

INSTITUTE FOR PLASMA RESEARCH
NEAR INDIRA BRIDGE, BHAT, GANDHINAGAR 382 428
GUJARAT STATE
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TENDER NOTICE DATED 17-10-2011

Sealed tenders are invited in **TWO PARTS** from reputed and eligible parties for the following.

Sr. No	Tender Notice No.	Item	Qty.	Due Date & Time for		Tender Fee (Rs.)	EMD (Rs.)
				Submission of tender	Opening of tender		
1.	IPR/TN/PUR /009/11-12 (TWO PART TENDER)	Design, manufacturing, factory testing, delivery, installation, site testing and commissioning of 20V, 10kA Regulated DC Filament Heater Power Supply	1 No.	1-12-2011 by 1.00 p.m.	1-12-2011 at 2.30 p.m.	1000.00	500000.00

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 **25-11-2011**. 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/009/11-12 DATED 17-10-2011
(TWO PART)

**For Design, manufacturing, factory testing, delivery, installation,
site testing and commissioning of 20V, 10kA Regulated DC
Filament Heater Power Supply – 1 No.**

**NOTE: THIS IS A TWO PART TENDER. KINDLY SUBMIT PART-A (TECHNICAL
BID & COMMERCIAL TERMS AND CONDITIONS AND (PART-B) PRICE BID
SEPARATELY IN TWO DIFFERENT ENVELOPES SUPERSCRIBING TECHNICAL
BID AND PRICE BID IN ONE SINGLE ENVELOPE**

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 25-11-2011.
4. While requesting for Tender Documents, such request shall indicate the **“REQUEST FOR TENDER DOCUMENTS AGAINST TENDER NOTICE NO.IPR/TN/PUR/009/11-12 DATED 17-10-2011”**.
5. The tender fee of Rs.1000/- (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. **Tender in a sealed envelope (Technical Bid, Commercial terms and conditions and EMD [Part-A] in one envelope and Price Bid [Part-B] in another envelope) superscribing the envelope with the above tender no., date, due date and brief description of tendered item should be submitted to the *Purchase Officer* at the above address by 1.00 p.m. on 1st December, 2011. Part-A (Technical Bid along with Tender Fee of Rs.1,000/-, commercial terms and conditions and EMD for Rs.5,00,000/-) received upto 1.00 p.m. on 1-12-2011 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. **AUTHORITY LETTER**
 - a. **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.**
 - b. **The tenderers representative, who reaches the venue of the tender opening late, i.e. after the starting time specified for opening of the tenders, may not be allowed to take part in the tender opening. It should be noted that only one representative of each tenderer will be permitted to participate in the tender opening.**

ELIGIBILITY CRITERIA:

1. The bidder should be a manufacturer with design and manufacturing experience of SCR controlled solid-state power supplies for the last three years. Document supporting the experience should be submitted.

2. The bidder shall have designed, manufactured and installed at least one unit of high current power supply with a current rating of 4000 A or above for which documentary evidence should be submitted.
3. The bidder should have executed at least one purchase order of above 4000A Power Supply having value of Rs.40 lakhs or above during the last 3 years. (attach copy of purchase orders).

The response to tender without submission of proof of above points will summarily be rejected without further communication.

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.

Technical Specifications

1. Input: 415V AC \pm 10%, 3 Phase, 50 Hz \pm 10 Hz
2. Output: 0 - 20V, 10 kA DC, CV/CC Mode with auto changeover, Resistive Load
3. Control Range: 2 V to 20V in CV mode and 1 kA – 10 kA in CC Mode.
4. Local and Remote Control
5. Isolated Linear O/P for Voltage and Current, Linearity 0.1%
6. Micro Controller based controller for profile programming for cyclic heating of Tungsten Filaments
 - a. Volt / Current rise time: 5 to 60 Sec FS,
 - b. Flat Top: 0 – 300 Sec and Continuous ON
 - c. Fall time: 0 – 60 Sec
7. O/p Floating with Ground, up to \pm 250 V DC Max
8. Protections: AC Input Over & Under Voltage, SPP, HS Over temp, Over Current/ Shot Circuit
9. Ripple: 1% of FS @ Nominal Voltage and Current
10. Topology: 24 pulse, Controlled rectifier with L-C filters
11. Cooling: the party should provide Water cooled or air-cooled with controlled interlocks like flow regulators/ switches. Party should give an assessment of LPM and Thermal load in their offer. This is needed so that necessary auxiliary systems can be installed before arrival of supply in IPR.
12. Size: Preferably a Free Standing Cubicle of about 1600 mm(W) X 1200 mm(H) X 800 mm(D) or nearest possible.

