

INSTITUTE FOR PLASMA RESEARCH
NEAR INDIRA BRIDGE, BHAT, GANDHINAGAR 382 428
GUJARAT STATE
Phone: 079 23962021, 23962023 Fax: 079 23962277

TENDER NOTICE DATED 19-3-2010

Sealed tenders are invited from reputed and eligible parties for the following.

Sr. No	Tender Notice No.	Item	Qty.	Due Date & Time for		Tender Fee	EMD (Rs.)
				Submission of tender	Opening of tender		
1.	IPR/TN/PUR/047/09-10	Winding Packing manufacturing of Divertor Coil employing Cable-in-Conduit-Conductors (CICC)	1 No.	30-4-2010 by 1.00 p.m.	30-4-2010 2.30 p.m.	200.00	20000.00

Tender documents are available on IPR Website : www.ipr.res.in/purchasetenders.html.

Tenderers meeting the eligibility criteria mentioned in the tender documents may, at their option, download the tender documents from the website and submit their offer along with prescribed **Tender Fee (non refundable) and EMD** in the form of Demand Draft from any nationalized/scheduled bank drawn in favour of **Institute for Plasma Research** and payable at **Ahmedabad** as per the details given in the tender documents. In case party desires to collect the tender documents by post, they may contact the Purchase Officer along with prescribed tender fee. Tender documents will be issued upto **5-4-2010**. Representative who is going to attend the tender opening should carry an authorization letter from the organization for participation in the tender opening failing which he will not be allowed to attend the tender opening.

TENDER NOTICE No.IPR/TN/PUR/047/09-10 DATED 19-03-2010

For Winding Packing manufacturing of Divertor Coil employing Cable-in-Conduit-Conductors (CICC) - 1 No.

NOTE:

1. Full details and specifications of the items and general instructions to be followed regarding submission of tenders are indicated in the tender documents.
2. **Proof for fulfillment of eligibility criteria mentioned hereunder should be submitted along with the tender. If the tender is submitted without valid documents, we shall not consider your offer. Tenders received without proof of eligibility criteria will be rejected.**
3. Tender documents can also be obtained by submitting a written request to the Purchase Officer together with prescribed tender fee, provided that the eligibility criteria is fulfilled. Last date for issue of Tender documents is 5-4-2010
4. While requesting for Tender Documents, such request shall indicate the **“REQUEST FOR TENDER DOCUMENTS AGAINST TENDER NOTICE NO.IPR/TN/PUR/047/09-10 DATED 19-03-2010”**.
5. The tender fee of Rs.200/- (non refundable) should be made in the form of **DEMAND DRAFT from any nationalized/scheduled bank drawn in favour of Institute for Plasma Research and payable at Ahmedabad.** Vendor's name and tender number shall be indicated on the reverse side of the Demand Draft.
6. **DD should not be prior dated to the date of advertisement. Separate request letter and separate Demand Draft shall be sent for each tender.**
7. Those who use the downloaded tender documents from IPR Website may submit the prescribed Tender Fee keeping in a separate envelope along with the tender.
8. **Tenders received without the prescribed tender fee will be rejected.**
9. No request for the extension of due date will be considered.
10. Late/Delayed offers will not be accepted.
11. Tenders in a sealed envelope superscribing the envelope with the above tender no., date, due date and brief description of tendered item along with EMD for Rs.20,000/- by way of Demand Draft from a nationalized/scheduled bank drawn in favour of **Institute for Plasma Research** and payable at **Ahmedabad** should be submitted to the *Purchase Officer* at the above address by 1.00 p.m. on **30th April, 2010.** Tenders received upto 1.00 p.m. on 30-4-2010 will be opened on the same day at **2.30 p.m.** in the presence of attending tenderers.

12. In the event of any date indicated above is a declared Holiday, the next working day shall become operative for the respective purpose mentioned herein.
13. IPR will not be responsible for any delay/loss of documents in transit.
14. Tenders received without the details asked for including proof of eligibility for participating in the tender may not be considered.
15. Tenderers should furnish/enclose full technical details/literature, delivery period and confirm the terms and conditions attached with the tender.
16. **Those who do not meet with the eligibility criteria need not submit Tender.**
17. **Those who are quoting on behalf of their foreign Principals should submit a Proforma Invoice of Foreign Principals in foreign currency.**
18. The Director, IPR reserves the right to accept or reject any offer in full or part thereof without assigning any reason thereof.
19. **Quotations received without EMD will not be considered.**
20. **The representative who is going to attend the tender opening should carry an authorization letter from the organization for participation in the tender opening failing which he will not be allowed to participate in the tender opening.**

ELIGIBILITY CRITERIA:

1. The vendor should have manufactured magnets winding packs and/or winding lines (including the machines and components) in past involving superconductors and normal conductors. Supporting proof must accompany the quotation to be considered.
2. The vendor must have yearly turn over ~ Rs.50 lakhs for last three years.

