Tender enquiry

Sub: Design, fabrication, supply and installation of an electrical panel and coil for induction furnace in S-86

Dear Sir / Madam,

Quotations are invited on behalf of Head, UED in sealed envelope for Design, fabrication, supply and installation of electrical panel and coil for induction furnace in S-86.

1. Scope of work:
   The scope of work includes the followings:

   1. Design of electrical panel (Power and control) for Vacuum Induction furnace of 30kW.
   2. Fabrication, Supply and Installation of the panel for the existing vacuum induction furnace.
   3. Design and fabrication of electrical coil for 30kW induction heating furnace.
   4. The vendor has to submit all relevant drawings for approval prior to fabrication.
   5. The panels should be as per the submitted drawings.
   6. Installation and testing of the panel and coil is in the scope of the vendor.
7. All necessary tools for installation has to be brought by the vendor and any support by BARC has be intimated well in advance.

8. **The vendor has to supply all spares for maintenance of the panel including IGBT, driver circuits, snubbers, temperature controller, and any other parts that might fail during operation of the furnace.**

9. The coil should be designed with specification given below.

10. The panel should have all the features as per the technical specification given:

11. **Technical specification of the panel**

    1. Load – 30kW (induction heating)
    2. Input power for the panel is 3Ph, 415V AC
    3. Incoming power supply should be connected to an MCCB housed inside the panel.
    4. Output power frequency should be variable 10- 15kHz. A POT has to be provided on the panel to change frequency with proper marking of selected frequency.
    5. Digital frequency indicator should give the frequency of output.
    6. Panel should have DC current and voltage indication.
    7. Digital temperature controller for Pyrometer input of 4-20mA.
    8. Digital temperature controller for safety (with universal input).
    9. Spare digital temperature controller should be supplied by the vendor (fully configured)
    10. Heating start and stop indication should be provided on the panel. Panel should have indication of 3ph power supply.
    11. Various interlocks Overload, Temperature, pressure, cooling water have to be incorporated for safe operation of the furnace.
    12. The inverter should be designed with all safety design like overload, voltage surge Snubber, and component temperature.
    13. The panel should be easy to maintain with sufficient space for handling all the components. The panel should have lighting and exhaust.
    14. The panel should be designed to be compatible with the existing heating coil as well as the new heating coil to be installed by the vendor.

12. **Technical Specification of induction Heating coil**

    1. The coil design should be for 30kW induction heating
2. Crucible OD to be placed inside the coil – 120mm and height – 160mm
3. The cooling water for the coil will be from the water cooling and recirculation unit existing in the plant. Exiting piping size may be considered while designing the inlet.
4. Coating on the copper coil has to be provided to protect it from puncturing. The high temperature coating should be or ceramic or any other insulation which is vacuum compatible.
5. Location of the coil and necessary dimensions for coil design may be collected by the vendor from the existing unit.
6. All necessary compatibility with vacuum system (coil inlet and outlet) is in the scope of the vendor.

2. **QUANTITY:**
   Total job is as tabulated below:

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<thead>
<tr>
<th>Sr. No</th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>1.</td>
<td>Design, fabrication, supply and installation of electrical panel and coil for induction furnace in S-86.</td>
<td>01 set.</td>
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3. **PRICE:** Offered should be including the entire scope of work (Fabrication, supply, taxes, packing and forwarding, transportation). Max possible break up price should be given in the offer.
4. **TESTING:** The induction furnace will be tested twice for operation at desired temperature. The furnace should operate without any failure for two consecutive operations.
5. **WARRANTY:** 12 months from the date of commissioning.
6. **VALIDITY:** Price should be valid throughout the contract period.

7. **COMPLETION PERIOD:** The job is to be completed within **03 Months** from the date of receipt of the order any delay which is liable to the contractor is liable for penalty @ 0.5% per week (5% maximum) to be imposed on the contractor.

8. **INCOME TAX:** Income Tax @2% and surcharge on tax as applicable shall be deducted from vendor’s bill.
9. **SAFETY:** Party should follow all the safety procedure while working inside BARC. During the execution of the work order party will be responsible for all safety precautions to be maintained in the work area. The party should arrange all the safety appliances. As per BARC security norms, the contractor shall have to obtain in the police verification Certificate (PVC) to work inside BARC for all the persons to be employed for this work and be comply with all security regulations strictly. **Any injury/damage caused to the contractor’s work force during execution of the job for any reason whatsoever shall be the liability of the contractor only. The vendor will be only responsible for any labor related dispute.**

10. **PAYMENT:** 100% including taxes after receipt of the unit at our site, final acceptance of the total job and submission of the following documents:

1. Delivery Challan.
2. Advance Stamped Receipt.
3. Original Bill.
4. Guarantee certificate
5. Job completion certificate.
6. GST certificate.

11. **TERMS AND CONDITIONS:**

*Note: [Reference: (2/Misc-9/Lgl/2001/92 dated April 30, 2001, BARC]*

   a. **Confidentiality:** No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as “Propriety” in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

   b. “Restricted information” categories under Section 18 of the Atomic Energy Act, 1962 and “Official Secrets” under Section 5 of the Official Secrets Act, 1923:
Any contravention of the above-mentioned provisions by any contractor, subcontractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

c. Prohibition against use of BARC’s name without permission for publicity purposes: The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC’s name for any publicity purpose through any public media like Press, Radio, TV or Internet without the prior written approval of BARC.

Party should write clearly the Tender No. and due date on the top of envelope. Quotation should be submitted on printed letter head. Party should mention their PAN/GST No. on top of quotation. Quotations should be sent by Speed post only.

Thanking you,

Yours faithfully,

(P. Kalpana Mitra)
UED, BARC
(For and On Behalf of President of India)