tender Inviting Authority (TIA) will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders due to local issues. • The uploaded tender documents become readable only after the tender opening by the authorized bid openers. • Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details. • Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet. • More information useful for submitting online bids on the CPP Portal may be obtained at: https://etenders.gov.in/eprocure/app. • All tender documents including pre-qualification bid, Technical Bid & Financial Bid should be submitted separately in online CPP portal as per the specified format only. Right is reserved to ignore any tender which fails to comply with the above instructions. No manual bid submission will be entertained.
F)	Marking on Technical Bid	<ul style="list-style-type: none"> • The bidder eligibility criteria, technical specification and supply of item for this tender is given in Annexure A. • The Bidders shall go through the specification and submit the technical bid. • The Technical bid should be submitted in the proforma as per Annexure-B in pdf format only through online (e-tender). No manual submission of bid will be entertained. • The technical bid should have a page-wise heading as “Technical Bid” and page no. in all pages with seal and signature of authorized signatory. The total no. of pages should be mentioned at the last page of the documents. • The technical bid should consist of bidder eligibility criteria details and all technical details along with catalogue/ pamphlet which will give a detailed description of product with technical data sheet so that technical compliance can be verified.
G)	Marking on Price Bid	<ul style="list-style-type: none"> • Financial bid (BoQ) should be submitted in the prescribed proforma format as per Annexure-C in xls format through e-tender only. No manual or other form of submission of Financial Bid will not be entertained

4)	<p>Preparation of Tender: The bidders should submit the bids in two bid system as detailed below.</p> <p>Bid I _Technical Bid</p> <p>The technical bid should consist of bidder eligibility criteria and technical specification compliance sheet as per Annexure-B.</p> <p>Bid II _Price Bid</p> <p>The price bid should be submitted in excel format (BoQ) as per the proforma (Annexure C) uploaded in the e-Tender web site. The Quoted price should be for supply and installation of</p>
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	the item and inclusive of all cost and statutory levies at IIT Madras.
5)	<p>Price:</p> <ul style="list-style-type: none"> a) The price should be quoted only in INR net per unit (after breakup) and must include all packing, transit insurance and delivery charges to the Department of Applied Mechanics. b) The rate quoted shall be all inclusive of all taxes and no extra payment will be made other than statutory revisions as per the terms and conditions stipulated in this contract document. c) The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for custom duty (5.5%). Relevant certificates will be issued wherever necessary. d) The offer/bids should be submitted through online only in two bid system i.e. Technical Bid and Financial Bid separately.
6)	<p>Tenderer shall submit along with this tender:</p> <ul style="list-style-type: none"> (i) Proof of having ISO or other equivalent certification given by appropriate authorities. (ii) Name and full address of the Banker and their swift code and PAN No. and GSTIN number. (iii) GST registration proof showing registration number, area of registration etc. (iv) All of your future correspondences including Invoices should bear the GST No. and Area Code.
7)	<p>Terms of Delivery:</p> <p>Supplier will be fully responsible for the safe carriage, Installation/Commissioning of goods up to the Department of Applied Mechanics., IIT Madras or named place as per PO, Insurance coverage will be in the scope of the supplier.</p> <p>The tenderer should indicate clearly the time required for delivery of the item (subject to the approval of the Executive Committee-IIT-Madras). In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.</p> <p>In the event of delay or non-supply of materials/execution of Contract beyond the date of delivery/completion of job. The penalty will be levied @1% per week of delay subject to a max of 10% of the value of purchase order and if the delay is more than accepted time frame by IIT M, the PO would be partially or fully cancelled and liquidated damages will be enforced accordingly.</p>
8)	<p>Period for which the offer will remain open:</p> <p>The Tender shall remain open for acceptance/validity till: 120 days from the date of opening of the tender. However, the day up to which the offer is to remain open being declared closed holiday for the Indian Institute of Technology Madras, the offer shall remain open for acceptance till the next working day.</p>
9)	EMD: N/A
10)	<p>Performance Security: -</p> <p>The successful bidder should submit Performance Security for an amount of 3% of the value of the contract/supply. The Performance Security may be furnished in the form of an Account Payee DD, FD Receipt in the name of “The Registrar, IIT Madras” from any scheduled commercial bank or Bank Guarantee from any scheduled commercial bank in India. The performance security should be furnished within 14 days from the date of the purchase order.</p> <p>Performance Security in the form of Bank Guarantee: - In case the successful bidder wishes to submit Performance Security in the form of Bank Guarantee, the Bank Guarantee should be</p>

