Tender No.: EmA&ID/2020/MAH/ 73681

Date: 14.08.2020

Subject: Development, Testing and Supply of three electrodes based extraction system as per technical specification sheet TSP- 2020/MAH/01

Dear Sir/Madam,

1. Quotations are invited for the execution of subject work.
2. Taxes and Excise Duties shall be quoted separately. Form AF / H whichever is applicable shall be provided, if required.
3. The suppliers shall submit the cost for Design, fabrication, assembly and testing. All necessary tools, instruments have to be arranged by the supplier.
4. The quotation must reach the undersigned on or before 1st September, 2020 and must be sent in a sealed envelope super-scribed with the reference number & the due date given above.
5. The quotations must reach us on or before the aforesaid date by India post (by speed post or ordinary post) only.
6. The address on the envelop should read:
   The Head,
   Electromagnetic Applications & Instrumentation Division,
   RCD Bldg., North Site,
   B.A.R.C, Trombay,
   Mumbai - 400 085.
   (Attn: Kum. Mahima)

7. The Purchaser representative shall approve the design of the assembly sequence, and fabrication procedure, consequent to which the supplier shall commence the fabrication of the extraction system.
8. The testing of the extraction system shall be conducted in the presence of the Purchaser representatives only, further details are laid down in the enclosed specification sheet.
9. The bidder is expected to deliver the finished components after the approval by our engineer within 04 months from the date of receipt of Free issue material (if any) and firm work order.
10. All the raw materials used shall have the manufacturer’s QC/QA certificates for ensuring the authenticity of the components. Further details are mentioned in the enclosed specification sheet.
11. The finished components with the test certificates as mentioned in the enclosures shall be delivered by the manufacturer after the award of the contract at Electromagnetic Applications & Instrumentation Division (EmA&ID), BARC, Trombay, Mumbai - 400 085.
12. Head, Electromagnetic Applications & Instrumentation Division, EmA&ID reserves the right to accept / reject any or all quotations without assigning any reason.
13. Delivery, packing & forwarding charges, if any, must be clearly mentioned in the offer.
14. Drawings / Sketches (if any) must be returned along with the offer.
15. Quotation must indicate the VAT no / PAN no of the vendor & validity of offer. Minimum validity of 60 days is preferred.
16. The quotation has to be duly signed by authorized person with company seal. Unsigned offers shall be treated as invalid.
17. For any technical clarifications, please contact us vide email: mahima@barc.gov.in; Tel: +9122 2559 6437/1492

Encl.: TSP/2020/MAH/01

Mahima
14.08.2020

Mahima, SO(C)
Electromagnetic Applications & Instrumentation Division
B.A.R.C
For & on Behalf of the President of India
(The Purchaser)
Minor fabrication for Development, Testing and Supply of three electrodes based extraction system

1.0 SCOPE
The tender is invited for the "Development, Testing and Supply of three electrodes based extraction system" as per the following technical specification. This tender specification is arranged as follows:-

- Para 2.0 gives statement of purpose.
- Para 3.0 gives details of Free Issue material offered by the purchaser.
- Para 4.0 mentions the deliverable under this tender.
- Para 5.0 highlights the technical requirement & fabrications techniques for magnet.
- Para 6.0 covers the performance of the contract.
- Para 7.0 describes the general instructions.

2.0 SCOPE OF WORK

2.1) Supplier shall procure the raw material mentioned in the enclosed drawings.
2.2) Supplier shall fabricate the requisite jigs and fixtures as per the drawings enclosed herewith and also design and develop additional jigs as deemed necessary to safely executing the work.
2.3) Prior to the assembly of components, Supplier shall perform CMM measurements on the machined components and submit a geometrical inspection report of the same.
2.4) Supplier shall do electropolishing (thickness ~ 8 microns) on the stainless-steel parts for protection against corrosion.
2.5) Supplier shall take adequate safety measures during the electrical testing of the extraction system.
2.6) The base pressure of the vacuum system should be demonstrated for 5x10^-8 mbar and leak tightness of < 10^-9 mbar lit s^-1. Manufacturer shall arrange for suitable technical operators for carrying the qualification of the system.
2.6) Supplier should use high purity Alumina (>99%) for insulation supports.
2.7) Supplier shall test the insulation strength up to 5 kV DC permitting a leakage current of less than 5 mA.

3.0 FREE ISSUE MATERIAL

3.1) No free issue material is involved in this work.