Requirement of 10 kA Power Supply in LVPD

1.0 Scope of the work:

The scope of this tender includes design, manufacturing, factory testing, delivery, installation, site testing, commissioning, documentation and operational training of one unit of 20 V, 10 kA Regulated DC Power Supply as per in the detailed specifications given hereunder. The Institute will provide the total input power in a single feeder at one location within 10 meters from the power supply. Likewise the total water for cooling requirements shall be provided at one supply and return outlet at one location within 10 meters from the power supply.

Electrical work also includes supply and installation input cables from the designated power outlet and output water-cooled bus bar interconnect from the power supply terminals to a load termination point within 10 meters.

Plumbing work includes distribution from the designated supply and return outlets to the various sections of the power supply system as necessary.

Civil work is not envisaged. The scope of the bidder shall include any minor civil works including grouting/anchoring of the power supply sections. Any other civil works required for the installation of the system shall be brought out by the vendor at the drawing approval stage.

2.0 Application Note:

The power supply is intended to heat an array of Tungsten filaments connected in parallel. The tungsten filaments are distributed over a large area of $\sim 1\text{m} \times 1\text{m}$ that forms a large multi-filamentary cathode. Tungsten has a positive temperature coefficient of resistance; due to this the load exhibits very small impedance like short circuit at 'cold' condition but exhibits a good resistance after the filaments get heated which takes approximately 10 seconds. Hence the power supply should initially use only the current value for tripping control and neglect the voltage that is very small in the ramp up period. Once the filament gets heated it exhibits a nonlinear rise of voltage due to nonlinear rise in the resistance if the current is raised on a constant slope. Similarly if the power supply is used in CV mode the current decreases exponentially with the rise in temperature with a constant rise of voltage.

As described above the filaments are resistive when 'hot' and their characteristic behavior during current ramp up with existing motorized variac control power supply is shown in figure 1. The typical pulsing operation of the filaments is shown in figure 2.

