



E-TENDER NOTICE

Sealed online e-Tender in two bid system are hereby invited by the undersigned for the supply of following items on behalf of the Director, NIT, Hamirpur from the Eligible/ Experienced/ Resourceful, manufacturer's dealer/authorized distributor etc. having experience in appropriate field and who have successfully completed works of similar type, so as to reach in the office of the undersigned as per date & time mentioned below.

| Sr. No. | Name of works/item | Qty/ No. | Earnest Money In Rs. | Time Limit |
|---------|---|----------|----------------------|------------|
| 1 | Supply and installation of Grid connected bidirectional EV charger For detailed specifications etc please refer to SBD | 1 | 16400 | 60 days |

1. Availability of bid document and mode of submission:-The bid document is available online and bid should be submitted in online mode on website <http://www.eprocure.gov.in/> and <http://www.nith.ac.in/>. Bidder would be required to register in the web-site which is free of cost. For submission of bids, the bidder is required to have Digital Signature Certificate (DSC) from one of the authorized certifying authorities (CA).

2. Key dates: (1)

| | | |
|---|--|-------------------------------------|
| 1 | Date of online publication | 20.08.2024 at 6.00 PM |
| 2 | Document download start and end date | 20.08.2024 to 12.09.2024 10.30 AM |
| 3 | Bid submission start and end date | 20.08.2024 to 12.09.2024 10.30 AM |
| 4 | Physical submission of EMD, technical documents and cost of tender document etc. | On or before 05.30 PM on 12.09.2024 |
| 5 | Date of opening of technical bid | 13.09.2024 at 11.30 AM |

- (II) Objections/representation if any against the bidders will be entertained only within three days after publication/uploading of technical bid opening summary on net and thereafter that the date of opening of financial bid of technically qualified bidders will be published /uploaded on net.

3. Tender Details:-The tender Documents shall be uploaded in 2 cover:-

Cover 1:-Shall contain scanned copies of all "Technical Documents/Eligibility information".

Cover 2:- Shall contain "BOQ/Financial Bid", where supplier will quote his offer for each item.

- (a) Submission of Original Documents: The bidders are required to submit (a) original demand draft towards the cost of bid document if any and (b) original bid security/Earnest Money deposit (EMD) and other technical documents in the Store & Purchase section, NIT Hamirpur-177005 (HP) as specified in the key dates of **Sr. no.2** on tender opening dates & schedule, failing which the bids will be declared non-

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responsive. EMD in the form of DD/FDR must be attached with in favour of Director, NIT, Hamirpur (H.P) -177 005. The EMD should remain valid for a period of 90 days beyond the final bid validity period. EMD of unsuccessful bidders shall be returned after the expiry of the final bid validity or before the 30th day of the award of contract. The EMD of the successful bidder shall be released after successful execution of supply order.

4. BID OPENING DETAIL: - The bids shall be opened as per schedule specified in the key dates of **Sr. no.2.** in the store & Purchase section, NIT, Hamirpur by the authorized officer. In their interest the tenderer are advised to be present along with original documents at the time of opening of tenders. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time & venue.
5. The bids shall remain valid for acceptance for a period of not less than 120 days after the deadline date for bid submission. Other details can be seen in the bidding documents. The officer inviting tender shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt notify the bidder of any bid updates. The Employer shall not be liable for any information not received by the bidder. It is the bidders responsibility to verify the website for the latest information related to the tender.
6. The copy of enlistment order & renewals, Copy of PAN issued by Income tax Department and copy of GST Certificate must accompany in the cover-1
7. The bidder preferably must have successfully supplied similar items in recent years. The bidders shall have to produce supporting documents giving date of award, date of commencement and completion from the concerned competent authority and should be included in cover-1
8. Destination: F.O.R. destination i.e. NIT, Hamirpur (HP) and the rates must include the charges for Packing, Forwarding, Freight, etc., if any.
9. Price/Rate: The price of items may be quoted in Indian rupees.
10. GST:- All the firms may invariably mention their GST/PAN numbers on tender failing which quotations may not be considered valid. Further, this Institution does not issue any Concessional form, so the GST applicable as per actual rates must be mentioned in the offer. In case GST is not mentioned, the rates shall be treated as inclusive of all taxes.
11. The bidders/firms have to supply the complete catalogue/brochure of the products to be supplied along with the Technical bid.
12. The technical bids will be evaluated on the basis of terms & conditions of the tender and details of the product to be supplied as per condition 11 of the tender notice. The committee reserves the right to reject any technical bid on the basis of technical specifications/catalogue/brochure submitted.
13. Conditional/ telegraphic tenders shall summarily be rejected.
14. For any clarifications bidders are requested to contact FI (Purchase), NIT Hamirpur at his E-mail ID i.e. fip@nith.ac.in.
15. The tender/bid shall be kept in a sealed envelope superscribed as "Tender for (Name of work and date of opening _____)".
16. The jurisdiction of the law of court shall be at Hamirpur (HP).