	<p>routed directly to IIT Madras from the Bank.</p> <p>The Bank Guarantee should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including the warranty obligations.</p>
11)	For the same tender, either the OEM or the authorized dealer/service provider can only quote. But both of them cannot quote separately for the same tender.
12)	The offers/bids should be sent only for a item/Equipments of latest version that is available in the market and supplied to a number of customers. A list of customers in India with details must accompany the quotations. Quotations for a prototype machine will not be accepted
13)	Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical bid.
14)	Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal/OEM.
15)	<p>Risk Purchase Clause</p> <p>In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.</p>
16)	<p>Payment:</p> <p>(i) No Advance payment will be made. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved.</p> <p>(ii) Advance Payment: No advance payment is generally admissible. In case a specific percentage of advance payment is required, the Vendor has to submit a Bank Guarantee from a scheduled commercial bank in India equivalent to the amount of advance payment.</p>
17)	<p>On-site Installation:</p> <p>The equipment/item or Machinery has to be installed or commissioned by the successful bidder within the number of days (as prescribed by PI) from the date of receipt of the item at the site of IIT Madras.</p>
18)	<p>Warranty/Guarantee:</p> <p>The offer should clearly specify the warranty or guarantee period for the machinery/equipment. Any extended warranty offered for the same has to be mentioned separately (For more details please refer our Technical Specifications).</p> <p>** Note: PO which involves installation, warranty/guarantee shall be applicable from date of installation.</p>
19)	<p>Acceptance and Rejection:</p> <p>Failure to comply with any of the instructions stated in this document or offering unsatisfactory explanations for non-compliance will likely to lead to rejection of offers.</p> <p>I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.</p>
20)	<p>Debarment from Bidding:</p> <p>In case of breach of Terms & Conditions, Bidder may be suspended from being eligible for bidding in any contract with the IIT Madras up to 2 Years [as per Rule 151(iii) of GFR] from the date of Tender.</p>
21)	<p>Disputes and Jurisdiction:</p>

	<p>Settlement of Disputes: Any dispute, controversy or claim arising out of or in connection with this PO including any question regarding its existence, validity, breach or termination, shall in the first instance be attempted to be resolved amicably by both the Parties. If attempts for such amicable resolution fails or no decision is reached within 30 days whichever is earlier, then such disputes shall be settled by arbitration in accordance with the Arbitration and Conciliation Act, 1996. Unless the Parties agree on a sole arbitrator, within 30 days from the receipt of a written request by one Party from the other Party to so agree, the arbitral panel shall comprise of three arbitrators. In that event, the supplier will nominate one arbitrator and the Project Coordinator of IITM shall nominate an arbitrator. The Dean IC&SR will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceeding shall be carried out in English language. The cost of arbitration and fees of the arbitrator(s) shall be shared equally by the Parties. The seat of arbitration shall be at IC&SR IIT Madras, Chennai.</p> <ol style="list-style-type: none"> a. The Applicable Law: The Purchase Order shall be construed, interpreted and governed by the Laws of India. Court at Chennai shall have exclusive jurisdiction subject to the arbitration clause. b. Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
22)	<p>Force Majeure: The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.</p> <p>For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.</p> <p>If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.</p>
23)	<p>Eligibility Criteria:</p> <ul style="list-style-type: none"> ➤ As per the Government of India Order, only "Class - I Local Suppliers" and "Class - II Local Suppliers" <u>can participate in this tender.</u> ➤ <u>Bidder should confirm their acceptance that they comply with the provisions with report to "Guidelines for eligibility of a bidder from a country which shares a land border with India as detailed at Annexure-F. The bidder should submit Certificate for "Bidder from/ Not from Country sharing Land border with India & Registration of Bidder with Competent Authority" as per Order of DoE F.No.6/18/2019-PPD dated 23.07.2020 as mentioned.</u>
24)	<p>Preference to "class I Local Suppliers": preference will be given to "class 1 local suppliers" (subject to class -I local supplier's quoted price falling within the margin of purchase preference) as per public procurement (preference to make in India) order 2017 .O.M No P- 45021/2/2017 – pp(BE - 11) dt 04/06/2020 subject to the conditions that the "class 1 Local Supplier" should agree to supply goods / provide service at L1 rate and furnish a certificate with the technical bid document that the goods/service provided by them consists local content equal to or more than 50%.(certificate from Chartered Accountant in case value of contract exceeds Rs 10 crore).</p> <ul style="list-style-type: none"> ➤ 'Class - I local supplier' means a supplier or service provider whose goods, services or works offered for procurement consists of local content equal to or more than 50% as defined under the above said order. Declaration to be provided as per Annexure-II per item/service/work. ➤ 'Class - II local supplier' means a supplier or service provider whose goods, services or works offered for procurement consists of local content equal to 20% but less than 50% as defined under

