

INSTITUTE FOR PLASMA RESEARCH

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**MINOR FABRICATION WORKS
ENQUIRY**

Office Copy

ENQUIRY NO :IPR/MFW/22-23/152
Date : 29-09-2022
Due Date : 10-10-2022 13:00 IST

Please send your offer in sealed envelope specifying Inquiry No, Date & Due Date, ALONG WITH your credentials for the following items:

Important Note:

Please note that e-mail quotations are not acceptable however you may send your queries (if any) to **shukla@ipr.res.in**

Please Ensure that your sealed quotation reaches this office not later than above mentioned due date and time.

Kindly go through the following document properly before Quoting which are available on the IPR web portal i.e., <http://www.ipr.res.in/documents/tenders.html/> attached here with.

1. Technical specification as enclosed.
2. Instruction to the bidders & terms and Condition (refer Form NO:IPR-MFW-01-V1)
3. Bidding format(refer Biddingformat MFW-Bid.pdf)

GST fro Goods and Services (IGST/CGST/SGST TAX BENEFITS): PLEASE REFER clause no:8 of Form No:IPR-MFW-01-V1

QUOTATION SHOULD BE ADDRESSED TO **BRAJ KISHORE SHUKLA ONLY.**

Sr.No.	Description	Quantity	Rate
1	Fabrication and installation of MS support structure for GI cable tray, installation of cable tray, Cable tray with isolation at partial route length Laying of HV, fibre optics and control cables through as per attached layout and specifications	1	No.


Free Issue Material

Sr.No.	Description	Quantity	Unit	Value
1	95sqmm 1C 33kV HV Cable	200.00	Mtr	280000.00
2	Multi-core Fibre Optic cable	1000.00	Mtr	600000.00

3	300 x 50 mm GI Cable tray	200.00	Mtr	120000.00
4	150mm x 75mm 5.7mmthk MS C-Channel	1000.00	Kg.	75000.00
5	50mm x 50mm 5mmthk MS angle	1000.00	Kg.	75000.00

Note : Please quote with complete technical details (Technical Compliance sheet and product data sheet)

Encl:As per attachment


Sd/-
BRAJ KISHORE SHUKLA
Scientific Officer-G

Technical Specification for Cable tray installation and cable laying work

1. Scope :-

This specification covers the following major activities;

- Fabrication and installation of Mild Steel (MS) support structure for Galvanized Iron (GI) Cable tray.
- Installation of perforated GI Cable tray of size 300 x 50 mm at height ~12 meter on wall and existing metal support structure with required isolation.
- HV Cable laying and termination work.
- Fibre Optical (FO) cable (Four runs) by inserting all together in HDPE conduit and single run of 3 core 2.5 Sq. mm , single stranded ,armoured control cable laying.
- Supply of (1) HV Terminal Kit (2) 2.5 Sq. mm copper, single stranded 3 C, armoured Control Cable (3) Isolation material -sheet G-10/ FRP/ (4) HDPE Conduit for Fibre Optics (FO) cable and cable dressing accessories – C clamps, nut bolt and bends for conduits and GI perforated Cable tray etc.

2. MS Support structure and cable tray Installation :-

2.1 Contractor has to carry out fabrication and Installation of MS support including following activities

- Contractor has to fabricate wall mounted support of MS angles (size 50 x 50 mm, 6mm thickness) for cable tray length ~ 150 M (layout as per Fig 1) at ~10M height as stated in the drawing at interval of one meter.
- Fastening the MS Support with Hilti make (preferable) Nut Bolt of minimum 75 mm length with wall.
- Contractor has to fabricate bridge for cable tray length approx. 30 m (from point H to point I in Fig 1) of MS 'C' channel size 150 x 75 mm, 5.7 mm thick and Angle size 50 x 50 mm, 6mm thick for supports of cable tray by welding the same with existing MS Structure as per situation at interval of one meter.
- Installation of GI Cable tray of size 300 x 50 mm x 1.6 mm thickness and complete with high tensile bolt, washers and nuts. Eight hardware sets of M8 size shall be used to prepare single joint of two cable tray with two coupler plates.
- Colour the fabricated MS Support structure and wherever welding operation made at existing MS support with Siemens grey enamelled colour with smooth finish after primer coating of red oxide.
- Required types bend- quantity of adequate radius of perforated cable tray on route is in scope of contractor.
- Additional supports other this tender as per site condition required to be fabricated and installed by contractor.
- Isolate the complete cable tray structure by G-10 sheet of 400 x 100 mm, 10 mm thick piece at each support at entire length of existing metal support

structure (Length = approx. 50 Metres). M-8 Galvanized/SS nut bolts for this fastening and insulation materials are in scope of contractor.