No: NIT/HMR/DoEE/S&PS/ 2024/2970-72

FI (Purchase)

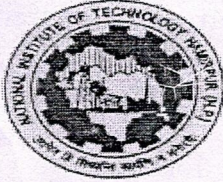
Dated: 20-08-2024

Copy forwarded to the following for information please:-

1. The HOD, DoEE, NIT, Hamirpur
2. Dr. Jiwanjot Singh, Assistant professor, DoEE, for information please.

3. ✓ The FI (CC), for getting the advertisement displayed in the Institute website for wider publicity under head: - **Supply and installation of Grid connected bidirectional EV charger for Electrical Engineering Department of NIT Hamirpur.**

12/08/20
FI (Purchase)



राष्ट्रीय प्रौद्योगिकी संस्थान हमीरपुर हमीरपुर 177005-(हि.प्र.)

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P.)-177005

[An Institute of National Importance under Ministry of Education (शिक्षा मंत्रालय)]

NIT-SBD

Subject: - Supply & installation of Grid connected bidirectional EV charger for DoEE of NIT Hamirpur.

Sealed online E-Tender in two bid system are hereby invited by the undersigned for the supply of following items on behalf of the Director, NIT, Hamirpur from the Eligible/ Experienced/ Resourceful, manufacturer's dealer/authorized distributor etc. having experience in appropriate field and who have successfully completed works of similar type, so as to reach in the office of the undersigned as per date & time mentioned in the tender notice.

| Sr. No. | Name of works/item | Qty/ No. | Earnest Money In Rs. | Time Limit |
|---------|--|----------|----------------------|------------|
| 1 | Supply and installation of Grid connected bidirectional EV charger For detailed specifications etc please see below | 1 | 16400 | 60 days |

Item: Grid connected bidirectional EV charger

This Setup should Consists of the following:

- 3 Ø SOURCE IMPEDANCE WITH MEASUREMENT UNIT
- 3 Ø IGBT BASED PWM CONTROLLED RECTIFIER
- FPGA BOARD
- DC-DC BIDIRECTIONAL BUCK BOOST CONVERTER FED CHARGER
- LITHIUM ION BATTERY WITH INBUILT BMS:

Modes of Operation

- Grid to EV Battery (Charging)
- EV Battery to Grid (Discharging)
- Inbuilt Programing and interfacing facility with Matlab/Simulink, custom programming function should be included
- Supplier has to provide the full Programming code at the time of installation
- Training should be provided at the time of installation about hardware as well as software programing

a) 3 Ø SOURCE IMPEDANCE WITH MEASUREMENT UNIT:

- 3 No's or more 0-5 mH/25A variable Tapping inductor will be used
- 3 No's PT or more based Voltage sensing circuit with signal conditioner will be used to Sense the 3PH Mains Voltage
- 3 No's Of Hall effect current sensor or more with signal conditioner used to sense the mains current
- One no 3PH MFM with Modbus Protocol Used to display the GRID Parameters (Active power, Reactive power, PF, THD, Voltage, Current & Apparent power etc)
- 3 no's CT (30:5A ratio) or more used to connect with MFM

b) 3 Ø IGBT BASED PWM CONTROLLED RECTIFIER

- 6 NO'S or more 600V/ 75A, Peak SEMIKRON IGBT used

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790

- 3 no's SKYPER32R Based Negative Turn off (-8v to+15v) with short circuit protection driver circuit used for all individual IGBTs or more
- All the collector and emitter terminals are brought out in proper connector for power circuit connection
- All the gate and emitter terminals are brought out and terminated on front panel to view driver output fault output
- Indicator LED provided for PWM input and power supply input
- Proper heat sink provided for all the IGBTs with cooling fan provision
- Temperature sensor provided for over temperature Protection
- PWM inputs are brought out on Front Panel, you may connect any controller for interface
- One common +15V Power supply for all the driver circuit, Inbuilt isolated power supply provided.
- Over current protection and short circuit protection provided for all individual IGBT module
- Reset circuit provided and terminated to clear the fault
- Snubber capacitor provided for dv/dt protection for all IGBT module
- 4 no of Current sensor 55A for DC link current and Output line current or more
- INPUT AC VOLT : 0-440V AC ph to ph approx
- One no 3PH 1.5KVA Voltage Matching Step down transformer will be used
- OUTPUT dc : 0-100V DC voltage approx
- POWER : 2KVA approx
- SWITCHING FREQUENCY : 0-20KHZ MAX. approx
- ITS USED TO MAINTAIN THE SOURCE CURRENT THD BELOW 5% THD & UNITY PF IN SOURCE SIDE.
- ITS ALSO USED TO REGULATE THE DC LINK VOLTAGE CONSTANT

c) FPGA BOARD

FPGA Development board featuring is specially designed for experimenting and research system design with FPGAs. This development board features with maximum 100 user IOs.

