

**INSTITUTE FOR PLASMA RESEARCH**  
**NEAR INDIRA BRIDGE, BHAT, GANDHINAGAR 382 428**  
**GUJARAT STATE**

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**TENDER NOTICE DATED 26-04-2010**

Itemwise 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/006/10-11	1. Cr-Mo Alloy Steel Plate (ASTM A387 Gr91 Class 2) of size 8' x 4' x 5mm 2. Cr-Mo Alloy Steel Plate (ASTM A387 Gr91 Class 2) of size 8' x 4' x 6mm	1 No.  2 Nos.	10-6-2010 by 1.00 p.m.	10-6-2010 2.30 p.m.	200.00	10000.00
2.	IPR/TN/PUR/007/10-11	Supply of Different Capacity all geared type SS-SC Precision Center Lathe Machines	3 Nos.	14-6-2010 by 1.00 p.m.	14-6-2010 2.30 p.m.	200.00	15000.00
3.	IPR/TN/PUR/008/10-11	<b>Manufacture, testing, supply, installation and commissioning of 0-20V (Variable), AC, Single Phase 50Hz, 15A, 70kV DC isolated, filament power supply at IPR site</b>	<b>1 No.</b>	<b>15-6-2010 by 1.00 p.m.</b>	<b>15-6-2010 2.30 p.m.</b>	<b>200.00</b>	<b>5000.00</b>
4.	IPR/TN/PUR/009/10-11	Manufacture, testing, supply, installation and commissioning of 35 kV, 100mA, HVDC Power Supply, Floating type at IPR site	1 No.	16-6-2010 by 1.00 p.m.	16-6-2010 2.30 p.m.	200.00	20000.00
5.	IPR/TN/PUR/010/10-11 <b>(TWO PART TENDER)</b>	Design, Analysis, fabrication, testing, supply, installation and commissioning of Vacuum Chamber	1 No.	17-6-2010 by 1.00 p.m.	17-6-2010 2.30 p.m.	200.00	20000.00

Tender documents are available on IPR Website : [www.ipr.res.in/purchasetenders.html](http://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 **17-5-2010**. 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/008/10-11 DATED 26/04/2010**

**For Manufacture, testing, supply, installation and commissioning of 0-20V (variable), AC, Single Phase 50Hz, 15A, 70kV DC isolated, filament power supply at IPR site – 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 **17/05/2010**.
4. While requesting for Tender Documents, such request shall indicate **the “REQUEST FOR TENDER DOCUMENTS AGAINST TENDER NOTICE NO. IPR/TN/PUR/008/10-11 DATED 26/4/2010”.**
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.5,000/- 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 15/06/2010. Tenders received upto 1.00 p.m. on 15/06/2010 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**

#### **ELIGIBILITY CRITERIA:**

1. The vendor should be a manufacturer and should have experience of manufacture and supply of similar kind of power supplies. Documentary proof to this effect should be submitted with the offer.
2. Availability of established service network to attend the breakdown of the equipment within 24 hrs.
3. Vendor should have executed/received single order having value of Rs. 3 lakhs or more for similar type of power supplies. Attach copy of purchase order/s received for the above value.
4. Vendor should have supplied similar type of power supplies to Government organizations and esteemed/multinational private organizations (attach copy of purchase order with details like name of the company, contact person, telephone/fax no., email id etc.)

**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 along with 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. 5,000/- (Rupees five 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:** Within 30 days from the date of acceptance. Wherever, advance payment is involved, it will be paid only against Bank Guarantee from Nationalised/Scheduled Bank.
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 cyclostyld 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.**

## Specification of Smoothly Variable 0-20 V AC

Floating type Filament power supply

### Application Note

The filament power supply is used to heat the filament of the cathode of the gyrotron tube. It is an AC power supply, which will be floating at cathode potential. The maximum cathode potential is – 70kV DC. As the cold resistance of the filament is very small (0.3 ohms) the power supply should be soft started and require a definite rise time. [Refer Fig No.1 the power supply which is rounded is the filament power supply (FPS)]