NOTE: Issue of tender documents does not mean that a vendor is qualified to submit tenders. IPR's decision to consider as to whether a vendor has met with the eligibility criteria is final.

INSTRUCTIONS TO BIDDERS AND TERMS AND CONDITIONS

1. The quotation and any order resulting from this tender/enquiry shall be governed by our Conditions of contract and supplier quoting this tender shall be deemed to have read and understood the same in toto.
2. Where counter terms and conditions have been offered by the supplier, the same shall not be deemed to have been accepted by us, unless our specific written acceptance thereof is obtained.
3. **Tender Fee: Tenders received without the prescribed Tender Fee will be rejected.**

4. **Clarifications:** Any technical and commercial questions, information, clarifications, etc. that may be required pertaining to this Tender/enquiry may be obtained from the Purchaser before submitting the tender.
- 4.1 Bids shall be complete in all respects and shall include properly filled in prices, other specifications, schedules, relevant drawings and catalogues as necessary alongwith the bid covering letter, all in duplicate.
5. **Quotation:** Your quotation superscribing our tender/enquiry No., date, due date and short description of item should be submitted to the Purchase Officer, IPR in a sealed envelope on or before the due date. Late and delayed quotations will not be considered. IPR will not be responsible for postal delays or any other delays in receipt of quotation. Envelopes received without Tender number, date, due date and short description of item may be rejected. The quoted prices should be firm for a period of 120 days from due date for placing order. IPR is not bound to accept lowest rate/s. IPR reserves the right to place order on one or more parties irrespective of whether he is lowest or not. The scope of supply includes insurance by the Contractor/Supplier.
6. **Specifications:** Material should be offered strictly conforming to our specifications/drawings. Deviation, if any, should be clearly indicated by the supplier in their quotation. The supplier should also indicate the Make/Type number of the materials offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation.
7. **Terms of prices:** Quotation should be submitted on door delivery basis without extra charge wherever possible. For quotations on Ex-Works, Ex-godown basis the approximate packing and forwarding charges should be indicated by the supplier. In the case of local suppliers, the material is to be delivered at our stores free of charge. Unit rate/s should be valid throughout the validity of purchase order/contract period for addition/deletion purposes. Break-up of price should be furnished. The quoted price should not be subject to price escalation for whatsoever reasons. The quoted price shall be firm, fixed and non-revisable during the validity/extended validity of purchase order/contract.
- 7.1 Prices are required to be quoted according to the units indicated in the tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
- 7.2 Wherever options are specified in the tender documents, IPR reserves the right to accept any option/s irrespective of whether all the vendors have quoted for all the options or not. The decision of IPR in this regard will be final.
8. Tender should be free from Correction and Erasures. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail.
9. IPR shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted.
10. **Sales Tax etc.:** We have no "C" or "D" form. The percentage of Sales Tax/VAT, surcharge, if applicable, and other levies legally leviable and intended to be claimed

should be clearly indicated in the tender. Where this is not done, no claim on these accounts would be admissible later.