- MS Angle size 50 x 50 mm, 6mm (Total weight 1 ton, length ~60M), MS 'C' channel size 150 x 75mm , 5.7 mm thick (Total weight 1 ton, length~ 220M) and perforated GI Cable tray of 2.5 M pieces for straight route length, its accessories and hardware will be provide by IPR as free issue materials.

2.2 Contractor has to carry out laying of 33 kV HT Cables by following activities

- Laying Single run of 95 sq. mm single core XLPE insulated 33 kV HT cable in the cable tray.
- Avoid the scratching in the insulation of this HT cable by using suitable roller during laying.
- For lifting the cable drum (Wooden) to unwind cable, suitable jack should be arrange by contractor.
- Dressing the same HT cable by suitable clamping at interval of one meter.
- IPR will provide HV cable in required quantity as free issue material. However, contractor has to unwind and cut the cable from cable drum.

2.3 Contractor has to carry out laying of Fibre optics and control Cables by following Activities

- Measuring the length of fibre cable requirement end to end and cutting the four pieces of equal length of optical cable from 1000 Meter Cable spool.
- Test the optic cable before and after cutting by applying torch light at one end and receiving the light at other end.
- Test the 3 C, 2.5 sq. mm control cable by continuity test with multi meter before laying.
- Inserting Four runs of optical cable and one control cable in the HDPE conduit and laying the same in installed cable tray of 300 x 50 mm
- Required sized and quantity radius band for conduit to be arranged by the contractor.
- The HDPE conduit to be drop down from height of " D" (Refer plan) to ceiling of first floor (SST-1 , ECRH bay) and make holes by Boring machine in the wall for entry of conduit and control cable in the control room area.
- Contractor has to make cut out in the double layer glass window at Iter-India building with diamond cutter for entry of cable and cable tray.
- Sealing the peripheral with leak proof Material after passing the conduit and cable through the holes at glass window at Iter –India building as well as at on wall at ECRH- SST-1 building.
- The Length of FO cable is ~10 M in and ~ 20 M for control cable, in the ECRH system Area. In side route will be explain as per site condition while execution of work.
- The Length of FO cable and Control cable is ~20 M in the Iter-India building In side route will be explain as per site condition while execution of work.

- Contractor has supply square conduit and install and lay fibre optic cable in it as per required layout at the time of execution of work length approximately 20 meter in side Iter –India building.
- Dressing the HDPE conduit (Cables inserted) along the length in cable tray by suitable size clamping in the tray and on the wall ~1 M (one meter) intervals.
- Again test the optical cable after laying by applying torch light at one end and receiving the light at other end.
- Also test the continuity test for control cable by shorting the one end, after laying.
- Handled the optical cable with standard procedure and necessary care as the cable should not be damage during cutting, inserting in conduit and laying the same in the cable tray.
- IPR will provide fibre optic cable in required quantity as free issue material. However, contractor has to unwind and cut the cable from cable drum.
- However contractor has to supply control cable 3 core. 2.5 sq. mm copper cable with armour 200 M single length and HDPE conduit of inner diameter 60 mm and of adequate thickness for 6 kg pressure.

3. Cable termination work:-

- Contractor has to carry out HV cable termination including following activities
- Termination for 95 sq. mm 1 C copper, 33 kV HT cable at both the ends using HV termination kit for indoor application, suitable for above cable.
- Cable termination with suitable size copper lug and crimping tools, also connection of it with HV Distribution board/ system.
- Cable dressing / laying shall ensure stress free connection with device. If required any additional support shall be provided by contractor.
- Termination kit shall be from **3M / Raychem** (Preferable) brand only.

