

NATIONAL INSTITUTE OF TECHNOLOGY PATNA



(An Institution of National Importance under MHRD, Govt. of India)

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Tender No. NITP/Proc./19-20/15

Dated 25/11/2019

Sub: Procurement of equipments under (SERB/DST) Project of Mechanical Engg. Dept., NIT Patna, Project-PI Dr. Karpagaraj.

National Institute of Technology Patna, an Institute of National Importance, invites sealed tenders from reputed Original Equipment Manufacturers / Authorised Dealers / Bidders for quality **Tender for Procurement of equipments under (SERB/DST) Project.**

All interested tenderers are requested to send their sealed quotation as per technical specifications in **Annexure – I (a) & (b)** and price bid as per **Annexure-III (under two bid system)**. For general terms & conditions, instructions to bidders etc. please refer **Annexure- II**.

Tender will be accepted by **26.12.2019 upto 01:00 p.m.**

Detailed descriptions of the item and instructions for submitting your offer can be downloaded from our website **www.nitp.ac.in**.

The proposals must be sent in two separate sealed envelopes (Technical Bid and Price Bid) duly subscribed with Reference number and Tender Notice details as appended hereunder:-

Tender for Procurement of equipments under (SERB/DST) Project of Mechanical Engg. Dept., NIT Patna, Project-PI Dr. Karpagaraj.

TENDER REF NO: Tender No. NITP/Proc./19-20/15, DATED 25.11.2019, LAST DATE FOR SUBMISSION. UPTO 26.12.2019 at 01:00 P.M.

To,
The Registrar
National Institute of Technology Patna
Bihar, INDIA

From: M/s _____

Address: _____

Contact No.: _____

Email ID: _____

The price bid will be opened only of those firms, who will be found technically qualified after evaluation of their technical bids. **The technical bids will be opened on 26/12/2019 at 01:30 PM**, in the office/department at NIT Patna, in the presence of the Bidders/Vendors or their authorized representative who wish to be present.

Registrar

Annexure - 1(a)

DETAILED SPECIFICATION

Technical Specification of Items, namely, Welding Power Source P500L Pulse/Low-Spatter Mode- MIG Welding Machine and Three-Axis CNC controller for automation, for DST-SERB Project, PI - PI Dr. Karpagaraj, Dept. of Mechanical Engg, NIT Patna.

List of Items:

| Sl. No | Items | Specification | Remarks |
|--------|--|---|--|
| 1. | Pulse/Low-Spatter Mode- MIG Welding Machine - P500L. (01 Unit with complete accessories) | List of individual components with details of specifications is given in <u>List 1</u> below | In future it should be able to integrate with welding robot through digital interface. Power source should have USB port for taking backup and exchanging the data. Pulse customisation option should be available along with low spatter mode and high speed pulsed mode. |
| 2. | Three-Axis CNC controller for automation (01 Unit with complete accessories) | List of individual components with details of specifications is given in <u>List 2</u> below | It should support & be integrated with welding machine to carry out welding and its allied works including additive manufacturing |

N.B.: Preference will be given to those bids that cover the entire list of components (with suitable technical specifications) for a given Item category.

List 1

Machine 1:

| Specification of Welding Power Source -P500L Pulse/Low-Spatter Mode- MIG | | |
|---|------------------------------|---|
| Sl No. | Description | Specification |
| 1 | Welding Power Source (P500L) | P-500L Next Generation Digital Inverter Pulse Welding Power Source with Low Spatter Function. A Digital NANO Processor Inverter MIG/MAG Welding Power Source and all accessories etc. |
| 2 | Feeder | Four Roll Wire Feeder with Encoder, with Wire Feeder Control Cable, Gas Hose etc. the length should be more than 2 meters and above |

