



GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
BHABHA ATOMIC RESEARCH CENTRE
VISAKHAPATNAM



Computational Analysis Division

Ref: CAD/HEDM/WO/IND/22-23/18

Date: 25/10/2022

Subject: Notice inviting tender for;
“Fabrication and supply of multiple electromagnetic coils integrated on single FRP barrel.”
(See Annexure-I)

1. Quotations are invited for minor fabrication job as per details described below.
2. **Scope of work:** See details in Annexure-I.
3. **General guidelines for submitting tender**
 - You shall send your offer in a **sealed envelope** indicating delivery period, price inclusive of taxes and other relevant information by speed post to:

Head,
CAD, Computational Analysis Division
Bhabha Atomic Research Centre
Village: Maduturu (Sub: P.O.)
Near Nagavaram Junction,
Gajuwaka-Yellamanchilli Highway
Atchutapuram, Visakhapatnam
Andhra Pradesh- 531011
(Kind Attention: Rahulnath P.P., SO/D,CAD, 0891-283-2149/ 8985875318)

- Quotation shall reach us on/or before **10/11/2022 by Speed Post/Courier/ Only.**
- On top left corner of the envelope please indicate
Quotation for– **“Fabrication and supply of multiple electromagnetic coils integrated on single FRP barrel.”** and due date 10/11/2022
- Overwriting, scratching etc. must be avoided in the quotation. Rewriting the whole figure shall carry out any alteration in the figure. The authorized person from the firm shall countersign such figure.
- The delivery period mentioned in the quotation shall be strictly adhered to. If the contractor fails to supply and secure extension of delivery date before effecting delivery of the supply against the contract, acceptance of such item by the purchaser will in no way prejudice the right of the purchaser to levy liquidated damage nor will it be entitled to the contractor for payment of statutory levies that comes into force after the expiry of the delivery date.
- Minimum Guarantee/**Warranty period** of the material and workmanship shall be **One Year.**
- **Supplier shall mention clearly the PAN /TAN no. on quotation.**
- **GST number shall be clearly mentioned on Quotation.**
- All the charges and taxes shall be mentioned clearly.
- You may contact us for any clarification before **10/11/2022** (Shri. Rahulnath P.P., 0891-2832149,8985875318, rahulnath@barc.gov.in)

4. **Rates:**
As per Scope of Work.

5. Place of Delivery/Work:

Address: BARC-Stores, Bhabha Atomic Research Centre, Near Nagavaram Junction, Gajuwaka-Yellamanchilli Highway, Maduturu PO, Visakhapatnam, Andhra Pradesh- 531011.

5. PAYMENT TERMS:

- a. Part payment/Advance or against delivery cannot be made.
- b. Payment will be made only after satisfactory completion of work and on production of (along with Delivery Challan):
 - i. Bill/Invoice containing Location of supply, separate tax components along with PAN and GSTN numbers.
 - ii. Advance Stamped Receipt.
 - iii. Bank Account No, Bank and Branch name with IFSC code.
 - iv. Undertaking stating that GST has been promptly deposited with the authorities
- c. It may be noted that:
 - i. Income tax @2% will be deducted from your bill.
 - ii. TDS (under GST) will be deducted as applicable from your bill of taxable goods and/or services, where the total value of such supply exceeds 2.50lakh.
 - iii. Declaration confirming filing of Income Tax Return from immediate two preceding years, in accordance with Section 206 AB of the Income Tax Act 1961, has to be submitted in the prescribed proforma along with necessary acknowledgements in support of declaration. In case the aforesaid declaration is not submitted, TDS/TCS shall be deducted at higher rates as instructed under the provisions of Income Tax Act.

6. CONFIDENTIALITY CLAUSE:

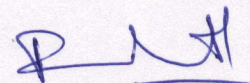
No, party shall disclose any information to any third party, concerning the matters under this contract generally. In particular, any information identified as "Proprietary" in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any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

This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by a party with equal force.

"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, sub-contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

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 medial like press, radio, T.V. or Internet without the prior written approval of BARC.