4. Instruction for Site work and safety:-

1. IPR request the contractor to visit site first before submitting quotation. Please provide the rate as per the attached sheet. Technical visit is advisable, not mandatory, but in "no visit" case contractor may not have any relaxation in work or price.
2. Contractor has to arrange required hydraulic ladder/ ladder/ stack fold of metal only to access the height of ~10-12 meter as per safety concern.
3. All the necessary equipment, tools & tackles, welding machines, drill machine, cutting machine etc. for the fabrication and installation of MS section, and cable tray have to be arranged by the contractor,
4. Approval of IPR shall be obtained for site preparation and marking the cable tray routes and locations of cable tray support before proceeding with the erection and installation work.

5. The cable trays and the support structures are to be arranged, they do not obstruct or impair clearance of the passage way or maintenance of adjacent equipment or other system/ cables.
6. Clear height of ~7 meter from road level should be maintained everywhere, near any road crossing or wherever required.
7. No drilling in Dry stone cladding is allowed in ITER Building.
8. The cable should be supported with Clamps wherever it required.
9. Proper bending radius should be maintained at every turn.
10. Electrical Power point needed for the equipment shall be provided by IPR as per possible location. Any Extension required should be arrange by contractor with electrical safety measure.
11. Contractor has to quote unit rate of job as per bid format and payment will be done on the basis of actual work certified by Engineer In-charge, IPR.
12. Contractor has to arrange personal safety aids like helmets, shoes and safety belts, aprons and gloves, spectacles etc. for working personnel.
13. Contractor should ensure that the material quoted should have equal or higher quality that the standard mentioned.
14. Packing and forward transportation of cable trays along with their accessories for delivery at customer site the freight and insurance charges will be under contractor's scope.
15. Contractor has to follow all the safety rule of IPR during work in IPR premise and safety measure has to consider and followed by contractor and their staff.
16. Contractor has to clean the site after work.
17. Contractor/ their representative shall be available on site for necessary instruction for installation work and layout.