| | | |
|----|------------------------------|---|
| 3 | Torch (Automatic Torch) | Suitable for 500A, length of 2 m or above– water-cooled- vertical torch suitable for the automation with robot and other automation devices. |
| 4 | Number of phases | 3 |
| 5 | Rated frequency | 50/60Hz (Wave Pulse mode should be available with wave frequency adjustment between 0.5Hz to 32Hz.) |
| 6 | Rated input voltage | 460V |
| 7 | Input voltage range | 460V±10% |
| 8 | Rated input power | 25.2kVA, 24.1kW |
| 9 | Rated input current | 31.6A |
| 10 | Rated output current | 500A(DC), 400A(Pulse) |
| 11 | Rated load voltage | 39.0V(DC), 34.0V(Pulse) |
| 12 | Rated output current range | 30 – 500A |
| 13 | Rated output voltage range | 12.0 – 39.0V |
| 14 | Maximum no-load voltage | 92V |
| 15 | Rated duty cycle | 60%(DC), 80%(Pulse) |
| 16 | Number of welding conditions | 100 |
| 17 | Operating temperature range | 14°F to 104°F (-10 to +40°C) |
| 18 | Operating humidity range | less than 50%, 104°F (40°C), less than 90%, 68°F (20°C) |
| 19 | Storage temperature range | -13°F to +131°F (-25 to + 55°C) |
| 20 | Storage humidity range | less than 50%, 104°F (40°C), less than 90%, 68°F (20°C) |
| 21 | Dimensions (W x D x H) | 15.6 x 28.0 x 31.9 in. (395 x 710 x 810mm) |
| 22 | Mass | 178.6lbs (81kg) |
| 23 | Wire feeder | With standard accessories suitable for automation. The Power Source should have Constant Penetration control function to enable automatically adjust the wire speed so that constant welding current can be assured even when the stick out length changes. |
| 24 | Applicable wire size | (0.8), 0.9, 1.0, 1.2, (1.6) mm and with additional standard sizes |
| 25 | Wire feeding rate | 1.5 – 22 m/min |
| 26 | Weight of applicable wire | Max. 25 kg or more |
| 27 | Shield Gas (max. pressure) | CO2 or Ar mixed Gas for MIG/MAG welding (0,3 Mpa) |

| | | |
|----|---------------------------------|---|
| 28 | Type of cooling (max. pressure) | Special coolant (0,5 Mpa) |
| 29 | Power supply | Standard power supply |
| 31 | Welding materials | Mild steel, stainless steel, aluminium, MIG brazing (Cu Si & Cu Al) and galvanizes steel |
| 32 | Maintenance | The power source should enable low maintenance through High dust resistance by adopting a separation structure which prevents dust from entering the area in which electronic components like PCBs are mounted. It should have intelligent cooling fan arrangement to automatically adjust revolution of cooling fan as per temperature. |
| 33 | Other important information | Wave Pulse mode should be available with wave frequency adjustment between 0.5Hz to 32Hz. In wave pulse welding, cyclically accumulating two separate unit pulse conditions at low frequency enables to obtain continuous weld bead looking like rows of fish scales (like TIG) for Aluminium. Power Source should have Pulse Current Wave Form control (2 step) to enable high Quality Low Heat Input welding. Pulse Customisation option should be available. |
| 34 | Cost | The total price of the equipment is 8.20 L including 5% GST and all other expense. |

List 2

Machine 2:

| Specification of Three-Axis CNC controller for automation | | |
|--|--|--|
| Sl No. | Description | Specification |
| 1 | Number of Simultaneously Controlled Axis | Three (X, Y, Z) |
| 2 | Table size L X W (mm) | 400 mm or above |
| 3 | Z-axis length | 300 mm or above |
| 4 | Bed | The rigid structure must withstand the vibration and heat during the welding operation |

