

INSTITUTE FOR PLASMA RESEARCH

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MINOR FABRICATION WORKS ENQUIRY

Office Copy

ENQUIRY NO :IPR/MFW/21-22/116

Date : 22-11-2021

Due Date : 27-12-2021 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 **pramod@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 **PRAMODKUMAR SHARMA** ONLY.

Sr.No.	Description	Quantity	Rate
1	Supply of copper bus bar, installation, connection and routing from ADITYA-U hall to LHCD lab as per attached specifications.	1	No.

Free Issue Material

Sr.No.	Description	Quantity	Unit	Value
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Note : Please quote with complete technical details (Technical Compliance sheet and product data sheet)

Encl:As per attachment

Pramod

Minor Fabrication work description:

1. INTRODUCTION:

A DC power supply is installed in ADITYA-U hall which is to be connected to magnetic coils situated in LHCD lab around 25m in distance. The electrical connections would be made by using copper bus bars. Two parallel copper bus bars are needed to be installed, one for the supply and another one for the return path.

A typical layout of the bus bar is sketched in the attached drawing, namely, drawing-1 and drawing-2 for reference purpose and also depicts the tentative routing of the bus bar. The approximate overall length of bus bars (single line) would be around 25 meters. As shown in drawings, there are approximately seven L-type bends and one C-type bend which would be required for the routing of the bus bar.

The vendor is expected to fabricate support structures, clamps, isolators and supply copper bus bars, fasteners, etc. for the completion of the above job. The attached drawings is for reference purpose only and any minor changes, if required, should be incorporated during execution period without any cost implications.

The interested vendor may visit the site prior to submitting their quotations for understanding the said job.

2. SCOPE OF WORK FOR FABRICATION, SUPPLY, ROUTING, INSTALLATION AND TESTING OF COPPER BUS BARS FROM ADITYA-U HALL TO LHCD LAB

The tentative scope of work for the vendor is highlighted below in bullets.

- Copper bus bars fixed with proper supports and insulation (as per the drawing) to be installed from Aditya hall to LHCD lab, IPR by the vendor.
- Scope covers copper bus bars fabrication, supply, installation, connection, termination and routing including support structure installation with appropriate insulation.
- Scope covers appropriate support structure (angle) to be mounted on the wall of Aditya hall and LHCD Lab As per attached drawing. Angles to be mounted on the wall will have to be arranged by the vendor only.
- Scope covers proper insulation of the bus bars, of which insulating materials will be provided by vendor only. The insulation of the copper bus bars will be done by the vendor in presence of the IPR personnel before installing the bus bars.
- Peripheral (anchor-fasteners, nuts-bolts, drill machine and other necessary tools) has to be arranged by the vendor to fix the support structure.
- Copper cutting to make fingers/hole drilling/bolting of copper bus bars to join different sections as per requirement.
- Fixing of bus bar isolators to hold the copper bus bar. Isolation of copper bus bars from support structures (M.S/Aluminum structures) should be done by the vendor with bus bar isolator of proper dimensions.

- Materials (G-10/isolators as mentioned in the scope of work) will be provided by vendor for proper isolation of the Copper Bus bars from MS Support structures and other installed structures.
- Arrangement of the copper bus bar, holes drilling, fitting on copper bus bar has to be made by vendor at IPR as per the location of support.
- Alignment, bending (possibly L and C type) and orientation of copper bus bars has to be done as per details and specifications mentioned in **DRAWING 1 and DRAWING 2**.
- Copper bus bar, isolator, fastener, nut-bolts should be provided by vendor only.

The following insulation wrapping over Copper Bus bars would be executed at IPR.

- The vendor has to tightly wrap fiberglass tape manually over the Copper bus bars (one and a half overlapping).
- Fiberglass tape section has to be knotted tightly at the end terminals of the bus bar. ELMO LUFT chemical has to be applied (2 layers at least) over the bus bar covered with fiberglass tapes and allowed to be dried for 24 hours.
- Finally, red gel paint has to be applied (2 layers at least) over the bus bar covered with (fiberglass tapes+ ELMO LUFT) and allowed to be dried for 24 hours.
- The copper bus bar dimension should be as per the following:
35mm x 5mm (unit length: ~2 m)

Note- Dimension may slightly change as per availability of copper bus bar in the market. However, cross section of the bus bars should be 35mm x 5mm or above. It is also desirable to use long copper bus bar to minimize joints where ever possible as per actual site.