	<p>the above said order. Declaration to be provided as per Annexure-II per item/service/work.</p> <p>➤ ‘Margin of purchase preference’: - The margin of purchase preference shall be 20%. The Definition of the margin of purchase preference is defined in the Govt. of India Order No: P-45021/12/2017-PP (BE-II) Dt.4th June, 2020) Order 2017. As per the Government of India Order – “Margin of Purchase Preference” means the maximum extent to which the price quoted by a “Class-I local supplier” may be above the L1 for the purpose of purchase preference.</p> <p>**Note: Local content percentage to be calculated in accordance with the definition provided at clause 2 of revised public procurement preference to Make in India Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P-45021/102/2019-BE-II-Part(1) (E-50310) Dt.4th March 2021</p>
25)	<p>Evaluation of Bids</p> <p>Bid evaluation will take place in two stages.</p> <p>Stage I Technical Bid evaluation</p> <p>All bidders who have fully complied with bidder eligibility criteria I, II and technical evaluation (Annexure A) will only be considered for opening of price bid.</p> <p>Stage II: Price Bid Evaluation</p> <p>The price bid evaluation will be based on price quoted by the bidder. The rate quoted for DC electronic load and power supply. unit will alone be taken up for arrival of Lowest Bid (L1) value.</p>
26)	<p>Selection of successful bidder and Award of Order</p> <p>The order will be directly awarded to the technically qualified bidder as per the condition in para 3A of DIPP, MoCI Order No. 45021/2/2017-PP (BE II) dated 16th September 2020.</p>
27)	<p>All information including selection and rejection of technical or financial bids of the prospective bidders will be communicated through e-Tender portal. In terms of Rule 173(iv) of General Financial Rule 2017, the bidder shall be at liberty to question the bidding conditions, bidding process and/or rejection of bids.</p>
28)	<p>The tenderer shall certify that the tender document submitted by him / her are of the same replica of the tender document as published by IIT Madras and no corrections, additions and alterations made to the same. If any deviation found in the same at any stage and date, the bid / contract will be rejected / terminated and actions will be initiated as per the terms and conditions of the contract.</p>
29)	<p>Due to Covid-19 pandemic pre-bid meeting will be conducted through online. Clarification to the queries and doubts raised by the bidders will be issued as a corrigendum/addendum in the e-tenders portal.</p>
30)	<p>Due to Covid-19 pandemic the bidders will not be entertained to participate in opening of Bids. Since the tender is e-tender, the opening of the bids may be checked using the respective logins of the bidders.</p>

ACKNOWLEDGEMENT

It is hereby acknowledged that I/We have gone through all the points listed under “Specification, Guidelines, Terms and Conditions” of tender document. I/We totally understand the terms and conditions and agree to abide by the same.

**SIGNATURE OF TENDERER ALONG WITH SEAL OF
THE COMPANY WITH DATE**

Bidder Eligibility Criteria and Technical Specification for DC electronic load and power supply.

Tender No. AM/SATH/28/IOE23/DCELELD

Bidder Eligibility Criteria – I (Public Procurement – Preference to Make in India)

Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 and other subsequent orders issued therein.

II. Technical Specification For DC electronic load and power supply.

Technical specifications of DC electronic load and power supply.

IIT Madras proposes to procure one high power DC electronic load and one high power DC power supply. The following technical specifications should be complied with completely to qualify the technical bid. A detailed technical compliance statement should be provided and manufacturer's (OEM) product brochure should support it. Information provided in vendor/supplier/redistributor/reseller's website cannot be considered as a supporting document.