| | | |
|----|--|--|
| 5 | Positioning Accuracy X, Y, Z | 0.020 mm |
| 6 | Repeatability | 0.020 mm |
| 7 | The load-carrying capacity of working Table | 20 Kg or more |
| 8 | Motor Type | Stepper motor or other higher-end devices |
| 9 | Distance from table to spindle nose (Z-axis) | Minimum 120 to maximum 500 mm or above |
| 10 | Distance from table to X-Y axis | 100 mm or above |
| 11 | Feed Drives | AC Servo Motors in X, Y, Z-axis directly coupled |
| 12 | Programmable Feed Rate X, Y, Z axis | Min 50 mm/min to max 1000 mm/min or more |
| 13 | Important feature | Should able to couple with the welding power source. The machine should able to withstand during welding. The machine should able to conduct the earth for performing the welding. It should able to perform special curvature and complicated profile with three-axis interfaces. |
| 14 | Control | Latest software (Siemens control or other higher control) with enough panel size. It should have good inbuilt memory with external devices support like the use of USB devices etc. |
| 15 | Additional control method | The machine should have wired/wireless handheld |
| 16 | Essential features | The machine should be laser calibrated and report should be submitted at the time of inspection. The column should study enough to take machining loads with 3 walled layers. |
| 17 | Cost | The total price of the equipment is 8.30 L including 5% GST and all other expense. |

FORMAT OF COMPLIANCE STATEMENT

| Para of Tender Enquiry Specification | Specification of Equipment Offered | Compliance to Tender specification whether yes or no (if yes indicate the page no and Put a Flag also highlight the matching specification) | In case of noncompliance deviation from Tender specification to be indicated in unambiguous term. |
|---|---|--|--|
| 01 | 02 | 03 | 04 |
| | | | |

* The compliance certificate along with the page no indication (i.e. required spec and availability of the page in the entire tender documents by flagging or giving page no) must be submitted with the bid for evaluation. Firm not submitting the model/spec and their details availability in the bid documents by flagging/page no may not be considered for evaluation.

NOTE: The bid documents are not transferable and the firm's seal and signature of the authorized official must appear on all papers and envelopes submitted.

INSTRUCTION TO BIDDERS:

Two/Double Bids:-

- 01.** In case of two-bid system, tenders will have to be submitted in TWO PARTS i.e. (a) Technical Bid and (b) Price Bid, in two separate properly sealed covers indicating the type of Bid; and both these covers will have to be again put in to a single sealed cover. Also the address of the firm submitting the tender and the officer, to whom the tender is addressed, must appear distinctly on both the inner sealed covers, indicating also TECHNICAL BID / PRICE BID as may be applicable.

- 02. In the part relating to Technical Bid, the OEM/Vendor must provide the followings:-**
 - (a) Details of the technical features of the offered Equipment vis-à-vis specification as per Annexure – I (a);
 - (b) Standard Technical literature on each of the items offered; the article on offer should conform to standard quality, specification and test of manufacturer;
 - (c) Dealership certificate on the offered products from OEM in case of dealer/s;
 - (d) List of reputed organizations/Institutions, where similar orders have been executed (copies of the purchase/work order will have to be enclosed). The bidders/ OEM should attach a self declaration stating that he is not banned / debarred from working with any Central Government / PSU / State Govt of India / Any other Govt. Agencies or any Institute of National / International importance.
 - (e) GST registration certificate indicating also the TIN number
 - (f) Copy of PAN must be submitted of FIRM / Bidder along with the Technical Bid;
 - (g) **Banker's details** of tendering FIRM / Bidder should be clearly mentioned;
 - (h) Details of nature and maximum period of **Warranty** offered by the OEM/Bidder;

- 03. In the part relating to Price Bid, the OEM/Vendor must provide the following:-**
 - (a) Quantity, basic price (against item-wise details of specifications of each of the offered items);
 - (b) Prices of each of the optional accessories, as required by specifications and may be relevant for offered Equipment, will have to be specifically stated in the quotation:
 - (c) Central / Sales Tax/ GST (as percentage of basic price + packing & forwarding charges if any)
 - (d) Installation & commissioning charge (including Service Tax), to be shown item- wise extra, if any.
 - (e) Freight & insurance charge, if any.