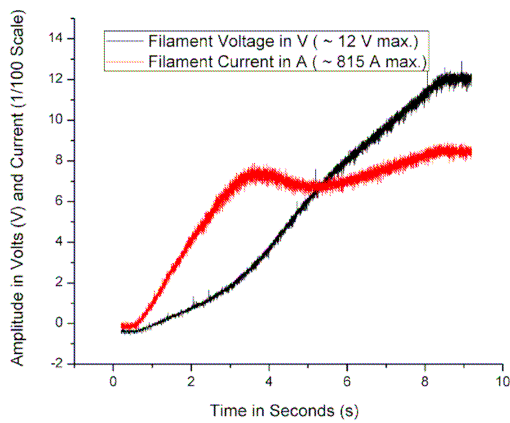


Fig.1: Ramp up response of the filament

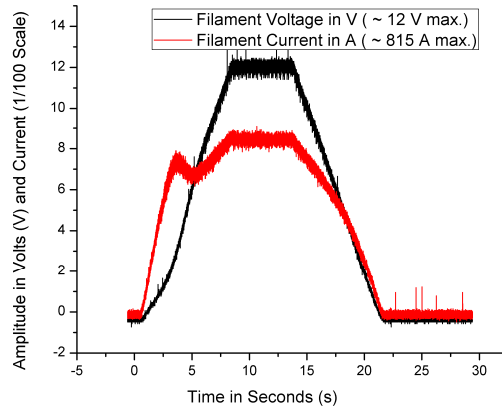
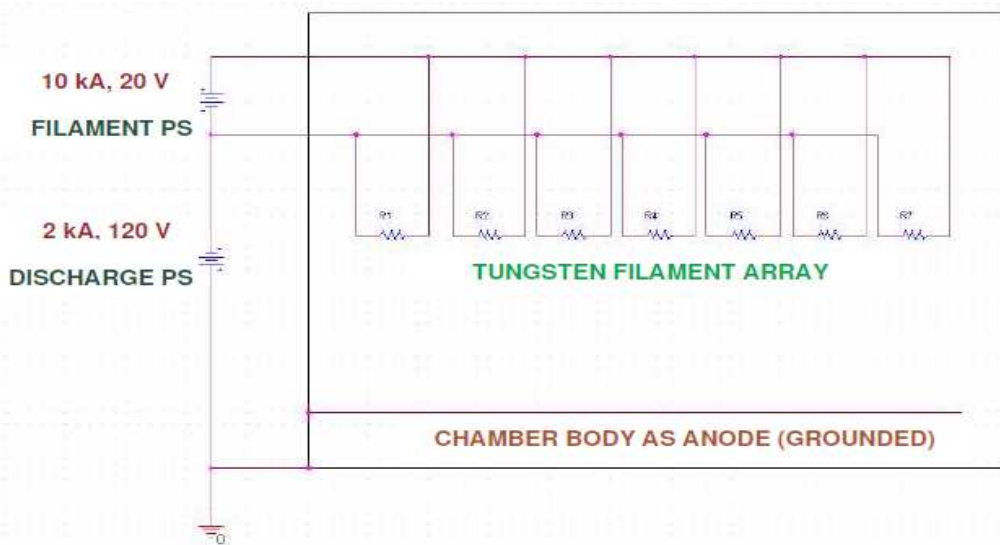


Fig.2: Typical pulse characteristics

The filaments are floating and are required to be biased at a negative potential for the process of emission by using a discharge power supply. This power supply accelerates the electron from the hot tungsten filament’s electron cloud to form an emission current which participates in the plasma production. For this reason the intended filament power supply output dc should float over the discharge power supply. The interconnection between the two supplies is shown in the schematic drawing below:



3.0 Codes and Standards:

The power supply shall be designed, manufactured, and tested to conform to the following industry standards as applicable:

1. BIS – Bureau of Indian Standards
2. IEEE – Institute of Electrical & Electronic Engineers
3. IEC – International Electrotechnical Commission

The site installation shall be in accordance to relevant local statutes in general practice at the location where installed.

4.0 Technical Specifications:

S. No.	Parameter	Value
AC Input		
1.	Voltage	: $415 \pm 10\%$ V, 3 phase, 4 wire + E
2.	Frequency	: $50 \pm 5\%$ Hz
3.	Mains controls	: ACB EDO type with settable option for static release protection relay
4.	Protections for	: a. Single phasing fault b. Improper phase sequence fault c. Improper input voltage level d. Over current, Short Circuit and Over temperature
DC Output		
5.	Voltage	: 0 – 20 V dc
6.	Current	: 0 – 10 kA dc
7.	Duty	: Continuous duty with pulsing ability as described elsewhere
8.	Control mode	: Constant Current (CC) with voltage limiting and Constant Voltage (CV) with current limiting; Auto changeover
9.	Control ranges	: 2 – 20 V in CV mode 1 – 10 kA in CC mode
10.	Load type	: Resistive (Filament)
11.	Control locations	: Local / Remote
12.	Current ripple	: $\leq 1\%$ at rated current and voltage
13.	Line and Load regulation	: $\leq 1\%$
14.	Control range linearity	: $\leq 1\%$
15.	Output isolation (floating) level	: ± 250 V dc
16.	Protections	: a. Semiconductor device protections – fuses, snubber, over temperature b. DC over voltage c. Dc over current
17.	Pulse control	: a. Micro-processor based controller for pulse profile programming with independent rise, hold and fall time selection b. Rise & fall time range: 1 – 60 sec c. Hold time range: 0 – 300 sec/ Cont. d. Timing resolution: 1 milli-second
18.	Mechanical design	: Compact design with segmented assembly for ease of replacement; floor standing cubicles; front and back doors

19.	Cooling	:	Water Forced (light weight, compact design) – Inlet water specifications to be provided by vendor
20.	Dimensions (maximum available)	:	3900mm (W) x 2400mm (H) x 2000mm (D) These dimensions are maximum and limiting. See enclosed layout plans.