Technical Specifications

S.NO	Specification
1.	Number of DC electronic load required: One (chassis + module)
2.	Number of power supply required: One
Electronic load specifications:	
	Electronic load should have a chassis that can Accommodate upto 1.8 kW or more power
1.	Have more than five modules/channels of varying electronic load power (quote for
2.	only one module for the present tender)
3.	Be upgraded later with additional modules/channels
4.	The electronic load should be able to operate in constant current (CC), constant voltage (CV), or constant resistance (CR) modes
5.	It should operate under triggered input and 16-bit V, A & P measurement functions.
6.	Front panel control with keypad should be available for controlling the load
7.	The total power should be able to split into multiple independent channels with lower power, ideally six independent channels
8.	The independent channels should be able to group and operate together
9.	The quoted product should have built-in pulse generator for continuous, pulsed, and toggled transient operation
10.	overvoltage, overcurrent, overpower and overtemperature protection extensive self test, status reporting, and software calibration
11.	The equipment should have built-in GPIB and RS-232 interface programming with SCPI command language
12.	The input rating should be following: Current: 0 – 120 A, Voltage: 0 – 60 V, and Maximum Power: 600 W independent channel
13.	In constant current mode of operation, it should have low range/high Range: 15
14.	A/120 A, Regulation: 10 mA, Low Range Accuracy: 0.1% + 15 mA

15.	In constant voltage mode of operation, it should have low range/high Range: 6 V/60
16.	V, Regulation: 20 mV, Low Range Accuracy: 0.1% + 3 mV
17.	In constant resistance mode of operation, multiple ranges ranging from milliOhms to 1000 Ohms should be possible
18.	It should have ripple and noise voltage of 8mVrms and current of 6mArms
19.	Should have dwell characteristics of Range 0 - 10 s, Resolution 1 ms, Accuracy 5ms
20.	Should possess transient generator of different frequency range between 0.25 Hz and 10 kHz with high accuracy, and pulse width of 50 μ s \pm 1% to 4 seconds \pm 1% or better.
21.	Low voltage operation 2V @ 120A, analog output control voltage/current 0-10V,
22.	compliance UL 61010B-1, IEC 61010-1/EN 61010-1, CSA C22.2 No. 1010., operating
23.	temperature range 0 °C to 55 °C
24.	s. Input power supply should be based on Indian power conditions, 220-230 VAC and 50 Hz.
25.	DC Power Supply Specifications
26.	Should operate with an AC input of 3 Phase 415 VAC Nominal \pm 10%, 45-65 Hz
27.	DC output of Voltage: 0 – 200Vdc, Current: 0 – 140Adc Auto Range
28.	It should have an output isolation of \pm 400Vdc, positive output to chassis ground, continuous
29.	It should have an accuracy for voltage programming and readback: \leq 200mV of full-scale voltage, and current programming and readback: \leq 300 mA of full-scale current
30.	It should have front panel control with Voltage / Current setting using number keypad & rotary knob
31.	The operation mode on front panel should be CV, CC
32.	g. It should have protection for over-voltage, overcurrent, over-temperature, and
33.	reverse voltage protection
34.	h. output voltage/current ripple of 40mV/45mA or better
35.	i. Remote Sense Compensation Voltage of 5V or better should be provided
36.	j. Output response time should be \leq 30 ms at full load
37.	k. It should have a command response time of $<$ 25 ms or better
38.	l. Quoted product should have an efficiency of 90% typical at nominal line and max load
39.	It should have a stability of \pm 0.1% for extended hours of operation.
40.	Should have capability to expand to 100KW higher power levels by paralleling the
41.	units (expansion will be done in future)
42.	Graphical User Interface should be provided for continuous recording of the voltage,
43.	current & power for all channels and measurement trend data logging
44.	analog interface input selectable: 0 to 5 V or 0 to 10 V should be provided to external data triggering/data collection
45.	Should interface with GPIB, USB 2.0, 10/100 LAN, LXI compliance, SCPI 1993

46.	IEEE488.2 compliant interface
47.	It should have a control software for live remote monitor & control
48.	It should have an acoustic noise less than 55 dBA for quiet operation
49.	Chassis/frames size of 3U (5.25 inch/13.34 cm) to fit 10 kW power supply
50.	Both the power supply and electronic load should be provided from same OEM for ease of
51.	compatibility and avoid delay in communications
52.	Labview™ drivers should be readily available for the quoted products for integration with
53.	computer
54.	Minimum one year warranty from the date of installation
55.	Optional items: Any additional accessories required for operation should be quoted.
56.	The bidder should have supplied at least three similar instrument in India in the past three years. List of their customers and their contact details should be provided. IIT-Madras shall inquire the bidders' customers about the quality of product/service. If the testimonial from their customers is not satisfactory, IIT-Madras reserves the right to reject the bid based on technical grounds.
57.	Installation and training onsite is required.