Terms & Conditions:-

01. **Rates:** Rates quoted should be on F.O.R., NIT Patna, on Door Delivery basis mentioning all taxes/break-up separately.
02. **Validity:** Quoted rates must valid for 180 days.
03. **Warranty/Guarantee:** The material must be quoted with a minimum comprehensive Warranty / Guarantee period of 12 months after the date of delivery and acceptance at final destination. After sales service and contact details of resource person for this should be mentioned.
04. **Delivery:** Unless otherwise stated delivery of goods at NIT Patna, will have to be maximum within 30 days from the date of receipt of the Purchase Order. All aspects of safe delivery shall be the exclusive responsibility of the OEM / Bidder.
05. **Printed conditions of supply of the firm, if any, will not be binding on us.**
06. **Late and delayed Tenders:** Late and delayed tender will not be considered. In case any unscheduled holiday occurs on prescribed closing/opening date the next working day shall be the prescribed date of closing/opening.
07. **Ground for Rejection of Tender:** The tenders are liable to be rejected if the fore going conditions are not complied with. The tender should be complete in all respects and duly signed wherever required. Incomplete and unsigned offer will not be accepted.
08. **Payment Terms:-** 100% payment against proforma invoice will be released after receiving of stores in good order and condition and successful installation and commissioning duly certified by the concern authority.
09. **TDS** as applicable will be deducted from bill.
10. **Entry Tax:** Entry tax, if applicable will be borne by us as applicable on FOR NITP value. The vendor may arrange Road Permit on their own and get it reimbursed from the Institute on production of valid document. Road permit once issued will not change / altered in any circumstances. If any alteration is required due to fault from vendor/OEM side the same will be debited to supplier's A/c
11. **Liquidated Damage:** If a firm accepts an order and fails to execute the order in full as per the terms and conditions stipulated therein, it will be open to this institute to recover liquidated damages from the firm at the rate of 1% per week of the order value subject to a maximum of 10% of the order value. It will also be open to this institute alternatively, to arrange procurement of the required stores from any other source at the risk and expense of the firm, which accepted the order but failed to execute the order according to stipulated agreed upon.
12. **Termination for default:** Default is said to have occurred:-

(a) If the supplier fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by NIT Patna.

(b) If the supplier fails to perform any other obligation(s) under the contract

(c) If the vendor, in either of the above circumstances, does not take remedial steps within a period of 30 days after receipt of the default notice from NIT Patna (or takes longer period in spite of what NIT Patna may authorize in writing), NIT Patna may terminate the contract / purchase order in completely or in part. In addition to above, NIT Patna may at its discretion also take the following actions: NIT Patna may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate NIT Patna for any extra expenditure involved towards goods and services to complete the scope of.

13. Applicable Law:

(a) The contract shall be governed by the laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/processing.

(b) All disputes are subject to exclusive jurisdiction of Competent Court and Forum in Patna, India only.

(c) Any dispute arising out of this purchase shall be referred to the Registrar NIT Patna, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Director of the Institute. The decision of such Arbitrator shall be final and binding on both the parties.

14. The acceptance of the quotation will rest solely with the Registrar, NIT Patna, who in the interest of the Institute is not bound to accept the lowest quotation and reserves the right to himself to reject or partially accept any or all the quotations received without assigning any reasons.

15. Installation and training- The Company must provide free training and demonstration of equipment after installation at NIT Patna.

16. **Important:-** The Director may accept or reject any or all the bids in part or in full without assigning any reason and doesn't bind himself to accept the lower bid. The institute at its discretion may change the quantity / upgrade the criteria / drop any item or thereof at any time before placing the Purchase Order.

Registrar

TENDER FORMAT FOR PRICE BID

Tender No: NITP/Proc./19-20/15

dated 25/11/2019

| SI No. | Description of Item & Model | Quantity | Unit Price | GST | Total Price |
|--------|-----------------------------|----------|------------|-----|-------------|
| | | | | | |

Delivery Mode: F.O.R. Patna.

Total bid price should be inclusive of Sales Tax, F.O.R. NIT Patna for the above quoted items is ₹

Delivery Period:

Packaging & Freight etc. :

Validity Date: Minimum 180 days from the date of opening of tender.

Any other terms and conditions.

Place:

Date:

Signature: _____

Name: _____

Business Address: _____

Email _____

Contact No: _____

Affix Rubber Stamp

For Any Enquiry

Please Contact:

The Registrar

NIT Patna

Email: registrar@nitp.ac.in