5. Functional Description & Requirements:

This Power supply is meant for heating a large numbers of Tungsten filaments, which work as directly heated cathode. This power supply has to be a floating power supply where any terminal (positive or negative) may be biased to voltages as high as 150V for the acceleration of electrons from the heated cathode. Also the ripple current and voltage should be minimum so as to have a pure DC power supply.

Required Controls:

A) Option of Technology

- a) Digital Controller preferred

B) Mode of Operation (with following options which user may select)

- a) Local through the front panel on the Power supply
- b) Remote control facility from Shielded Control room through a remote terminal with control and status monitoring which is connected with the power supply with optical isolation or fiber-optic cable and could be carried in the shielded room with a cable length of approximately 35m.
- c) RS232 interface with optical isolation to control the same from an Experiment control PC.

C) Facility wise

When Pulsed profile program output is desired

- a) Start Pulse
- b) Stop Pulse
- c) Emergency Stop
- d) Fault Reset/ Acknowledge

(Timings for Ramp Up, Ramp Down and total flat top width will be pre-set before the start operation. A default time should always be loaded as soon as the power supply is switched on which the user may change and a non volatile memory should hold this data for next day's operation)

When continuous power is required

- a) Start Pulse
- b) Stop Pulse
- c) Increase
- d) Decrease
- e) Emergency Stop
- f) Fault Reset/ Acknowledge

D) Mode of control (require both with option to choose any one and with auto changeover provision)

- a) CC mode (with option for user voltage limit below maximum rating)
(Control accuracy of 1% is desired across the complete range)
- b) CV mode (with option for user to limit current below maximum)
(Control accuracy of 1% of the full range is desired)

E) Metering

- a) Voltage reading Class A with readout on the power supply panel as well as on the remote control terminal and to the PC via RS232
- b) Current reading with 1% accuracy of the maximum rating on Power supply panel and on remote control terminal and PC.
- c) Additionally separate floating analog outputs in 0 to 10V DC range for complete span of Voltage and current output from the power supply for data acquisition.

F) Protection

- a) Short Circuit
- b) AC / DC Over load
- c) Single Phase preventer
- d) Water flow fail
- e) Over heating of Thyristors
- f) User/ remote Trip facility from Experiment side for at least 3 with 5V input SSRs.

G) Indicators (on power supply and remote terminal/ PC)

- a) RYB Status
- b) DC ON
- c) Trip Signal with Indication

H) PDC Inspection

- a) Full Load test for both Voltage and Current independently. Vendor must possess the resistive load of 1 m Ω to 5 m Ω for the test with power dissipation for 8-hour test duration.
- b) Short circuit / Over load test
- c) Voltage and current ripple
- d) Isolation test for floating O/P

Same above test should be demonstrated at IPR after commissioning

6. Installation & Commissioning Requirements:

- 6.1. The power supply should be supplied pre-assembled for minimizing the installation time at IPR.
- 6.2. Recommendations shall be given along with design and drawings for appropriate sizing of incoming and outgoing power and control cables.
- 6.3. Vendor shall provide installation supervision and site commissioning services either directly or through their authorized representatives.
- 6.4. The scope of site installation and commissioning shall also include acceptance testing for performance.