TECHNICAL BID PROFORMA
Tender No. AM/SATH/28/IOE23/DCELELD
Item Name: DC electronic load and power supply.

1.0 Bidder Eligibility Criteria:

I	Bidder Eligibility Criteria-I (Public Procurement – Preference to Make in India)	Class I / Class II	Local Content value	Reference, Page No.
I	Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE II) dated 16 th September 2020 and other subsequent orders issued therein.			

2.0 Technical Compliance:

S.NO	Specification	Complied/Not Complied	Ref. No
1	Number of DC electronic load required: One (chassis + module)		
2	Number of power supply required: One		
Electronic load specifications:			
1.	Electronic load should have a chassis that can Accommodate upto 1.8 kW or more power		
2.	Have more than five modules/channels of varying electronic load power (quote for only one module for the present tender)		
3.	Be upgraded later with additional modules/channels		
4.	The electronic load should be able to operate in constant current (CC), constant voltage (CV), or constant resistance (CR) modes		
5.	It should operate under triggered input and 16-bit V, A & P measurement functions.		
6.	Front panel control with keypad should be available for controlling the load		
7.	The total power should be able to split into multiple independent channels with lower power, ideally six independent channels		
8.	The independent channels should be able to group and operate together		
9.	The quoted product should have built-in pulse generator for continuous, pulsed, and toggled transient operation		
10.	overvoltage, overcurrent, overpower and overtemperature protection extensive self test, status reporting, and software calibration		
11.	The equipment should have built-in GPIB and RS-232 interface programming with SCPI command language		
12.	The input rating should be following: Current: 0 –		

	120 A, Voltage: 0 – 60 V, and Maximum Power: 600 W independent channel		
13.	In constant current mode of operation, it should have low range/high Range: 15		
14.	A/120 A, Regulation: 10 mA, Low Range Accuracy: 0.1% + 15 mA		
15.	In constant voltage mode of operation, it should have low range/high Range: 6 V/60		
16.	V, Regulation: 20 mV, Low Range Accuracy: 0.1% + 3 mV		
17.	In constant resistance mode of operation, multiple ranges ranging from milliOhms to1000 Ohms should be possible		
18.	It should have ripple and noise voltage of 8mVrms and current of 6mArms		
19.	Should have dwell characteristics of Range 0 - 10 s, Resolution 1 ms, Accuracy 5ms		
20.	Should possess transient generator of different frequency range between 0.25 Hz and 10 kHz with high accuracy, and pulse width of 50 μ s \pm 1% to 4 seconds \pm 1% or better.		
21.	Low voltage operation 2V @ 120A, analog output control voltage/current 0-10V,		
22.	compliance UL 61010B-1, IEC 61010-1/EN 61010-1, CSA C22.2 No. 1010., operating		
23.	temperature range 0 °C to 55 °C		
24.	s. Input power supply should be based on Indian power conditions, 220-230 VAC and50 Hz.		
25.	DC Power Supply Specifications		
26.	Should operate with an AC input of 3 Phase 415 VAC Nominal \pm 10%, 45-65 Hz		
27.	DC output of Voltage: 0 – 200Vdc, Current: 0 – 140Adc Auto Range		
28.	It should have an output isolation of \pm 400Vdc, positive output to chassis ground, continuous		
29.	It should have an accuracy for voltage programming and readback: \leq 200mV of full- scale voltage, and current programming and readback: \leq 300 mA of full-scale current		
30.	It should have front panel control with Voltage / Current setting using number keypad & rotary nob		
31.	The operation mode on front panel should be CV, CC		
32.	It should have protection for over-voltage, overcurrent, over-temperature, and		
33.	reverse voltage protection		
34.	output voltage/current ripple of 40mV/45mA or better		
35.	Remote Sense Compensation Voltage of 5V or better should be provided		
36.	Output response time should be \leq 30 ms at full load		