3. REMARKS:

- The fabrication and installation work shall be carried out under the guidance of qualified professionals using skilled and experienced workers in accordance with the standard practices.
- Fabrication, installation, routing, etc. of said work shall be in accordance with drawings and prior IPR's approval. The vendor shall have to modify/rectify deviations, if any, without any cost implications for any portion of the installation which do not meet with the IPR's approval. All damages to the civil and other works on this account shall have to be repaired to IPR's satisfaction by the vendor at no extra cost to the IPR.
- During shifting/laying all civil work should be done in presence of IPR personnel.
- Care shall be exercised by providing suitable support for copper bus bars and during drilling of copper bus bar/support structures should be done with prior approval of IPR.
- Interested vendor/party should visit site first to understand the scope and deliverables of work.
- Vendor should return the leftover copper bus bars to IPR, after completion of the fabrication work.

ACCEPTANCE TEST:

The details of the final acceptance tests is outlined below.

- The test report of all the major supplied materials (Copper bus bar, bus bar isolator) shall be submitted to IPR before commencing the routing work.
- Visual Inspection (fitting, painting, alignment) of bus bar and its support structures should conform to IPR document.
- Insulation test at 1.1 kV should be successfully carried out for the Copper bus bar w.r.t its surrounding structures.

Tentative bill of materials for the scope of work (to be arranged by Vendor only):

The tentative bill of materials which has to be arranged by the vendor is shown in table-1.

Table-1			
Sr. No.	Material	specification	quantity
1.	Copper Bus bar	35mmx5mm, Unit Length: 2 m, Grade- ETP, Purity-99.9 % or above	25 unit
2.	Bus bar isolators (M-10 bolts to fixed on both sides) [material-Epoxy]	Length 100 mm, Voltage withstand capacity: 1.1 kV (continuous rating)	50 unit
3.	M-10 Studs	Length: 2.5 inch	50 unit
4.	M-12 Bolts	Length: 1 inch	50 units
5.	M-12 Studs	Length: 4 inch	50 units
6.	M-12 Bolts	Length: 1.25 inch	50 units
7.	M-12 Studs	Length: 1.5 inch	50 units
8.	Wall Fasteners	12 mm size Length: 7 inch	35 unit
9	Insulation Material	Fiberglass tape Size:1 inch <hr/> ELMO LUFT Chemical Hardener EH 411(pair of box) Manufactured by ELANTAS or any equivalent brand Epoxy GEL COAT (Red) Manufactured by ELANTAS or any equivalent brand <hr/> Paint brush	15 roll 3 ltr. 5 units

Jointing of Cu bus bar:

Effective joint in cu bus bar could be made by simply by bolting or clamping as per following.

1) Bolted joint:

Bolted joints are formed **by overlapping the bars** and **bolting** through the overlap area. They are compact, reliable and versatile but have the disadvantage that holes must be drilled or punched through the conductors, causing some distortion of the current flow in the bar.