7. Testing – Factory, Site & Acceptance:

7.1. Factory testing:

7.1.1. All routine testing shall be done for all modules and common control units as standard manufacturing program for the individual item. These tests shall include:

- 7.1.1.1. Insulation resistance measurement with 2 kV megger
- 7.1.1.2. Dielectric withstand test with 2.5 kV ac for 1 minute
- 7.1.1.3. Functional test for all interlocks, faults, indications, etc.
- 7.1.1.4. DC voltage and current ripple measurement at rated power with resistive load as per modules specification.
- 7.1.1.5. Transient response measurement
- 7.1.1.6. Short load performance test

7.1.2. On the fully integrated system the following tests shall be carried out:

- 7.1.2.1. Insulation resistance measurement with 2 kV megger
- 7.1.2.2. Dielectric withstand test with 2.5 kV ac for 1 minute
- 7.1.2.3. Functional test for all interlocks, faults, indications, etc.
- 7.1.2.4. DC output voltage ripple measurement for the operating range
- 7.1.2.5. DC output current ripple measurement for the operating range
- 7.1.2.6. Transient response measurement
- 7.1.2.7. Line and load regulation. Regulation study for a typical load variation from 1 mΩ to 5 mΩ with appropriate power rating.
- 7.1.2.8. Short load performance test
- 7.1.2.9. Stability test
- 7.1.2.10. Measurement/estimation of efficiency, power factor and input THD
- 7.1.2.11. Extent of current sharing between the modules
- 7.1.2.12. Local/Remote controller interfacing
- 7.1.2.13. CC/CV mode performance for the operating ranges

7.2. Site testing:

The following tests shall be done after satisfactory installation of the system at the purchaser's site. All pre-commissioning checks shall be carried out by vendor before proceeding with the following site tests:

- 7.2.1. Insulation resistance measurement with 2 kV megger

- 7.2.2. Dielectric withstand test with 2.5 kV ac for 1 minute
- 7.2.3. Functional test for all interlocks, faults, indications, etc.
- 7.2.4. Local/Remote controller interfacing

7.3. Acceptance testing:

- 7.3.1. CC/CV mode performance for the operating ranges
- 7.3.2. Local/Remote controller operation
- 7.3.3. Continuous operation for 8 hours minimum with specified load or any other mutually acceptable alternative load.

8. Documentation Requirements:

- 8.1. Complete functional drawing
- 8.2. Constructional drawing
- 8.3. Internal layout drawing
- 8.4. Complete schedule of interfaces within and outside the power supply
- 8.5. Complete wiring diagram
- 8.6. Bill of material with details part numbers, make, type and quantities
- 8.7. Functional description document
- 8.8. Operational manual
- 8.9. Installation manual
- 8.10. Trouble shooting manual
- 8.11. Factory testing and site testing records
- 8.12. Third party components test and calibration records.