(Rahulnath P.P.)
SO/D, CAD

Phone: 0891-2832149,

Email: rahulnath@barc.gov.in

Scope of work**Fabrication and supply of multiple electromagnetic coils integrated on single FRP barrel.**

The following item is to be fabricated;

1. 6 Number of electromagnetic coils on a single FRP barrel of length 1430mm-Quantity 06Nos.

I. Features of arrangement(Quantity-06Nos.):

1. Barrel;
 - a) Material: FRP
 - b) Inner diameter- $21.20^{+0.10}_{-0.00}$ mm
 - c) Max.Outer diameter-24.00mm
 - d) Length:1430mm
 - e) FRP: Glass fibre/Epoxy 90°/0°, Filament Winding technique, Glass fibre-600Tex or less.
 - f) For other dimensions see Drg.No.01
2. Coil winding is to be done on the OD:24mm and length 80mm.(see Drg.No.2)
3. Conductor of coil must be Cu-OFHC 3.2mm diameter.
4. First turn of coil must start at 15mm from the end as shown in Drg.no.2.
5. Distance between the coils is 80mm(Indicated in Drg.no.1).
6. Leads of all coils are to be taken out **quarterly** (i.e. the angle between the leads should be 90°)
7. The direction of leads and holes are shown in Drg.No.2.
8. The outer diameter of coil is 70mm. This has to be precisely maintained.
9. **First layer of winding**
OFHC copper round enamelled conductor of diameter 3.2mm has to be wound over the above former with a pitch of 4.4mm. First winding should start at 15mm from one of the ends of former. 11 turns of windings has to be made over the former. Just after the 11th turn, conductor has to be taken elliptically out through quarter half of the plane with sufficient length of conductor behind for another layer of coil. It has to be ensured that a minimum of 25mm length has to be provided outside the coil.
10. **Reinforcement above the first layer**
Once the first layer of conductor is wound over the former, Glass fibre fibre reinforcement has to be made up to a diameter of 38.4mm(i.e. up to 2mm thickness above the surface of first layer of conductor winding).65° winding angle and a pre-stress of 1.5kgf must be provided while winding. Glass fibre fibre must be of 1000dtex value. Volume fraction of 60-65% should be ensured.
11. **Second layer of winding**
After 2mm thick fibre winding is made over the conductor second layer of winding is to be made. This has to be done in the reverse way along the axis. The pitch of winding should be 4.4mm and number of turns should be $10\frac{3}{4}$.
12. **Reinforcement above the second layer**
Once the second layer of conductor is wound, fibre/epoxy reinforcement has to be made up to 70mm diameter. 65° winding and pre-stress value of 1.5kgf has to be ensured while winding the fibre. 1000dtex fibre has to be used. Volume fraction of 60-65% should be ensured.

GENERAL REQUIREMENTS:

- a) The vendors are encouraged to hold prior discussions with the indenter for any clarifications.
- b) Finished products should be delivered to the address given below.

Address:

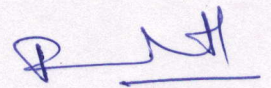
“Stores Officer, Bhabha Atomic Research Center, Near Nagavaram Junction, Nagavaram-Atchutapuram Highway, Visakhapatnam, Andhra Pradesh- 531011”

- c) The cost of transportation/delivery if any should be mentioned in the quotation.
- d) No part payment will be done for any part delivery.
- e) It is mandatory to mention prices of each item separately.
- f) Single order will be placed for all the above items and no partial work is permitted.
- g) Minimum Guarantee/**Warranty period** of the raw material and workmanship shall be **One Year**.
- h) **Contact Persons:**