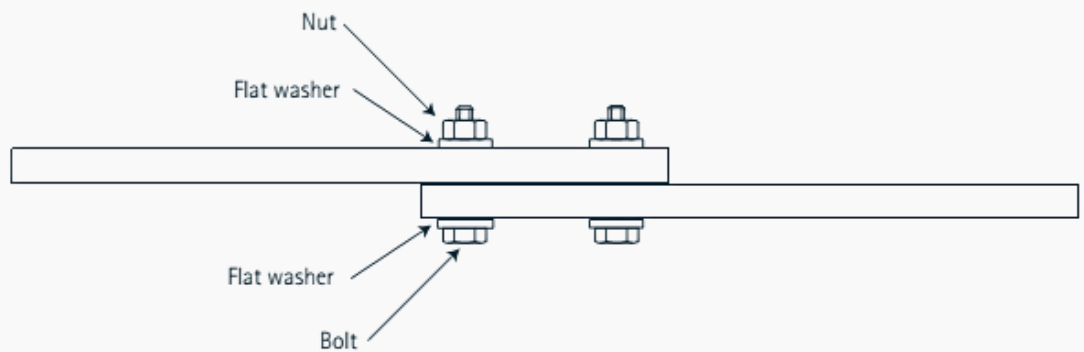
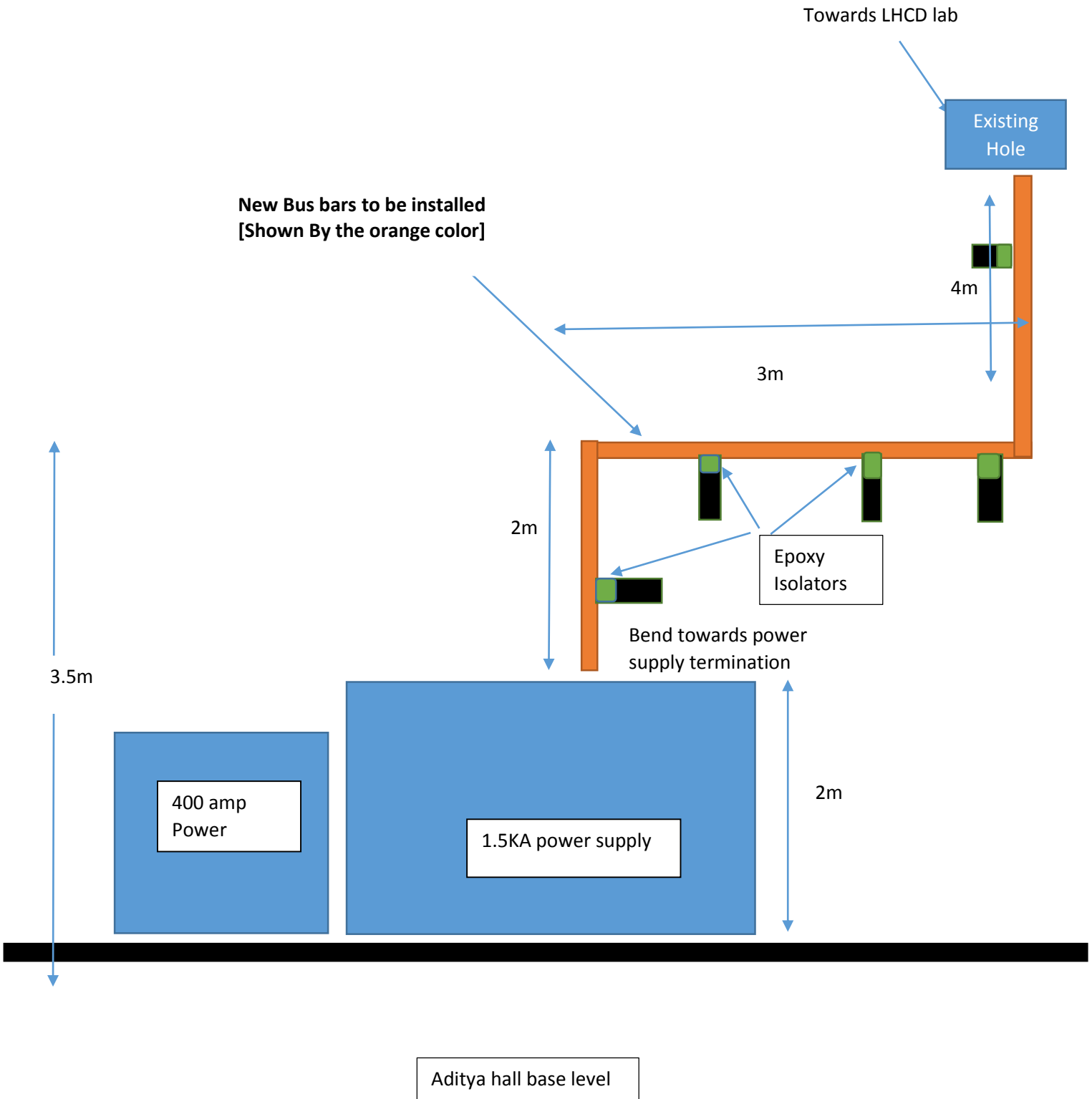