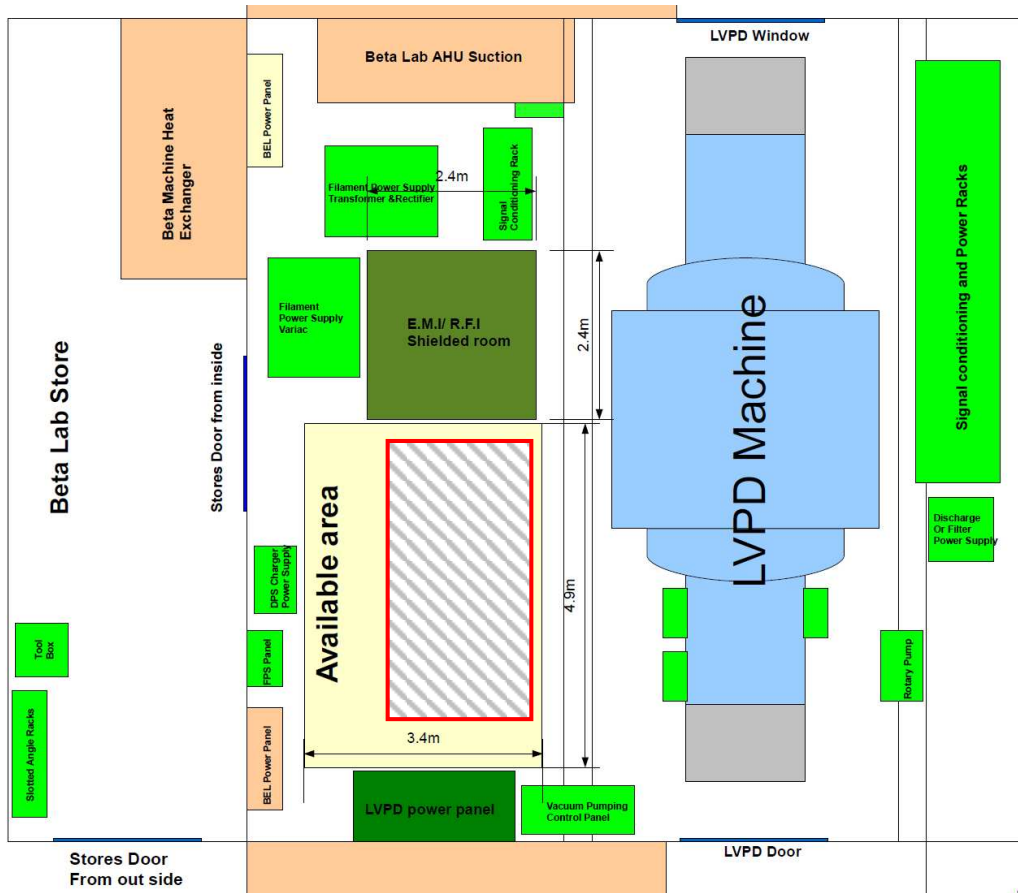
9. Spares:

- 9.1. Vendor should include a separate offer for all the recommended spares for standard operation for a period of 2 years.
- 9.2. All spares for consumption during commissioning shall be provided by the Vendor without any cost to the purchaser.

10. On-Site Training:

- 10.1. As part of the commissioning process the vendor shall train and familiarize the purchaser's staff for routine operation and trouble shooting of the system.

LAYOUT PLAN FOR PROPOSED FILAMENT POWER SUPPLY



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 enquiry 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 MANNER AND METHOD FOR SUBMISSION OF TENDERS

- 5.1 All tenders in response to this invitation shall be submitted in TWO PARTS as under and in the different envelopes.

5.1.1 **PART-A (TECHNO-COMMERCIAL):** This part of the tender shall include/contain all technical details, technical specifications, drawings and also the commercial terms and conditions of contract for the supplies to be made and the services to be rendered **EXCLUDING ANY PRICE DETAILS THEREOF.**

5.1.2 **PART-B (PRICE):** This part should contain only the prices of the stores offered for the services to be rendered.

5.2 **Part-A (Techo-commercial)** should contain/include only technical specifications, technical details, literature, reference to earlier supplies of similar equipment, drawings, quantity, time required for submission and approval of drawings, manufacturing and delivery schedule, inspection/testing procedure, itemized list of spares and quantity (without price) recommended by the tenderer for purchase, term of price, mode and terms of payment, mode of dispatch, the quantum/percentage of statutory levies payable by the purchaser as extra and all related commercial terms and conditions for the supplies and for the services like erection and commissioning to be rendered by the tenderers. This part of the tender, i.e. Part-A (Techno-commercial) shall be enclosed separately in an envelope duly sealed and superscribed with the purchaser's tender number and the last date and time specified for receipt and opening indicated in the instruction sheet of this tender document. The tenderer shall take special care NOT TO MIX UP the price of the stores in this part of the tender.

5.3 **Part-B (Price)** shall include/contain only price, price break-up, freight/safe delivery charges, charges for training of the Purchaser's engineers wherever applicable,

lumpsum charges for erection and commissioning work or per diem charges for the supervision of erection and commissioning work as is envisaged in the Purchaser's tender document, testing charges, third party inspection charges, etc. This part of the tender, i.e. Part-B (Price) shall be enclosed separately in an envelope duly sealed and superscribed with the Purchaser's tender number and the last date and time specified for receipt and opening of the tenders as in the tender document.