4.0 DELIVERABLES
The deliverables included in this tender are as follows:-

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Description</th>
<th>Quantity</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Integrated, vacuum and high voltage qualified three electrodes based extraction system</td>
<td>01 Set</td>
<td>Drawing enclosed</td>
</tr>
</tbody>
</table>

Table-1.0

4.1 List of documents
Following documents (under table 2.0) are to be furnished under this contract

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Geometrical inspection report from a bench top CMM</td>
<td>01 Set</td>
</tr>
<tr>
<td>2</td>
<td>Material test reports</td>
<td>01 Set</td>
</tr>
<tr>
<td>3</td>
<td>The Quality Control Records (including mill test certificate of the material to be procured by the vendor)</td>
<td>01 Set</td>
</tr>
<tr>
<td>4</td>
<td>Vacuum leak tightness results of the fabricated extraction system</td>
<td>01 Set</td>
</tr>
<tr>
<td>5</td>
<td>High voltage qualification test report</td>
<td>01 Set</td>
</tr>
</tbody>
</table>

Table-2.0

5.0 RECOMMENDED FABRICATION AND ASSEMBLY TECHNIQUES

5.1) Supplier shall cut the material in the required shapes with CNC machine.
5.2) The supplier to kindly ensure desired flatness and parallelity (≤50μm) is maintained after the shapes are cut as mentioned in the enclosed drawings.

5.3) The grade of stainless steel shall be of SS316L to eliminate any induced magnetization during the machining process (cold work).

6.0 PERFORMANCE OF THE CONTRACT

6.1 Fabrication and Delivery Schedule
The bidder shall complete the job within preferably within 04 months starting from the date of Receipt of Work order to the successful bidder. All the changes called for, shall be intimated vide Engineering/Design change notice (ECN/DCN) duly approved. A copy of the DCN/ECN may be forwarded to the purchaser for information and records. The purchaser shall incorporate the remarks of the aforesaid notices at applicable test documents and release the revisions of the same to the contractor. This is essential to ensure the quality of the delivered goods.

6.2 Document to be furnished prior to the start of fabrication and assembly
After the successful award of the contract, supplier shall first deliver the manufacturing file (MF) containing the factory drawing of the extraction system. The manufacturing file shall contain the following information:

a) Engineering Details of the supporting structures
b) The schematic representation of the assembly procedures
c) Details of all the materials to be used, indicating the make and class

A review meeting will be scheduled within two weeks after its receipt. This document shall be approved by the purchaser, although the review and the approval process shall not relieve the contractor from his responsibility to produce the extraction system according to the requirements as set out in this technical specification.

6.2.1 Quality Control Records
The QCR shall contain

- The material certificates, in particular varnish, epoxy any other material intended to be used.
- All the documentation requested in the para 4.1. All these documents shall be endorsed by the purchaser for approval during successive stages of the production, or for provisional acceptance before authorization for shipment can be granted. The baseline format of the QCR shall be specified in the MF. If any format is changed during the period of this contract, it shall through mutual agreement between purchaser and the contractor, the related templates in the MF shall be revised as well.

6.3) Warranty

- The contractor shall guarantee the system against failure due to either faulty components or manufacturing for a period of 12 months after the system have been accepted by purchaser.

7.0 GENERAL DESCRIPTION:

7.1) Overall cost will be compared and include packaging, forwarding and safe delivery to purchaser site. The contractor keeps the responsibility of the extraction system until the delivery to the sites mentioned.

7.2) Suppliers shall give complete details of their product, facilities, winding machine details, list of users and compliance certificates from users for technical evaluation. Quotations submitted with incomplete details are liable for rejection.

7.3) Vendors with test facilities for qualification of geometrical inspection, EDM/spark erosion, CNC machining, vacuum testing and basic metrology equipment's for dimensional checks will be given preference.

7.4) The system should be packed in suitable, dust and water proof box. All heavy and tall components shall be bolted on thick base. For any damage due to improper packing, supplier shall be responsible. Package should be such that it can be loaded into a standard shipping container.

In case vendor plans of sub-contracting the job, same shall be clearly brought out in quotations. The sub-contracting can only be carried out only after prior permission of the purchaser. Under any circumstances, the responsibility for the satisfactory completion of job lies solely the supplier. Vendors shall document the details of qualification checks performed on the fabricated parts by self or in collaboration with other laboratories.

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[Signature]

14.0.8.402.0