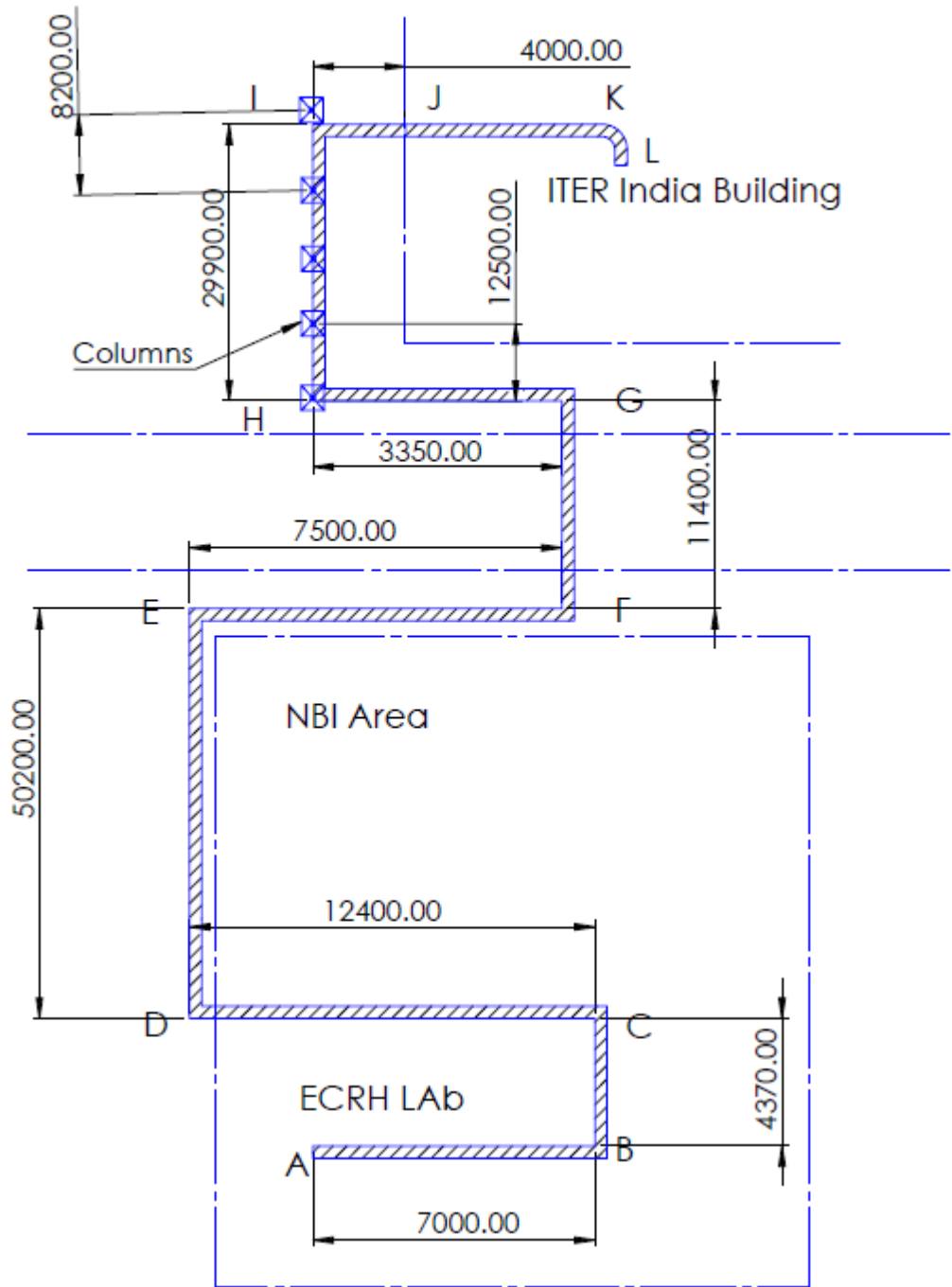


Fig 1 :Cable Route Lay Out

Fig

Note:

1. All dimension are in “mm”
2. Layout shown here is for guideline purpose only, it may modify during work execution as per site constrain.
3. Contractor has to verify the dimension before start of work

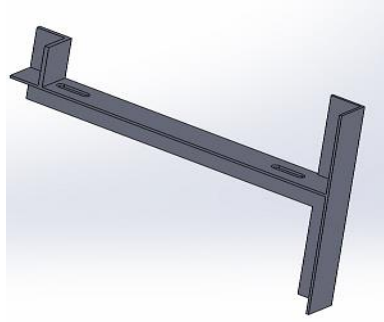


Figure-2: (Wall Support)

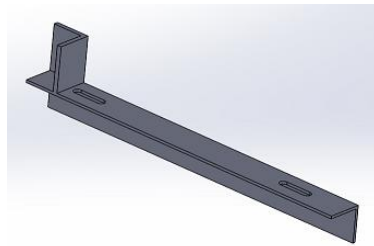


Figure-3: (To be weld with Existing MS Structure)



Figure-4: (To be weld with Existing MS Structure)

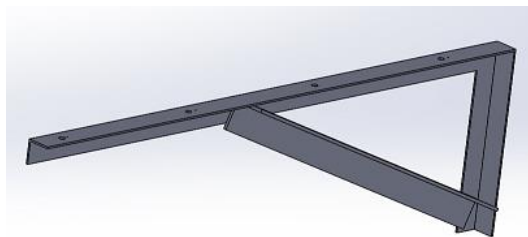


Figure-5: (Wall Support)

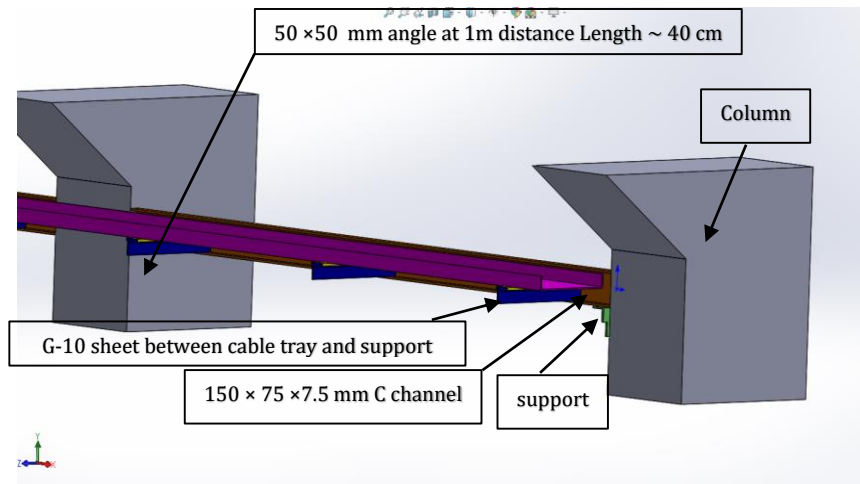


Figure-6: (MS support structure)

