Ref. No.: BARC/APPD/DB/2020/111

Subject: Inviting quotations for “Fabrication and supply of Motorized Control Precision linear Z-Shift along with encoder and Controller Unit” as per technical specifications sheet attached in Annexure – I.

Dear Sir,

On behalf of the President of India, you are invited to quote of “Fabrication and supply of Motorized Control Precision linear Z-Shift along with encoder and Controller Unit” as per technical specifications sheet attached in Annexure – I. Terms & conditions are given below.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description of the Job</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>“Fabrication and supply of Motorized Control Precision linear Z-Shift along with encoder and Controller Unit” as per technical specifications sheet attached in Annexure – I</td>
<td>As mentioned in the Annexure – I</td>
</tr>
</tbody>
</table>

Terms and Conditions:

1. The supplier should quote for fabrication of the items, including the cost of the materials.

2. The material will be inspected before the start of the fabrication.

3. The quotations should have the minimum validity period of three months.

4. GST as per government norms is applicable.

5. Supplier should submit their offers in their letterhead, placed in sealed envelope super scribed with the above mentioned Reference No., due date and Title “Fabrication and supply of Motorized Control Precision linear Z-Shift along with encoder and Controller Unit” as per technical specifications sheet attached in Annexure – I, addressed to Project Manager, Electron Beam Centre, Rain Tree Marg, Sector- 7, CBD Belapur, Near Bharatiya Vidtapeeth Engg College (Kharghar), Navi Mumbai-400614, on or before 26-03-2020. The quotation should contain the following details like (i) Period of validity, (ii) terms and conditions of offer, (iii) Approximate period of completion of job, (iv) Copies of registration and income tax clearance certificates, (v) PAN, GST, registration no and Company’s seal with proprietor signature. The quotation containing above information should reached to us before due date by SPEED POST ONLY, no courier and other mode of delivery will be accepted.
6. The fabrication of the item shall be subjected to inspection by our Scientists / Engineers at the supplier's works. Necessary inspection facilities should be provided to them during fabrication at the supplier's premises. The purchaser has the right to make the minor modifications in the design and drawings. Additional charges will not be admissible for such minor modifications, if any. The item should be delivered to us at EBC Kharghar, Rain tree Marg, Sector 7, CBD Belapur, Navi Mumbai, after approval by our Scientists / Engineers.

7. Please note that shorter delivery period will be preferred. For any clarifications you may contact, Shri Dhruba Bhattacharjee, APPD, BARC on Tel No. 27524576/65 or Shri R.B.Chavan, APPD, BARC on Tel No. 27524569.

8. Payment will be made only after delivery and installation of the item to the above-mentioned address and approval by our Scientists / Engineers as per BARC rules.

Approved by

[Signature]

Dr. (Smt.) Archana Sharma
Head APPD, BARC

Copy to: Accounts Officer,
GSS Section,
Central Complex, BARC.
Annexure – I

Fabrication and supply of Motorized Control Precision linear Z-Shift along with encoder and Controller Unit

Technical specifications sheet:

I) Specifications for the Motorized control precision Linear Z-Shift (Quantity – 01 No)
   a) Axial stroke: 150mm
   b) Mounting flange CF 100, Moving flange CF 100, Material : SS304
   c) Encoder with least count 10 microns for digital read out
   d) Precision: 10 micron
   e) Motor Type: Stepper
   f) Stopper (End Limit Switch) to be provided
   g) Max weight of the load: 2 kgs

II) Specifications for the Controller (Quantity – 01 No)
   1. The control unit for controlling the Z linear shift can be based on PLC or microcontroller
   2. LCD display for position and speed values
   3. Provision of Entering position, speed and acceleration values must be provided
   4. Read out feature for current position based on pulses sent by microcontroller.
   5. Read out feature for actual position sensed by linear encoder.
   6. Feature of correcting position as sensed by encoder (Controller will send pulses or change direction and send pulses) to motor until position is read by encoder, such feature can be turned ON/OFF)
   7. Limit switch inputs for HOME and EXTREME must be provided
   8. RS232/RS485 communication with PC must be provided
   9. Special hyperlink commands which can be read/write by any software (such as VB.Net/Lab view etc) for key parameters must be provided.
   10. PLC or microcontroller with power supply and LCD display unit must be assembled in a single 19 inch rack mountable sub rack of height about 3/4U

III) Specifications for the standard SS304 CF100 Six way Cross (Quantity – 03 Nos)
   1. UHV Compatible
   2. On each axis, Flange end-to-end distance = 270 mm
   3. Pipe ID = 102 mm
   4. Pipe OD = 108 mm
   5. On each axis, one flange is fixed and the other should be rotatable

Note: The axial stroke assembly will be assembled in the vacuum chamber (CF100 Six way cross) with the vacuum in the range of 10^{-7} mbar or better. Motor with sufficient torque must be selected so that the assembly mounted on the axial stroke can be moved (forward/reverse) under 10^{-7} mbar vacuum.