Figure 1 – A typical bolted joint

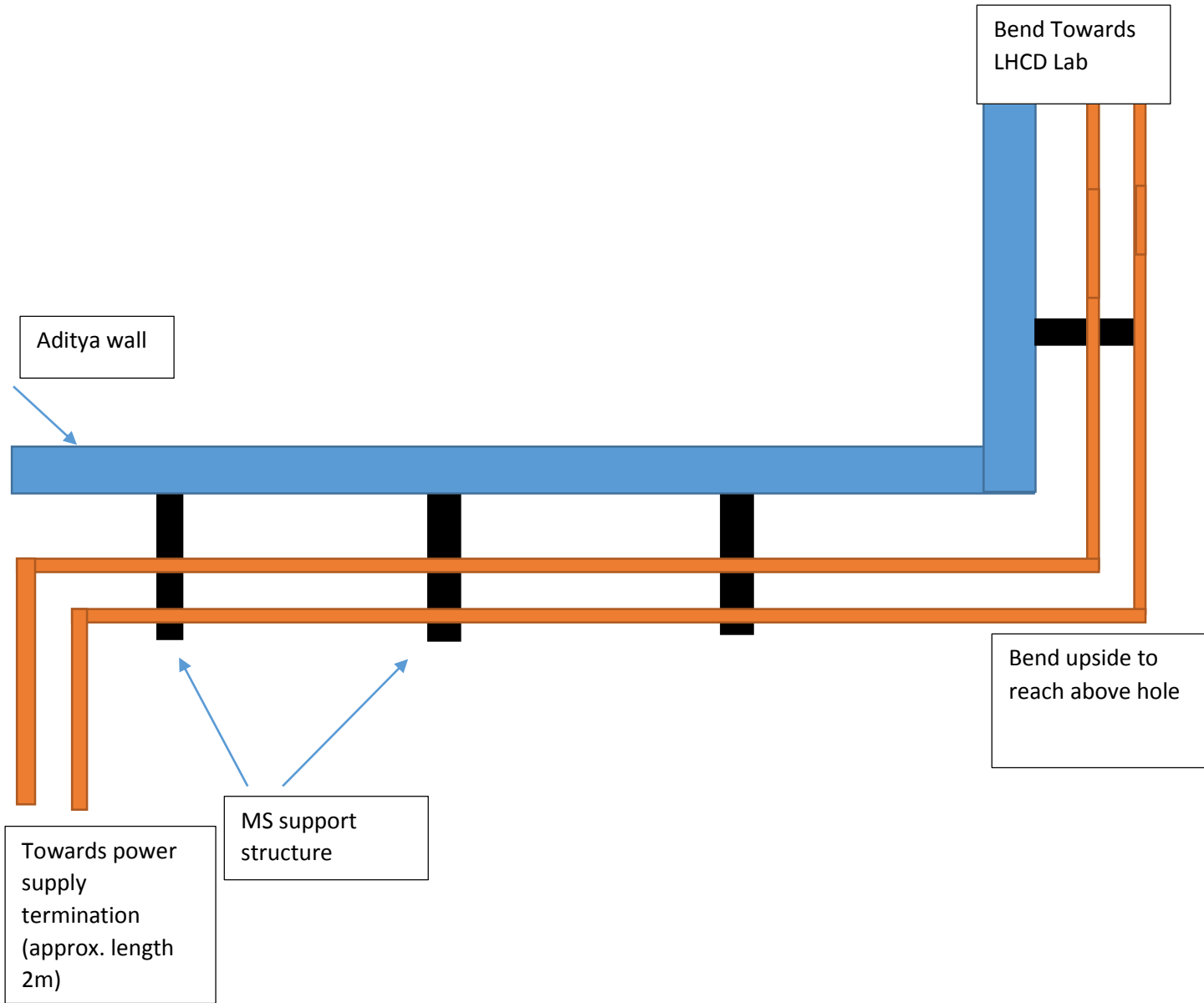
Annexure

Drawing 1.