Sr. no.	Parameters	Values
1	Input	230±10%V, 50Hz, Single Phase AC
2	Output	0-20V (variable), AC, Single Phase 50Hz
3	Type of operation	Floating at –70kV DC power supply (refer Fig 2)
4	Absolute maximum voltage (V <sub>fm</sub> )	20V, AC, rms
5	Maximum current (I <sub>f</sub> )	20 A
6	Operating Current	15A
7	Load Detail	0.3Ohms ±10%(Heater cold resistance)
		1.0 Ohms±10%(Heater hot resistance)
8	Surge current (I <sub>sf</sub> )	20 A
9	Regulation:	
	(a) Load	(a) 1 % from no load to full load.
	(b) Line	(b) 1 % for ± 10 % changes in line voltage.
10	Required minimum DC isolation of filament power supply	-100kVdc Maximum allowable Leakage current is 100uA
11	Maximum rate of rise of filament voltage.	1.0 V/minute
12	Protections:	(a) Surge current (inrush) protections (b) Over voltage & under voltage protection (settable by 10 turn Pot in front panel) (c) Over current protection (settable by 10 turn Pot in front panel)
13	Mode of operation:	Manual/Remotely from control room.
14	Analog input for remote operation	Voltage 0-10VDC FSD
15	Analog outputs	RMS Voltage 0-10VDC FSD

		RMS Current 0-10VDC FSD
16	PFC Input	
	PFC	Remote Interlock of Input AC
	PFC	Start/Stop
18	Front panel indication (LED)	Power 'ON'
		Power supply Trip
19	Front panel controls	Power supply Start
		Power supply Stop
		Emergency trip
		Trip Reset push button
		Voltage Rise Potentiometer
		Over current trip level setting potentiometer
		Over Voltage trip level setting potentiometer
20	Front panel Monitoring	Local/Remote Selector Switch
		Voltage (digital display)
		Current (digital display)
		Time totaliser (digital display)

#### Other features of the power supply

- A mimic as per the scheme should be provided On the front panel
- The output AC Voltage and the output AC current should be measured and displayed using suitable PT and CT on the high AC voltage side using suitable Line transducer
- The power supply should be able to operate in local and remote
- The power supply should be placed in suitable power coated cabinet
- The components should be placed with proper clearance as per IEC 61936 or equivalent IS standard
- Door interlocks should be interlocked to the power supply 'ON' to ensure the safe operation of the power supply
- The high Voltage isolation transformer should be terminated with adequately sized terminal with anti corona termination
- The Isolation transformer should be resin cast (oil cooled transformer are not allowed)
- Maximum Leakage current during the floating condition of power supply should not exceed 100uA at -70kV operation
- The panel should have a standard height of ~2 M

## Submittals

- 2 sets of the user manual
- Test certificate of HV isolation transformer

## Inspection

- The supplier should intimate one week in advance for Pre dispatch inspection.
- The customer should witness the inspection/tests of the HV isolation transformer.

## Factory acceptance tests

1. No load Test
2. Full load test
3. Isolation Transformer Test
4. Voltage and Rise time test with resistive load
5. Controls Test
6. Full load test of power supply floating at High voltage

## Site Acceptance test

1. No load Test
2. Full load test
3. Voltage and Rise time test with resistive load
4. Controls Test
5. Full load test of power supply floating at High voltage

The supplier should depute their engineer for the testing and commissioning the power supply at IPR