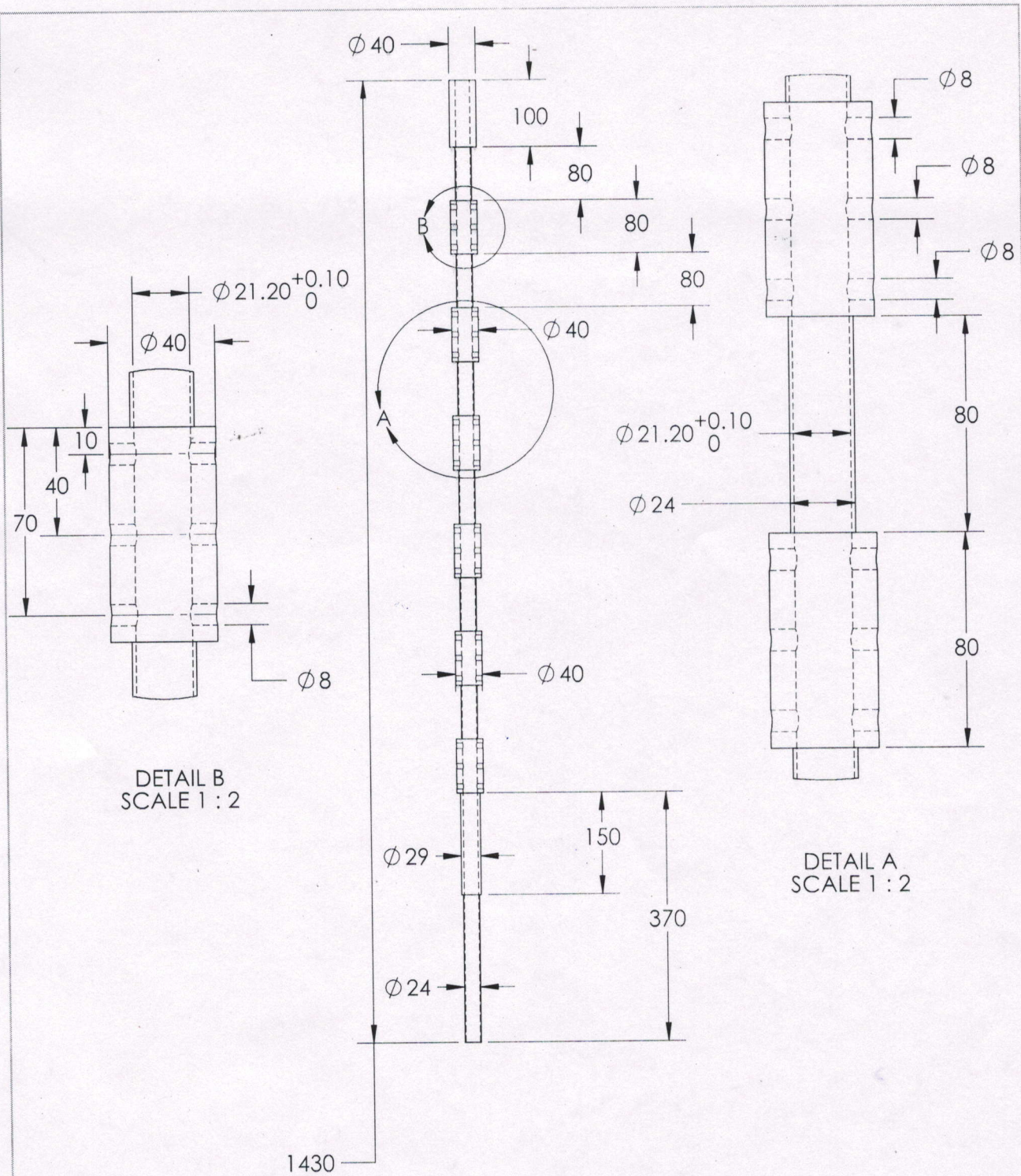
a) **Shri. Rahulnath P.P.**, Computational Analysis Division, BARC