- 10.1 **VAT Registration:** You may submit a copy of VAT Registration certificate along with your quotation (if applicable).
- 10.2. **Service Tax:** Wherever Service tax is applicable, it should be mentioned clearly. You may indicate percentage of Service Tax in your quotation.
- 10.3 **Excise Duty:** As per Notification No.10/97-CE (Central Excise) dated 1-3-1997, the Purchaser is entitled for availing Excise Duty exemption at present. Excise Duty Exemption Certificate, wherever applicable, and as per rules will be issued at the appropriate time. Hence Excise Duty should not be included in the BID. However, prevailing percentage of Excise Duty may be indicated.
- 10.4 **Octroi:** Octroi is not applicable in our case.
11. **Delivery Date:** The supplier must indicate the firm delivery date by which the materials will be despatched/delivered by them from the date of our order.
12. **Inspection:** Materials on its arrival at IPR will be inspected by Stores In-charge, and his decision in the matter will be final.
13. **Earnest Money Deposit (EMD):** Tenderer should furnish EMD for Rs.20,000/- (Rupees Twenty thousand only) by way of Demand Draft from a nationalized/scheduled bank drawn in favour of **Institute for Plasma Research** and payable at **Ahmedabad** should be submitted along with quotation. Tender received without EMD will not be accepted.
- 13.1 **EMD of unsuccessful Bidder will be returned after finalizing the Contract/placing Purchase order.**
- 13.2 **The EMD shall be forfeited in case the selected Bidder does not start the work within the time limit specified or fail to complete the work within the stipulated delivery period or fail to comply with any of the terms and conditions in the purchase order/contract.**
14. **Payment:**
 - 14.1 10% advance against submission of Bank Guarantee for an equivalent amount from a nationalized/scheduled commercial Bank. This payment will be made only after signing the contract/Purchase order and submission of Security Deposit.
 - 14.2 10% against approval of all fabrication drawings, winding line engineering drawings (including components) and process detail sheets and on submission of a Bank Guarantee from a nationalized/scheduled bank
 - 14.3 30% of the contract value against the manufacturing of the winding line and demonstrating the same to the satisfaction of IPR on prototypes.
 - 14.4 40% against manufacturing of the winding pack following the IPR approved QA/QC and processes and demonstrating the satisfactory tests as mentioned under the 'acceptance criteria' and delivery of the same at IPR site.
 - 14.5 10% within 30 days from the date of final acceptance and on receipt of Performance Bank guarantee for 10% of the contract value from a nationalized/scheduled commercial bank valid through out the warranty period.

Wherever, advance payment is involved, it will be paid only against submission of Bank Guarantee from a Nationalised Bank. Bank Guarantees should be furnished as per IPR format.

15. No correspondence will be entertained within 30 days from the date of receipt of material and bills, whichever is later.
16. Quotation should be valid at least for 120 days from the date of opening of the tender.
17. Delivery periods be clearly indicated against each item separately.
18. **Guarantee:** The Stores/material/goods/equipment offered by the bidder should be guaranteed for a minimum period of twelve months, against defective materials, design, workmanship, operation or manufacture. For defects noticed during the Guarantee period, replacement/ rectification should be arranged free of cost within a reasonable period of such notification. In cases where our specifications call for a guarantee period more than 12 months specifically, then such a period shall apply.
19. **Security Deposit:** The successful Bidder will have to furnish to the Purchaser an interest free security deposit for 10% (Ten percent) of the order value in the form of Bank Guarantee of an equivalent amount from a nationalised/scheduled Bank within 15 days from the date of LOI/Purchase order and the said Guarantee should be valid till the goods are accepted by IPR. The Security deposit shall be forfeited in case the selected Bidder does not start the work within the time limit specified or fail to complete the work within the stipulated delivery period or fail to comply with any of the terms and conditions in the purchase order/contract.
20. **Liquidated Damages:** In addition to forfeiting Security Deposit, Liquidated Damages for the delay shall be 1/2% (half percent) of the total order value for the delay of each week in the scheduled time of supply or the scheduled date of final completion for the work as the case may be, subject to a maximum of 5% (five percent) of total order value. Liquidated Damages will be recovered from the payment due to the supplier.
21. **Performance Bank Guarantee:** The Contractor/Supplier will have to furnish to the Purchaser (IPR) an interest free performance bank guarantee for 10% (Ten percent) of the order value/ contract value by Demand Draft or by way of providing a Bank Guarantee from a Nationalised/Scheduled Bank valid for a period of 12 months/guarantee period mentioned in the order from the date of installation/acceptance for satisfactory performance of the work carried out by the Contractor.
22. The Contractor/Supplier shall at all times indemnify the purchaser against all claims which may be made in respect of the stores/material/goods/equipment for infringement of any right protected by Patent Registration of design or Trade Mark and shall take all risk of accidents or damage, which may cause failure of supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfillment of the contract.
23. **BAR/PERT Charts:**
To be provided as per the requirement of Purchaser.
24. **Sub-Contract:** All sub-contractors are required to be appraised and approved by the Purchaser before placement of orders by the Vendor.