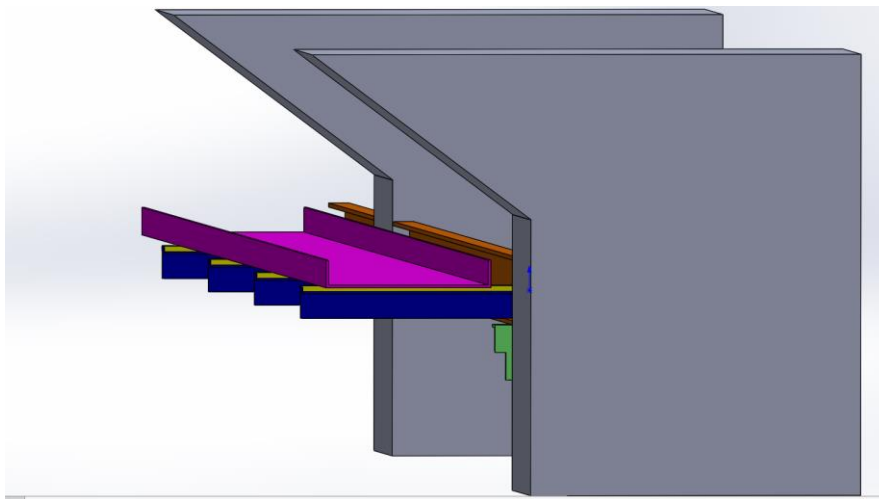


Figure-7: Installation of cable tray fashion on cable route 'H' to 'I'

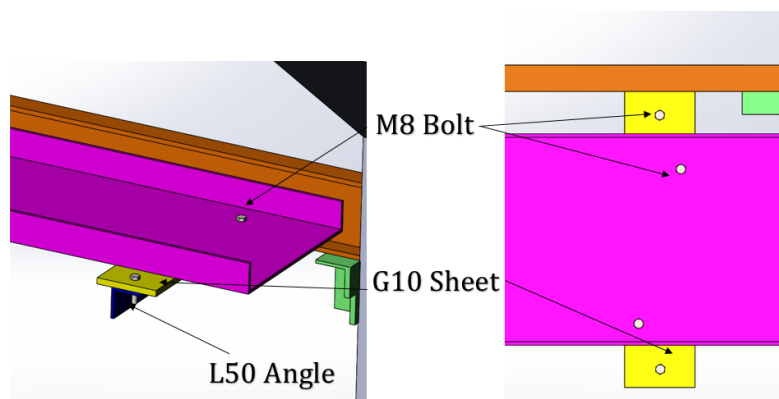


Fig 8: Insulation and fastening scheme

Cable Tray/ cable Route break up detail

Sr. #	Plan Segment	Length mm	Type	MS Support Detail	Approx. Height M	Support Type
1.	A - B	7000	Horizontal	On Ground	0	
2.	B - B'	9000	Vertical Height	On column	9	'C' Clamp
3.	B - C	4370	Horizontal	On Existing Support	10	I 300 mm
4.	C - D	12400	Horizontal	On Existing Support	10	I 300 mm
5.	D - D'	2000	Down	On Wall	10	Figure - 2
6.	D - E	50200	Horizontal	On Wall	9	Figure - 2
7.	E - F	7500	Horizontal	On Wall	9	Figure - 2
8.	F - G	11400	Horizontal	On Existing MS Support	8	Figure -3
9.	G -H	3350	Horizontal	On Existing MS Support	8	Figure - 3
10.	H - I	29900	Horizontal	On Existing MS Support	8	Figure - 3, 4
11.	I - J	4000	Height	To make Bridge	10	Figure - 5
12.	J - J'	3000	Down	On Wall	5	'C' Clamp
13.	J - K	6000	Horizontal	On Wall	5	Figure - 5
14.	K - L	20000	Down	On Wall	3	'C' Clamp
	Sub Total	170120				
	+ 10 %	17000				
	Total	~ 180000				