Contact details: rahulnath@barc.gov.in

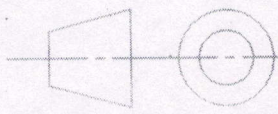

Phone: 0891-283-2149, 8985875318

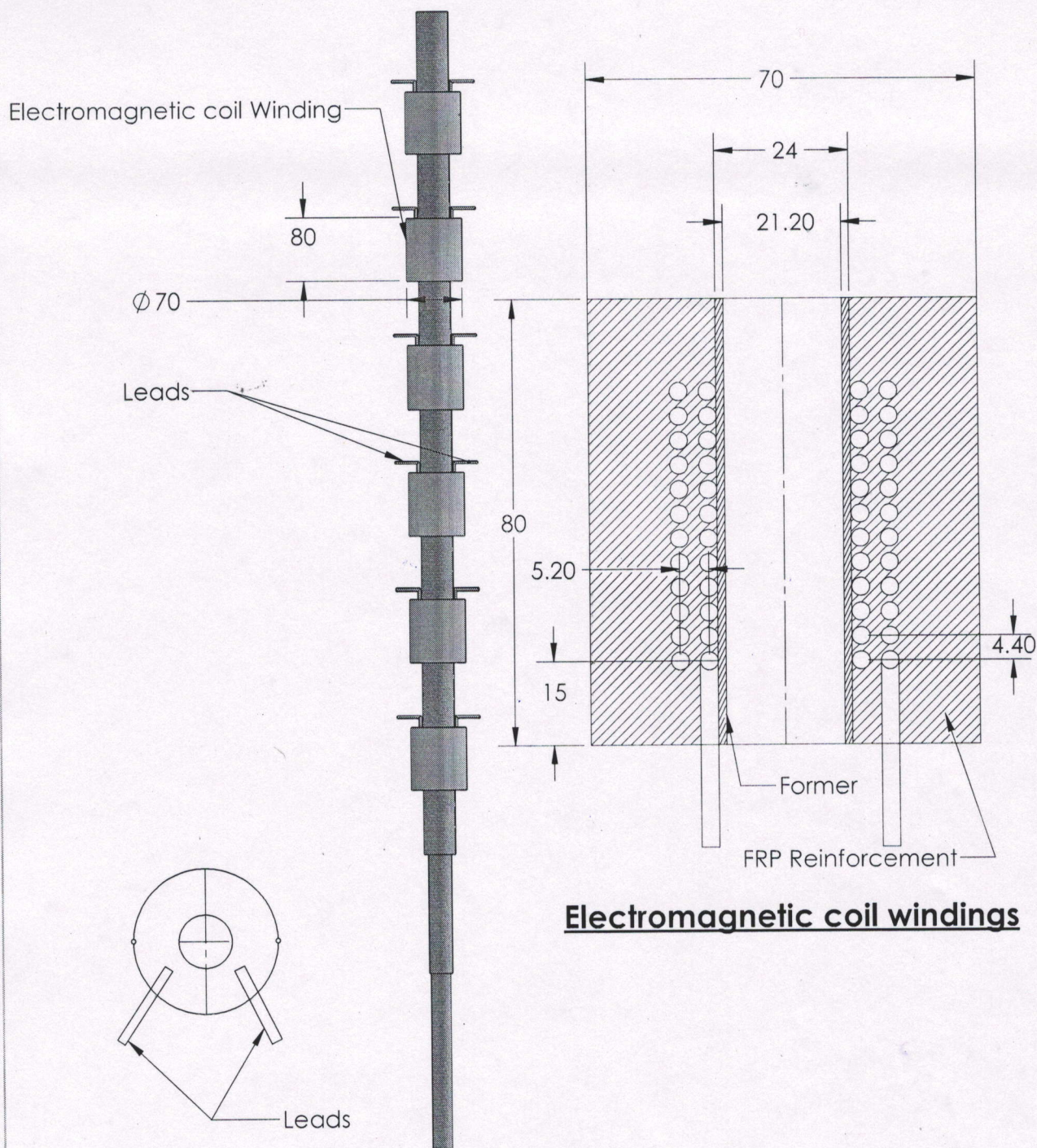


(Rahulnath P.P.)
SO/D, CAD



Former_6-In-1_Pitch-160mm

DRG. No.:01	All dimensions are in mm		
Quantity:01No.	SCALE:1:1	Material:FRP	
DATE:13/10/2022	MF:22-23/17	NAME & Sign.:Rahulnath	



Integrated 6-In-1 Coil

DRG. No.:02

All dimensions are in mm

Quantity:06Nos.

SCALE:1:7

Material:FRP

DATE:13/10/2022

MF:22-23/17

NAME & Sign.:Rahulnath

[Signature]