# AC Floating Power supply

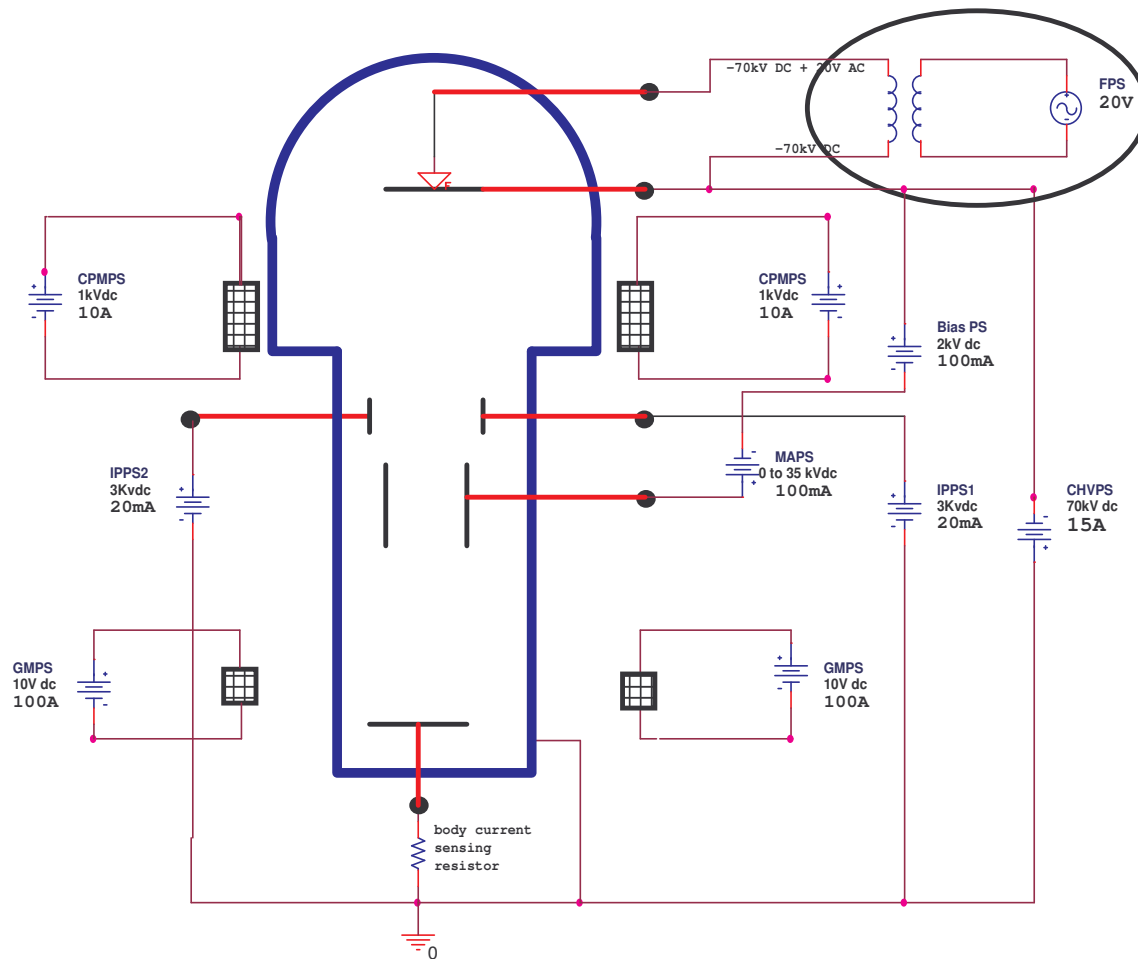


Fig No.1. GA of the power supplies

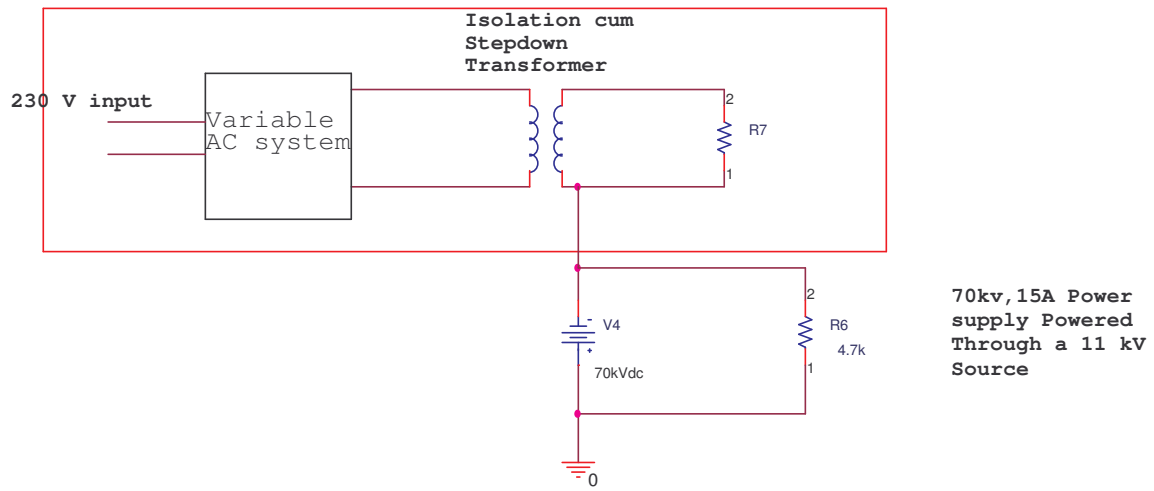


Fig No.1. Schematic of the power supply

# PRICE BID FORMAT

*(Bidders are requested to offer their price bid in the following format)*

S.No	Description	Quantity	Unit cost (Rs.)	Total price (Rs.)
1	Manufacture, testing and supply of 0-20V (Variable, AC, Single phase 50Hz, 15A, 70kV DC isolated, filament power supply.	1 No.		
2.	Installation and commissioning of the above at IPR site (including unloading, shifting, handling with accessories) <b>(Quote Lumpsum charge)</b>	Lumpsum		
3.	Recommended spares			
4.	Other charges, if any.			
<b>Total Rs.</b>				

	<u>Indicate percentage except Freight</u>		
	Percentage	Included	Excluded
Packing and forwarding			
Excise Duty			
Sales Tax/VAT			
Insurance			
Service Tax on Sr.No.2 above			
Freight	Rs.		

**Place:**

**Signature of Bidder with seal**

**Date :**