FRONT VIEW

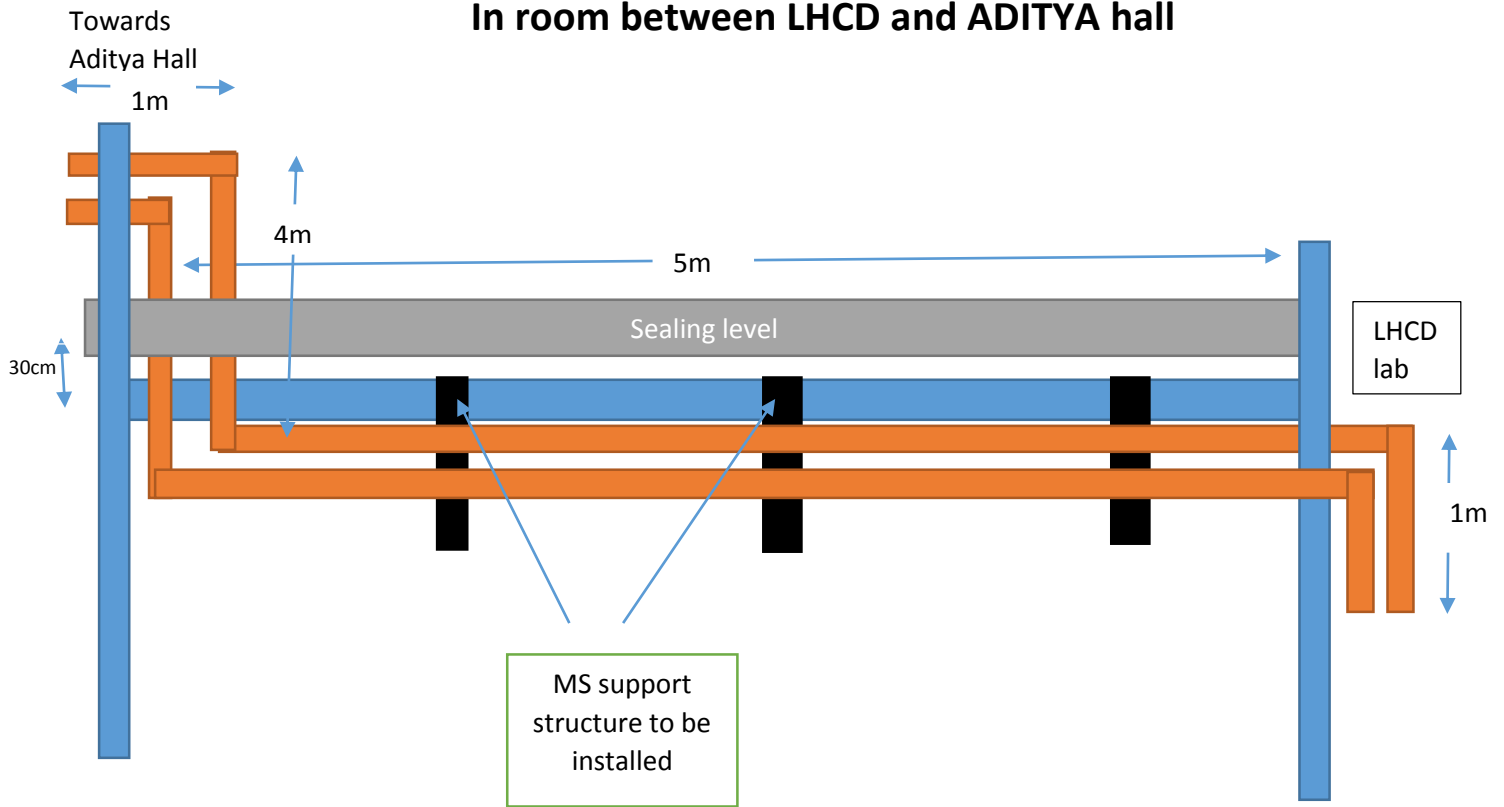


