Subject: Inviting quotations for fabrication, assembly and installation of X-band dual reflector antenna with mounting stand as per Annexure 1. at Engineering Hall No.4, APPD, BARC, Trombay, Mumbai. Quantity: 1 set

You are requested to quote for the fabrication and assembly of X-band dual reflector antenna with mounting stand as per Annexure 1 at APPD, BARC, Trombay, on behalf of President of India.

This fabrication job involves:
Fabrication of dual reflector paraboloidal reflector antenna along with variable height mounting stand (as per Annexure 1). Qty: 1 set

1) For any clarifications the supplier can contact Dr. Amitava Roy, SO/G, APPD, BARC at ph. 25595145, Sandeep Kumar Singh, SO/F, APPD, BARC at ph. 25590166, Romesh Chandra, SO/D, APPD, BARC at phone 25590172 on any working day (Monday to Friday) or on Fax Nos. 25505151 / 25505157 / 25519613 or email: aroy@barc.gov.in, sandeeps@barc.gov.in, romesh@barc.gov.in.

2) Payment for the above work will be made after satisfactory completion of job and on production of bill & advanced stamped receipt, within one month. No advance payment will be made for this work since ours is a Government organization. GST @ 5% will be paid by BARC. Income-tax @1.5% & GST TDS @2% will be deducted from the bill and a TDS (tax deducted at source) certificate will be issued as per Income-tax rules.

3) The tender documents containing detailed technical specifications and drawings for the work under consideration can be obtained by interested bidder by submitting a written request to Dr. Amitava Roy, SO/G, APPD, BARC at his email aroy@barc.gov.in. To understand scope of work in detail supplier should contact Dr. Amitava Roy, SO/G, APPD, BARC at 022-25595145. Supplier should quote for this work only after getting specifications and drawing through email, without which quotation will be considered invalid.

4) Information to be supplied along with the offer:
Suppliers should submit their offers along with the following information.
(a) Period of validity, terms & conditions of the offer, (b) Approximate period for completion of the work and (c) copy of the registration and income-tax clearance certificate with PAN.
Additional Information:
Your sealed quotation (in your letter head) including all details, like taxes to be paid, transport charges etc., duly indicating our reference number mentioned above and due date may be sent by speed post to “Head, APPD, BARC; Hall 4, BARC, Trombay, Mumbai - 400085” on or before 17th November 2020. The quotations received after the due date & by FAX/email will not be considered.

Yours faithfully,

( Dr. Archana Sharma)
Head, APPD, BARC

Copy to: A.P.O., GSS Section, Central Complex, BARC

Dr. (Shri) Archana Sharma
Head, Accelerator & Pulse Power Division
Government of India
Baroda, Gujarat, 390002, India

The above information is provided for your reference only. Please refer to the official document for any further details.
Figure 1: Antenna Assembly Schematic
Figure 2: Antenna Assembly with mounting arrangement
Specifications and Scope of work for the Fabrication and assembly of dual reflector paraboloidal reflector antenna along with variable height mounting stand (Quantity: 1 set)

A. Fabrication of Reflector Antenna:
   1. Parabolic reflector antenna of 3 m diameter.
   2. Material of construction: Aluminium 6061 T.
   3. Anodized polishing of reflector surface is to be done.
   4. Dimensional tolerance to be maintained as per standard IT-9.
   5. Reflector thickness 4.0 mm.
   7. Reflector antenna has to be designed with a 700 mm reflector at center, and 8 detachable petals of 45 degrees as shown in figure 1.

B. Fabrication of Conical Feed Antenna:
   1. Input waveguide internal diameter 32 mm.
   2. Output aperture internal diameter 200 mm with mounting flange CF 200.
   3. Output flange outer diameter 250 mm.
   4. Material of construction: Aluminium 6061 T.
   5. Wall thickness 3 mm.
   6. It should be compatible to ultra high vacuum of $1 \times 10^{-7}$ mbar.
   7. Dimensional tolerance to be maintained as per standard IT-7.
   8. Inner surface finish: 500 nm.

C. Fabrication of Waveguides compatible with conical feed antenna
   1. Input waveguide internal diameter 32 mm.
   2. Material of construction: Aluminium 6061 T.
   3. Wall thickness 3 mm.
   4. It should be compatible to ultra high vacuum of $1 \times 10^{-7}$ mbar.
   5. Dimensional tolerance to be maintained as per standard IT-7.
   7. No of connecting flanges: 4 nos total.
   8. Waveguide Nos: 2 nos
   9. Waveguide Length: 250 mm (Approximate)

D. Fabrication of subreflector
   1. 450.00 mm diameter
   2. Surface Profile: Hyperboloid sufreflector with ellipsoid at centre in diameter of 70 mm.
   3. Thicness: 4 mm.
   4. Dimensional tolerance to be maintained as per standard IT-6.
   5. Surface finish: 400 nm.
   6. Material of construction: Aluminium 6061 T.
   7. Anodized polishing of reflector surface is to be done.

E. Design and fabrication of supporting rods along with mounting arrangement for subreflector
   1. Dielectric material support has to be used.
   2. 6 no of rods.
   3. Mounting arrangement should provide a movement of $\pm$ 50 mm for subreflector in axial direction.
F. Design and fabrication of support structure for reflector antenna
   1. At the back of reflector ribbed structure has to be designed and fabricated for support.
   2. This structure must be able to provide sufficient strength for structure to withstand wind load as specified.
   3. All 8 petals should be detachable along with their support.
   4. Each petal along with support should not weigh more than 30 kg each (lighter weight is preferable).

G. Design and fabrication of mounting arrangement of complete reflector assembly
   1. Mounting arrangement height should be 2.6 m with a flexibility in height of ±300 mm.
   2. This structure must be able to provide sufficient strength for structure to withstand wind load as specified.

H. Wind speed Specification
   1. This assembly and fabrication of structures has to be done for operational wind speed of 60 km/hr and survival wind speed of 160 km/hr.

Note:
   1. All the corners should be rounded with proper finish.
   2. The items has to be installed at BARC, Trombay, Mumbai.
   3. The delivery shall be done only after final inspection and certification from indentor.
   4. Discrete quotation for items will not be accepted.