Price bid format

Sr. No.	Description	Quantity	Unit	Unit Rate	GST	Amount	
1.	Fabrication and Installation of MS support structure and bends for perforated GI cable tray of size 300 x 50 mm 1.6 mm thick , provided isolation with G-10 (for Partial length)as per section 2.1 & 2.2	1	1 job				
2.	Supply of HDPE conduit for fibre optics cable as per section 2.3	200	Meter				
3.	Supply of 3core 2.5 Sq. mm copper with armour control cable as per section 2.3 (Single Length)	200	Meter				
4.	Supply of 33kV HV termination kit and cable termination as per section 3	02	Nos.				
5.	HT Cable laying & Dressing work as per section 2.2	200	Meter				
6.	4 Runs of ~ 180 M Fibre optics Cable laying by inserting it in HDPE conduit & Dressing work as per section 2.3	720	Meter				
7.	Control Cable (2.5 Sq. mm, single stranded, 3 C, armoured) Laying & Dressing as per section 2.3	200	Meter				
8.	<i>GST</i>						
9.	TOTAL						

Payment will be made against actual work performed for laying of cable per meter base.

Technical Compliance

Sr.#	IPR's Specification/Requirements	Vendor's Acceptance and response
1	Fabrication & Installation of MS Support Structure and Installation of GI Perforated Cable tray on MS support Structure with required isolation at partial length at height~10M as per drawing	
3.	95 sq. MM 1 C HV Cable Laying & dressing as per Standards practice	
4.	4 runs of multi core FO cable laying by inserting all together in HDPE conduit and dressing the same as per Standards practice	
5.	2.5 sq . mm 3 C single stranded armoured cable laying as per drawing and Standards practice	
6.	Supply of HDPE conduit for FO cable and bend for it	
7.	Supply of Square conduit for FO cable and bend for it	
8.	Supply of 1.1 KV PVC Cable 3 C X 2.5 sq. mm, single stranded Cu conductor armoured cable 200 M in single length as per applicable standard	
9.	Supply of required types and quantity of GI Perforated bands for 300 x 50 mm cable tray with accessories as per drawing	
10.	Supply of Termination kit (2 nos.) for 33kV 95 sq. 1 C copper cable and its termination	



Form No: IPR-MFW-01.V2

INSTRUCTIONS TO BIDDERS AND TERMS AND CONDITIONS

1. The Quotation and any order resulting from this enquiry shall be governed by our Conditions of Work Order and Contractor quoting this enquiry shall be deemed to have read and understood the same completely.
2. Where counter terms and conditions have been offered by the Tenderer, the same shall not be deemed to have been accepted by IPR unless our specific written acceptance thereof is obtained.
3. **Quotation:** Quotation should be submitted in the prescribed QUOTATION FORMAT attached with this Enquiry and the same should be submitted in a sealed envelope super-scribing the same with our enquiry No., date, due date and brief description of item on or before the due date. Late/delayed/incomplete/unsigned quotations will not be considered. Envelopes received without Enquiry number, date, due date and brief description of item may be rejected. The quoted prices should be firm for a period of 90 days from due date for placing order. IPR is not bound to accept lowest rate/s. IPR reserves the right to place on one or more parties. The scope of supply includes insurance by the Contractor.
4. **Specifications:** Goods should be offered strictly conforming to our specifications/drawings. Deviation, if any, should be clearly indicated by the contractor in their quotation. The Tenderer should also indicate the Make/Type number of the goods offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation. Clarification/s on drawings should be obtained before submitting quotation.
5. **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 contractor. In the case of local contractors, the goods are to be delivered at our stores free of charge.
- 5.1 In respect of tenders on Ex-works basis, in case the tenderer has not mentioned in the offer packing, forwarding and transportation charges for safe delivery up to Purchaser's site, 2% of the price quoted towards packing (in respect of both local and outstation firms), 1% of the basic price quoted towards safe delivery charges in respect of local tenderer and 3% of the basic price quoted towards safe delivery charges in respect of outstation firm will be added for comparison of offers on safe door delivery at Purchaser's site.
- 5.2 Prices are required to be quoted according to the units indicated in the tender form/Enquiry. 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
6. 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. Unsigned quotations will summarily be rejected. If there is a discrepancy between the unit price and total price, unit price shall prevail.
7. 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 rate quoted.
8. **Goods & Services Tax (GST):** The details of Taxes/GST and other levies legally applicable 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.
 - a) **GST for Goods (IGST/CGST/SGST TAX BENEFITS):**
As applicable : **Specify the HSN codes while quoting.**
 - b) **GST for Services:**
As applicable. **Specify the SAC codes wherever services are involved.**
9. **Delivery Date:** Delivery period is essence of the Contract. Contractor must indicate the firm delivery date by which the goods will be dispatched or delivered by them from the date of our order. Delivery period shall be clearly indicated against each item separately.
10. **Price/ Purchase Preference:** Purchase/Price preference to industries will be given as per the policy of the Government of India in force at the time of evaluation provided their offer is in compliance with the conditions of the policy.