25. **Jurisdiction:** The contract/Purchase order shall be governed by the Laws of India for the time being in force. The Courts of Ahmedabad only shall have jurisdiction to deal with and decide any legal or dispute arising out of this contract.
26. **Settlement of disputes:** Any disputes or difference arising out of or in connection with the Contract/Purchase order shall be to the extent possible settled amicably between the parties.
- If amicable settlement cannot be reached then all disputed issues shall be settled by arbitration.
27. **Arbitration:** In the event of any dispute or difference arising under this Contract, the matter shall be referred to the Arbitrators one each nominated by the Purchaser and Contractor from their respective organisations. In case the said Arbitrators are not able to settle the dispute by themselves, the matter shall be referred to the Arbitrator mutually nominated by the Purchaser and the Contractor and whose decision will be final and binding on both the parties. The venue of arbitration will be IPR. Subject to as aforesaid the Arbitration Act, 1940 and the rules thereunder and any statutory modification thereof for the time being in force shall be deemed to apply to the Arbitration proceedings under this Contract.
28. **Permits and Licences:** The Contractor shall secure and pay for all permits and licence which he may require to comply with in respect of all laws, ordinances and regulations of the Government or Public Authorities in connection with the performance of his obligations under the Contract. The successful contractor shall be responsible for all damages and shall indemnify and save the Purchaser harmless from and against all claims for damages and liability which may arise due to his failure to comply with what is stated above.
29. **Training:** The successful tenderer shall, if required by the Purchaser, provide facilities for the practical training of Purchaser's engineering or technical personnel for their active association on the manufacturing process throughout the manufacturing period of the Contract/stores, number of such personnel to be mutually agreed upon.
30. **Operation/Instruction Manual:** Where operation/instruction manual is essential to enable the Purchaser to put the stores to proper use, the successful tenderer shall furnish such operation/instruction manual along with the stores.
31. **Test Certificate:** Wherever required, test certificates should be sent along with the despatch documents.
32. **Secrecy:**
- 32.1 All information, drawings, designs and specifications imparted to the bidder/successful contractor shall, at all times, remain the absolute property of the Purchaser, the bidder/successful contractor shall not use them for purposes other than for which they are provided for and shall treat all these documents as confidential. These shall not be reproduced in whole or in part for any other purpose.
- 32.2 The contractor shall use his best endeavours to ensure that such information are not divulged to third parties except where needed for the performance of the contract by the successful bidder with the prior consent of the Purchaser. In such cases, the successful contractor shall ensure and obtain similar obligation of confidence, from third parties in question.

33. **Indemnity:** The Contractor shall warrant and be deemed to have warranted that all stores supplied against this contract are free and clean of infringement of any Patent, copy right or trade mark and shall at all times indemnify the Purchaser against all claims which may be made in respect of the stores for infringement of any right protected by patent. Registration of design or Trade Mark and shall all risk of accidents of damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfilment of the contract.
34. **Counter terms and conditions of Suppliers:** Where counter terms and conditions printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the Purchaser unless specific written acceptance thereof is obtained.
35. **Installation/commissioning/site works:** Wherever these activities are part of scope of work/specifications, Vendor should carryout out the same without any extra cost to IPR.
36. **Free Issue Material (FIM) (If specified in the tender documents):** Successful tenderer will have to furnish in the form a Bank Guarantee or in any other form as called for by the Purchaser towards adequate security for the materials/property provided/issued by the Purchaser as Free Issue Material (FIM) for the due execution of the contract. Successful bidder shall submit Bank Guarantee from a nationalized bank and arrange insurance for the cost of FIM at his expenses.
37. Late/delayed tenders will not be accepted. Incomplete tenders may be rejected at the discretion of IPR.
38. **IPR is not bound to accept the lowest tender. IPR reserves the right to select any vendor at its sole discretion.**
39. **Result of the tenders:** Unsuccessful tenderers will not be informed of the result of their tenders.
40. The Director, IPR reserves the right to accept or reject any quotation/tenders fully or partly without assigning any reason.
41. IPR reserves the right to place order on a single party or to split the order at its sole discretion.

We agree to the above terms and conditions.

Place:

Signature of Bidder with seal

Date:

Note: A copy of our terms and conditions duly signed should accompany your quotation.

Winding Pack Manufacturing of Divertor Coil employing Cable-in-Conduit-Conductors (CICC)

The 'scope of work' includes

- Generating appropriate manufacturing drawings from the drawings supplied by IPR.
- Generating drawings of required tools, jigs and fixtures appropriate for the manufacturing of the winding pack with the given the cable-in-conduit-conductor as the base conductor.
- Manufacturing of the tools, jigs, fixtures and tackles etc after obtaining drawing approval from IPR.
- Setting up the winding line suitable for manufacturing of the winding pack. The winding line includes the insulation station. The insulation station should be able to provide the turn-to-turn insulation and layer to layer insulation in the winding pack as per the approved specifications.
- Manufacturing the winding pack as per IPR approved drawings with the approved QA and QC. Prior to the manufacturing of the actual winding pack, the vendor is required to demonstrate the appropriateness of the winding line including its various components with dummy conductor/s.
- Procurement of all materials as required for the winding except the cable-in-conduit-conductor, which will be supplied as a free issue material (FIM) from IPR in a spooled form. The insulation material will be dry fibre glass type.
- The winding pack, once fabricated shall be vacuum pressure impregnated with Bisphenol-A epoxy with suitable hardner. This work is optional for the vendor. Accordingly, the vendor should make the quote (a) without the vacuum pressure impregnation of the manufactured winding pack (b) with vacuum pressure impregnation of the winding pack. From the merit of the technical proposals made against this enquiry, IPR shall decide whether to award the job with or without vacuum pressure impregnation of the manufactured winding pack.