- 5.4 If tenderer includes prices of any nature in Part-A (Techno-commercial) of the tender such offers are liable for rejection without any notice to the tenderers.
- 5.5 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 **Customs Duty:** The purchaser is entitled for Customs Duty exemption under Notification No.51/96-Custom dated 23-7-1996 and can place order directly on foreign manufacturers. Necessary Customs Duty Exemption Certificate, wherever applicable, and as per the rules will be issued at appropriate time. Hence, Customs Duty should not be included in the BID. However, prevailing percentage of Customs Duty may be indicated.

Wherever, against a requirement, both indigenous as well as imported offers are received, the offers for imported stores will be evaluated on the basis of the total landed cost after loading the custom duty and other levies as may be applicable from time to time for taking purchase decision.

Offers from Indian Agents on behalf of foreign suppliers: In case the tender is submitted by an Indian supplier/Indian agent on behalf of their foreign supplier/principals, following documents should be submitted with the tender, failing which, their offer is liable to be ignored.

- a) Photocopy of the Agency Agreement between the Principals and the Indian Agent showing the percentage or the quantum of agency commission payable and a Letter of Authority from the Principals authorizing the Indian Agents to submit the tender on their behalf.
- b) The type and nature of after sales services to be rendered by the Indian Agent

The Indian Agents are allowed to quote on behalf of only one foreign Principal/ Supplier against this tender.

- 10.5 TDS/WCT will be deducted as per Income tax Rules.
- 10.6 **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):**
The Bidder shall submit interest free Earnest Money Deposit (EMD) for Rs.5,00,000/- (Rupees Five lakhs only) by way of Demand Draft from a nationalized/scheduled bank

issued in favour of "**Institute for Plasma Research**" and payable at **Ahmedabad**. **Tender received without EMD will be rejected at the discretion of IPR.**

- 14.1 EMD of unsuccessful Bidder will be returned after finalizing the Contract/placing Purchase order.**
- 14.2 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.**
- 14.3 Exemption from payment of EMD:** Firms who are registered with DGS&D and NSIC are exempted from payment of EMD subject to submission of valid registration certificate with the bid. **Tenders received without the valid registration certificate will be rejected.**

15. Payment:

- 15.1** 10% advance against submission of Bank Guarantee for an equivalent amount from a nationalized/scheduled Bank. This payment will be made only after signing the contract/Purchase order and submission of Security Deposit.
- 15.2** 10% after approval of major drawings by IPR and on receipt of Bank Guarantee for an equivalent amount from a nationalized/scheduled bank.
- 15.3** 60% against delivery of material at IPR site, its verification by IPR representative and on receipt of Proforma Invoice in triplicate.
- 15.4.** 20% 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 bank.
- 15.5 **Advance payments other than mentioned above will be loaded with interest @ 12% p.a. upto the delivery period quoted.****

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

- 16.** No correspondence will be entertained within 30 days from the date of receipt of material and bills, whichever is later.
- 17.** Quotation should be valid at least for 120 days from the date of opening of the tender.
- 18. Guarantee:** The Stores/material/goods/equipment offered by the bidder should be guaranteed for a minimum period of twelve months from the date of acceptance, 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 commercial 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 commercial 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, 1996 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.

CONFIRMATION LETTER FROM BIDDER:

Bidder will attach a confirmation letter (draft given below) with Part-A of the bid.

“This is to confirm that we have studied all documents and specifications of Tender notice for " _____ " (Tender No. _____ dated _____). We also hereby confirm that our Price Bid is in-line with the terms and conditions, management specifications and technical specifications given in this tender.”

Place:

Signature

Date:

Name:

Name of the bidder:

Official Seal:

PART-B

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	Design, manufacturing, factory testing and delivery of 20V, 10kA Regulated DC Filament Heater Power Supply	1 No.		
2.	Installation, commissioning and testing charges (including unloading, shifting, handling with accessories) (Quote Lumpsum charge)	Lumpsum		
3.	Other charges, if any.			
			Total Rs.	

	<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 :