11. **Liquidated Damages:** The successful Vendor/Bidder should pay liquidated damages @ ½% (half percent) of the total work order value for the delay of each week in the scheduled date of completion of the work envisaged in the Work Order subject to a maximum of 5% (Five percent) of the total Work Order value.
12. **Inspection:** Goods on its arrival at IPR will be inspected by Stores, and his decision in the matter will be final. However, where the items are required to be inspected at the Contractors Premises, Contractor has to give advance notice regarding readiness of the Goods to enable us to depute our representative for inspection.
13. **Payment:** Payment will be arranged for accepted goods only within 30 days from the date of receipt of goods at IPR and bills in our accounts section, completed in all respects.
14. No correspondence will be entertained within 30 days from the date of receipt of good and bills, whichever is later.
15. **Guarantee:** The Stores offered should be guaranteed for a minimum period of twelve months, from that date of acceptance, against defective Goods, design, workmanship, operation or manufacture. For defects noticed and communicated during the Guarantee period, replacement/rectification should be arranged free of cost within a reasonable period of such notifications. In case where our specifications call for a guarantee period more than 12 months specifically, then such a period shall apply.
16. **Performance Bank Guarantee:** If demanded by IPR, the successful bidder will have to furnish Performance Bank Guarantee for 10% of the order value (basic price) from a Nationalized/Scheduled Bank/State Bank of India, valid throughout the Guarantee/Warranty period. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted.
17. **Security Deposit:** If demanded 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 nationalized/ scheduled Bank/State Bank of India within 15 days from the date of work order and the said Guarantee should be valid till the goods are accepted by IPR. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted. 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 work order. On successful completion of scope of work and its acceptance by IPR, Contractor should send a letter requesting return of the original BG.
18. The Contractor shall at all times indemnify the purchase 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 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 fulfilment of the contract.
19. **Free Issue Material (FIM):** Successful tenderer will have to arrange insurance showing beneficiary as “Institute for Plasma Research” at their risk and cost towards adequate security for the materials/property provided/issued by the Purchaser as Free Issue Material for the due execution of the contract.
20. The Director, IPR reserves the right to accept or reject any quotations fully or partly or to cancel the enquiry without assigning any reason.
21. **Jurisdiction:** The contract shall be governed by the Laws of India for the time being in force. The Courts of Gandhinagar only shall have jurisdiction to deal with and decide any legal or dispute arising out of this Contract.

(This need to be printed in Bidders letter head)

1. Please quote with complete technical details along with technical compliance sheet.
2. Quotation should be submitted in the format given below, else IPR shall not consider the offer by the vendor.

NAME OF PARTY : _____

ENQUIRY NO: _____

QUOTATION No. & DATE : _____

Currency of Quotation: **Indian Rupees**

Sr. No.	Item Description	HSN/SAC Code	Quantity	Unit Rate (Basic)	Packaging & forwarding (P&F)	Applicable GST	Rate (incl P&F and GST)	Total Value
			a	b	c	d	e = b + c + d	f = a * e
1								
2								
3								
4								
5								
6								

Sr. No.	Particular	Remarks
I.	Ex-works / FOR Destination	
II.	Freight	
III.	Insurance	
IV.	Delivery Period	
V.	Payment (IPR terms will apply)	
VI.	Guarantee / Warrantee	
VII.	Validity Period	
VIII.	Discount (if any)	
IX.	Remarks	

Place: Authority Signatory

Date: Company Seal

Note:

1. Bidder should submit the copy of GSTIN / ARN Certificate along with the offer
2. Bidder should specify the SUPPLY and SERVICE rates/ charges separately wherever applicable