IPR drawing shows the winding pack to be manufactured and the characteristics constructional features desired in the winding pack. The base conductor is a 14.8 mm X 14.8 mm cable-in-conduit conductor (CICC) containing superconducting strands inside a 1.5 mm thick jacket (Annexure-1). However, for all practical/mechanical purposes for the winding pack manufacturing, the CICC can be considered as a square shaped hollow conductor.

The consolidated and cured winding pack shall be cooled with the supercritical helium at 4 bar and 4.5 K. However, the helium stubs are required to be integrated during the winding pack manufacturing only. Helium stubs are welded in the inlet and outlet connections as shown in the drawing.

The conduit should be drilled in such a manner that the strands below are not damaged. The vendor has to ensure that all these important requirements are carried out with suitable tools and jigs and fixtures. The helium stubs welding on to the CICC conduit should be such that they are leak tight at the operating conditions. During the welding of the helium stub, suitable processes are required to be developed such that the superconducting strands beneath the conduit do not get heated beyond 250 C for duration more than few minutes. The leak tight welding of the helium stub onto the

conduit must be done only after this process and technology is duly developed on prototypes and is approved by IPR.

Adequate care must be taken during the winding pack manufacturing such that the turn-to-turn, layer-to-layer and ground insulations are maintained as per the enclosed drawing specification. The manufactured winding pack must have no turn-to-turn shorts or layer to layer shorts. These will be demonstrated by the vendor during and after the winding pack manufacturing. Vendor will suggest suitable test procedures at ensuring the intactness and adequacy of the turn-to-turn and layer-to-layer insulation. The turn-to-turn insulation must withstand 500 V DC and layer-to-layer must withstand 2 kV DC. These tests shall be carried out at the vendor's works and the vendor shall make arrangement of these tests. Vendor shall also measure the impedance of the manufactured winding pack as well as will carry out a ground insulation tests in excess of 5 kV DC for a duration more than 1 minute.

The Free Issue Material (FIM) costs ~ 35 lakhs. The vendor is required to furnish insurance for the safe custody of this material for the entire duration (from receipt till the end of the manufacturing) as well as a bank guarantee against the FIM..

While quoting, the vendor is required to furnish the following documents. These documents are mandatory for the quote to be considered.

1. A schematic of the winding line showing various components of the winding set-up. These drawings shall form the bases of the comprehension of the vendor towards the winding pack fabrication job.
2. A brief functional description of the components of the winding line (to be used for the winding pack manufacturing)
3. A brief proposal as to how the conduit would be drilled.
4. A brief proposal as to how the helium stub welding will be carried out.
5. A brief write-up on the critical methodologies and QA/QC foreseen in the manufacturing of the winding packs.
6. Past experience of the vendor at fabricating such winding packs using copper/SS conductors. Supporting proof is required to be submitted.

Acceptance tests and criteria of the manufactured winding pack (at the manufacturing site):

1. Conformance to dimensions within the tolerances shown in the drawings.
2. Absence of the turn-to-turn shorts with the test voltage up to 500 V.
3. Absence of the layer-to-layer shorts with test voltage up to 2 kV.
4. Conformance to the ground insulation as mentioned above (> 5 kV DC for a duration more than 1 min)
5. Leak tightness of the helium stub welding locations in vacuum mode better than 1×10^{-8} mbar l/s and 2×10^{-6} mbar l/s in sniffer mode at room temperature with helium gas.

Annexure-I

Dimension of the CICC (outer):	14.8 mm X 14. mm
Thickness of the conduit:	1.5 mm
Material of the conduit:	SS 304 L
Weld type in the conduit:	Longitudinal (on length)
No of SC strands inside:	135
% of void inside the CICC:	~ 40%
Single length of the CICC:	> 600 m
CICC supplied conditions:	Two layers wound on a Bobbin of ID ~ 2.5 m
Bobbin material:	Mild Steel
Total weight of the CICC with bobbin:	~ 1300 KG