TOP View in room

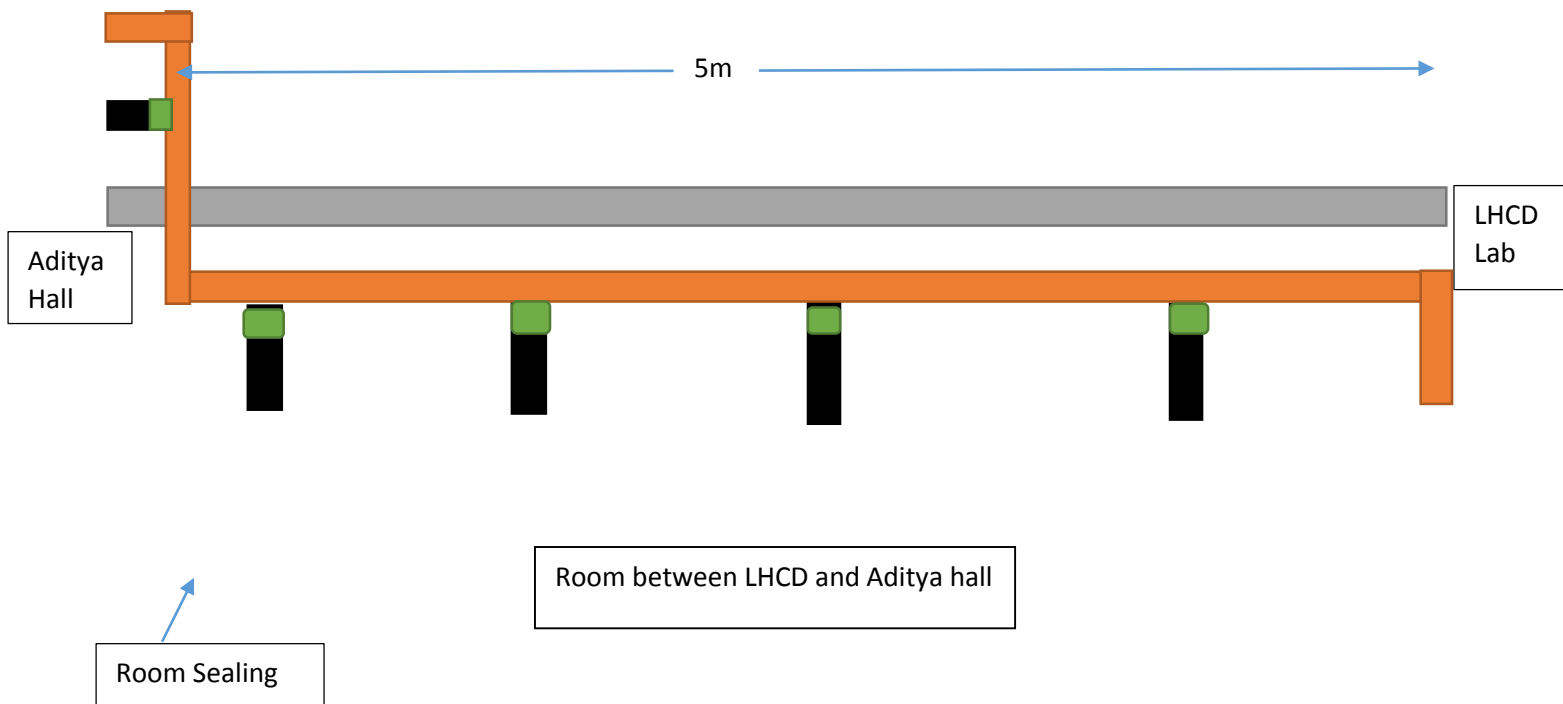


Drawing 2.