ON-BOARD FEATURES:

- Processor speed 20 MHZ or more
- 100 output lines / inputs lines are in 3.3/5V level or more
- Isolated serial communication interface through USB connector
- 4MB PROM for code execution memory. Or more
- External JTAG header for programming
- 20x4 (or 16x2) LCD interface header or more
- 8 user LEDs/4 position user DIP switch or more
- 2 up & down input push switch or more
- Up to 100 Individually Programmable GPIO Pins or more

ADC :

- No of ADC input : 16Channels or more
- Resolution : 12 bit or more
- Sampling rate : 1MSPS or more
- Analog input range : $\pm 10V$
- Buffer section for voltage protection

DAC:

- No of DAC output : 4 Channels or more
- Resolution : 12 bit or more
- Settling time : 6 μ s approx
- Analog input range : -5v to +5V

CONNECTORS:

19/0

2. **Time Limit:** - The firm/supplier has to supply and install the equipments within 60 days from the date of the award letter.
3. **Guarantee/warranty:** - The supplier has to provide equipment guarantee/warranty supplied for 01 year from the date of successful installation of the equipment supplied. (Certificate of the same to be given by the supplier)
4. **Demonstration & Training:-** The supplier will have to demonstrate and impart training to concerned users at NIT, Hamirpur after successful supply & installation. (Certificate of the same to be given by the concerned user/indenter).
5. **EMD: EMD in the form of DD/FDR /Bank Guarantee must be attached in favour of Director, NIT, Hamirpur (H.P) -177 005.** The EMD should be remained valid for a period of 120 days beyond the final bid validity period. EMD of unsuccessful bidders shall be returned after the expiry of the final bid validity or before the 30th day of the award of contract. The EMD of the successful bidder shall be released only after submission of 3 % **Performance bank Guarantee** which should be valid till expiry of warranty period. EMD/PBG exemption is permissible as per Govt. rules.
6. **Make in India preference:-** NIT Hamirpur shall compare all substantially responsive bids to determine the lowest evaluated bid. The Institute is following and abide with the revised Public Procurement (Preference to Make in India), Order No. P- 45021/2/2017 – PP (BE-II) dated 16.09.20 issued by DPIIT, Ministry of Commerce and Industry, Govt. of India & subsequent instructions of Ministry. Accordingly, preference will be given the make in India products while evaluating the bids. However, it is sole responsibility of the bidder(s) to specify the product quoted by them is of Make in India along with respective documentary evidence in the technical bid itself.
7. **Technical Evaluation:-** Technical evaluation of the participating firms will be done strictly on the basis of catalogues/brochures/literature/technical details of the product to be supplied along with relevant experience & fully complying all the terms & conditions of the SBD & tender notice. **It is mandatorily to physically submit the technical literature/catalogue of the product to be supplied along with make & model no. failing which the technical bid of the participating bidder will be straightforward rejected.** NIT Hamirpur also reserves the right to seek clarification from any of the participating firm during technical evaluation. The participating bidder has to submit undertaking that they fully complies to our above-mentioned technical specifications.
8. **Destination:** F.O.R. destination i.e. NIT, Hamirpur (HP) and the rates must be quoted inclusive of all taxes and charges.
9. **Penalty:** In case the firm/vendor fails to supply the equipments within the stipulated period penalty without assigning any reasons @ 1/2% (half percent) of the total value of the item covered in order as penalty per day subject to a maximum of 5% (five percent) will be imposed unless extension is obtained in writing from the office on valid ground before expiry of delivery period
10. **Price/Rate:** The price of equipment/items may be quoted as per BOQ clearly mentioning the Basic rate & GST in the specified columns of BOQ in Indian rupees. **Tender will be awarded to the participating bidder who will be lowest in terms of total of all items**
11. **GST:** - All the firms may invariably mention their GST/PAN numbers on quotation/tender failing which quotations may not be considered valid. Further, this Institution does not issue any C/D Concessional form, so the GST applicable as per actual rates must be mentioned in the offer. In case GST is not mentioned, the rates shall be treated as inclusive of all taxes.
12. **NIT/NIQ Opening:** Representative of the firm may be present at the time of opening of the Quotations, if it wishes.

13. **Payment:** 100% payment shall be made immediately after receipt of material in good condition and successful installation of the same. (Certificate of the same to be given by the indenter/inspection committee NIT, Hamirpur)
14. **Right of Acceptance/Rejection:** Right of acceptance and rejection of any tender/quotation in part or full without assigning any reason are reserved with the institution authorities. The number of items to be purchased could be increased or decreased depending on the requirement of end user.
15. In case of any dispute the jurisdiction of Hamirpur (HP) Courts shall apply. For any clarifications please contact:- Dr. Jiwanjot Singh (Mobile 9872581018)

FI (Purchase)