37.	It should have a command response time of <25 ms or better		
38.	Quoted product should have an efficiency of 90% typical at nominal line and max load		
39.	It should have a stability of $\pm 0.1\%$ for extended hours of operation.		
40.	Should have capability to expand to 100KW higher power levels by paralleling the		
41.	units (expansion will be done in future)		
42.	Graphical User Interface should provided for continuous recording of the voltage,		
43.	current & power for all channels and measurement trend data logging		
44.	analog interface input selectable: 0 to 5 V or 0 to 10 V should be provided to external data triggering/data collection		
45.	Should interface with GPIB, USB 2.0, 10/100 LAN, LXI compliance, SCPI 1993		
46.	IEEE488.2 compliant interface		
47.	It should have a control software for live remote monitor & control		
48.	It should have an acoustic noise less than 55 dBA for quiet operation		
49.	Chassis/frames size of 3U (5.25 inch/13.34 cm) to fit 10 kW power supply		
50.	Both the power supply and electronic load should be provided from same OEM for ease of		
51.	compatibility and avoid delay in communications		
52.	Labview™ drivers should be readily available for the quoted products for integration with		
53.	computer		
54.	Minimum one year warranty from the date of installation		
55.	Optional items: Any additional accessories required for operation should be quoted.		
56.	The bidder should have supplied at least three similar instrument in India in the past three years. List of their customers and their contact details should be provided. IIT-Madras shall inquire the bidders' customers about the quality of product/service. If the testimonial from their customers is not satisfactory, IIT-Madras reserves the right to reject the bid based on technical grounds.		
57.	Installation and training onsite is required.		

**SIGNATURE OF BIDDER ALONG WITH
SEAL OF THE COMPANY WITH DATE**

FINANCIAL BID (PROFORMA) - BILL OF QUANTITIES (BOQ)**Item Name: DC electronic load and power supply.****Tender No. AM/SATH/28/IOE23/DCELELD**

It. No	Description of work	Quantity	Units	Basic Rate in INR	GST in Percentage	Total Amount with taxes in INR
1	DC electronic load and power supply with 1 Year Warranty.	1	Nos.			
	Grand Total					

Total Amount Rupees in words _____

FORMAT FOR AFFIDAVIT OF SELF-CERTIFICATION UNDER PREFERENCE TO MAKE IN INDIA – PER ITEM

Tender Reference Number:

Name of the item / Service:

Date: _____

I/We _____ S/o, D/o, W/o, _____

Resident of _____

Hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P- 45021/102/2019-BE-II-Part (1) (E-50310) Dt.4th March 2021 and any subsequent modifications/Amendments, if any and

That the local content for all inputs which constitute the said item/service/work has been verified by me and I am responsible for the correctness of the claims made therein.

Tick (✓) and Fill the Appropriate Category	
<input type="checkbox"/>	I/We _____ [name of the supplier] hereby confirm in respect of quoted items that Local Content is equal to or more than 50% and come under “ Class-I Local Supplier ” category.
<input type="checkbox"/>	I/We _____ [name of the supplier] hereby confirm in respect of quoted items that Local Content is equal to 20% but less than 50% and come under “ Class-II Local Supplier ” category.

- The details of the location (s) at which the local value addition is made and the proportionate value of local content in percentage

Address _____ Percentage of Local content: _____%

For and on behalf of (Name of firm/entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

[Note: In case of procurement for a value in excess of Rs. 10 Crores, the bidders shall provide this certificate from statutory auditor or cost auditor of the company (in the 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.]

This letter should be on the letterhead of the quoting firm and should be signed by a competent authority. Non-submission of this will lead to Disqualification of bids.

(To be given on the letter head of the bidder)

No. _____

Dated: _____

CERTIFICATE

(Bidders from India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that I am not from such a country.

OR (*whichever is applicable*)

(Bidders from Country which shares a land border with India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that I from _____ (Name of Country) and has been registered with the Competent Authority. I also certify that I fulfil all the requirements in this regard and is eligible to be considered. *(Copy/ evidence of valid registration by the Competent Authority is to be attached)*

Place:

Date:

Signature of the Tenderer
Name & Address of the
Tenderer with Office Stamp