In room between LHCD and ADITYA hall



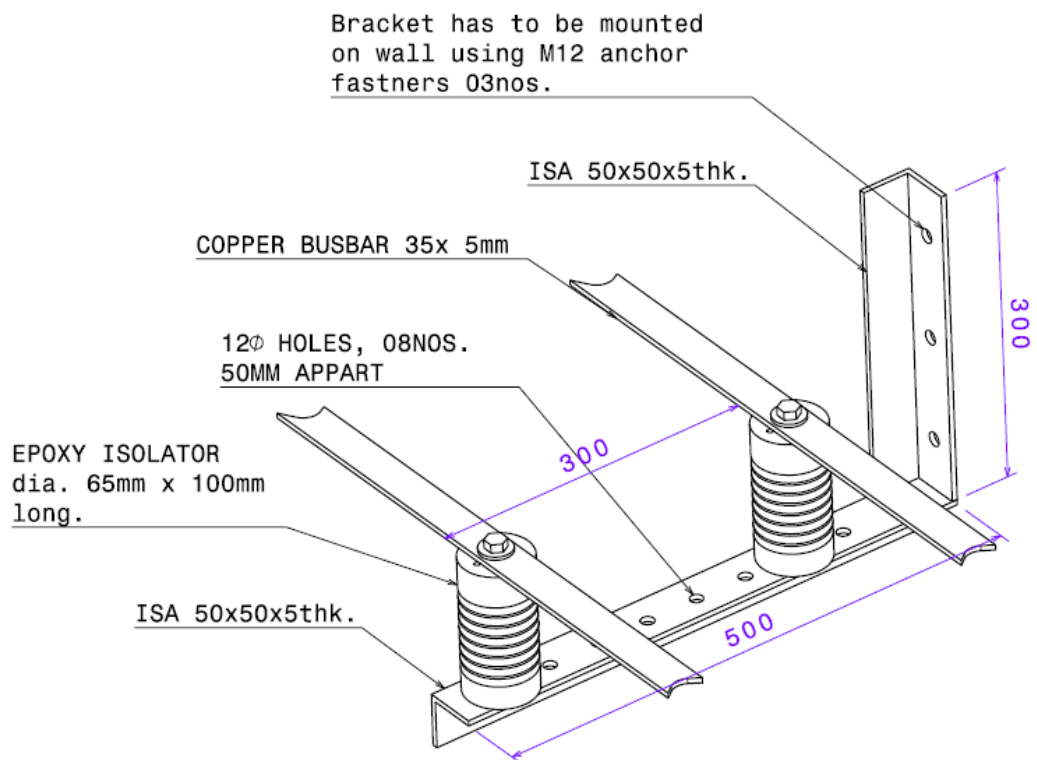
Top View



Note:

- Total length of the bus bar is approximately 50m.
- Total number of bending involved through the transmission line is 8
- Total number of supports approximately 30
- Typical bill of materials is attached for the reference to get an estimate of required quantities to carry out this minor fabrication work. Actual quantity may change as per site and have to be arranged by the vendor only.
- The typical scheme for bus bar support is attached in drawing which could be implemented during minor fabrication work or similar kind of other scheme could be used with prior approval from IPR as per site requirement.

A typical layout for a part of the transmission line is shown along with Support, isolator and bus bar. All dimensions are in mm. The distance between two L-type support structure along the transmission line is typically 1.5 – 2 meter. It could change as per actual site.



SCHEME_1 BUS-BAR mounting on wall using angle bracket

Supply of copper bus bar, installation, connection and routing from ADITYA-U hall to LHCD lab as per attached specifications

Compliance Sheet

Name of the vendor			
Offer number and date			
Sr.no	IPR requirements/specifications	Compliance	Deviation or Remarks (specify details if any)
1.	Supply of copper bus bar, installation, connection and routing from ADITYA-U hall to LHCD lab as per attached specifications		
2.	Cu bus bar purity: Grade- ETP, Purity- 99.9 % or above		
3.	Insulation test at 1.1 kV should be successfully carried out for the Copper bus bar w.r.t its surrounding structures and insulation between the bus bars.		
4.	Test report of bus bars and insulator materials.		

Note: To be completed by the bidder.



Form No: IPR-MFW-01.V1

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):**

IPR is entitled to avail tax benefit as per the following notifications issued by Ministry of Finance, Department of Revenue, Government of India:
(1) No: 47/2017-INTEGRATED TAX (RATE) DATED 14/11/17 for IGST
(2) No: 45/2017-CENTRAL TAX (RATE) DATED 14/11/17 for CGST
And,
IPR is entitled to avail tax benefit as per the following notifications issued by Finance Department, Government of Gujarat:
(1) No. 45/2017-STATE TAX (RATE) DATED 15/11/17 for SGST
As per above notifications IPR will bear only 5% IGST for procurement of goods from outside Gujarat & 2.5% CGST and 2.5% SGST (total 5%) for procurement of goods within Gujarat. Vendors are required to charge tax as per these notifications while quoting/supplying the goods. Deviations, (if any) should be clearly mentioned in the quotation/offer.
- Please 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