

INSTITUTE FOR PLASMA RESEARCH

(An Autonomous Institute under

Department of Atomic Energy, Government of India)

Near Indira Bridge; Bhat; Gandhinagar; Ahmedabad-382428; India

Phone: 079-23962020/23962021, Fax: 079-23962277

TENDER NOTICE DATED 21-11-2016Sealed tenders are invited in **TWO PART** 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		
	IPR/TN/PUR/TPT/12/16-17 (TWO PART TENDER)	Design, fabrication, supply, installation, testing and commissioning of INTF LT Electrical Power Distribution System	1 System	28-12-2016 by 1.00 p.m.	28-12-2016 at 2.30 p.m.	300.00	60000.00
2.	IPR/TN/PUR/TPT/13/16-17 (TWO PART TENDER)	Fabrication, supply and site installation of 9 inch co-axial high power Transmission Lines	1 System	04-01-2017 by 1.00 p.m.	04-01-2017 at 2.30 p.m.	300.00	80000.00
3.	IPR/TN/PUR/TPT/14/16-17 (TWO PART TENDER)	Supply, inspection and testing of 1.1 kv grade, XLPE insulated Aluminium Conductor Power Cables. a) 1000sqmm x 1C b) 300 sqmm x 3.5C	2000 Mtrs. 2000 Mtrs.	11-01-2017 by 1.00 p.m.	11-01-2017 by 2.30 p.m.	300.00	80000.00
4	IPR/TN/PUR/TPT/15/16-17 (TWO PART TENDER)	Design, fabrication, inspection, testing, delivery, installation and commissioning of L.T. Circuit Breaker Panel and Busducts.	1 Job	18-01-2017 by 1.00 p.m.	18-01-2017 at 2.30 p.m.	500.00	120000.00

Tender documents are available on IPR Website : <http://www.ipr.res.in/documents/tenders.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. It is to be noted that all further updates or amendments if any regarding the tender dates, specifications and terms & conditions shall be notified and uploaded on the IPR website and no separate corrigendum would be published in this regard. Therefore, interested bidders need to visit the website of IPR on a regular basis for such updates. In case party desires to collect the tender documents by post, they may contact the Purchase Officer along with prescribed tender fee. The last date for issue of tender documents is mentioned in the respective tender.

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/she will not be allowed to attend the tender opening.

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Email: ramesh@ipr.res.in

TWO PART TENDER

INVITATION OF TENDER AND INSTRUCTIONS TO TENDERERS

To
M/s. _____

Dear Sirs,

**Sub: Purchase of Tender documents –
Tender Notice No.IPR/TN/PUR/TPT/15/16-17 dated 21-11-2016**

This booklet contains invitation to tender, tendering conditions, contracting conditions and specifications of stores required by us. The tenders in respect of this case are to be submitted in TWO PARTS, i.e. Part-I (Techno-Commercial) and Part-II (Price). If you are interested to quote, please go through the contents of this document particularly the tendering conditions and ensure that your quotation reaches us on or before the due date indicated above.

Yours faithfully,

D.Ramesh
Purchase Officer-II

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INSTRUCTION SHEET

TENDER NOTICE No.IPR/TN/PUR/TPT/15/16-17 DATED 21/11/2016 **(TWO PART)**

For design, fabrication, inspection, testing, delivery, installation and commissioning of L.T. Circuit Breaker Panel and Busducts.

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 **09/01/2017**.
4. While requesting for Tender Documents, such request shall indicate **the “REQUEST FOR TENDER DOCUMENTS AGAINST TENDER NOTICE NO. IPR/TN/PUR/TPT/15/16-17 DATED 21/11/2016”.**
5. **The tender fee of Rs.500/- (non refundable) should be made in the form of DEMAND DRAFT issued by SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI 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. **The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. No other scheduled banks except above are acceptable to IPR.**
7. **DD should not be prior dated to the date of advertisement. Separate request letter and separate Demand Draft shall be sent for each tender.**

8. **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.**
9. **Tenders received without the prescribed tender fee will be rejected.**
10. No request for the extension of due date will be considered.
11. Late/Delayed offers will not be accepted.
12. **Tender in a sealed envelope (Technical Bid, Commercial terms and conditions and EMD [Part-I] in one envelope and Price Bid [Part-II] 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 18th January, 2017. Part-I (Technical Bid along with Tender Fee of Rs.500/-, commercial terms and conditions and EMD for Rs.1,20,000/-) received upto 1.00 p.m. on 18/01/2017 will be opened on the same day at 2.30 p.m. in the presence of attending tenderers.**
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.**
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.**

ELIGIBILITY CRITERIA:

(The bidder is required to submit all supporting documents as proof for the compliance of the following criteria. The attachments must be serially labelled with the number as given in the table below. Bids received without valid documents and/or incomplete and irrelevant documents are likely to be rejected summarily)

Sr.No.	Essential Eligibility compliance	Evidence for submission	Attachment Sr.No. of proofs and evidence
1.	Bidders should have manufactured / supplied L.T. Panels and Bus-ducts with a current rating of 4000A or above in past 3 years.	Copies of unpriced purchase order/s with technical details and satisfactory feedback reports for the materials supplied to reputed clients should be submitted as proof.	
2.	Bidder should submit details of individual L.T. distribution jobs, specific to panels successfully executed in the financial years 2012-13 or 2013-14 or 2014-15.	Copy of one similar successfully completed work with a single order value not less than Rs.50.00 lacs with technical details along with work completion/installation certificate to be submitted as a proof .	
3.	The bidder should have an average annual turnover of Rs.150 lakhs or above during last 3 financial years.	Audited balance sheet and Profit & Loss Account for the past three financial years (i.e. 2013-14, 2014-15 and 2015-16) to be submitted as a proof.	

Note: Original documents shall be produced for verifications, if required.

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.

TWO-PART TENDER**SECTION – A****Invitation to Tender and Tendering Conditions****1.0 INVITATION TO TENDER**

1.1 Institute for Plasma Research (IPR) invites sealed tenders in DUPLICATE for supply of Plant, Machinery, Equipment/Components to the specifications detailed in Section "C" to this tender document. The conditions of contract/purchase order which will govern the contract pursuant to the tender are as contained in Section "B" of this tender document. If you are in a position to quote for supply in accordance with the technical specifications indicated in Section C to this tender document and as per the conditions stipulated in this Section and Section B, please submit your offer in a manner and method specified below.

2.0 MANNER AND METHOD FOR SUBMISSION OF TENDERS

2.1 All tenderers in response to this invitation shall be submitted in Two Parts as under and in the different envelopes:

2.1.1. **Part-I (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.

2.1.2 **Part-II (Price):** This part should contain only the prices of the stores offered for supply and the charges for the services to be rendered.

2.2 **Part-I (Techno-Commercial)** should contain/include only technical specifications, technical details, literature, reference to earlier supplies of similar equipment without enclosing the purchase order copies, 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 despatch, 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-I (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.

2.3 **Part-II (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-II (Price) shall be enclosed separately in an envelope and shall be sent 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 indicated in the instruction sheet of this tender document.

- 2.4 The tender will co-relate the prices in Part-II of the tender with the description of the stores indicated in Part-I (Techno-Commercial) by allotting a running serial number in order to enable the Purchaser to identify the prices with the relative items in Part-I (Techno-Commercial).
- 2.5 Part-I (Techno-commercial) and Part-II (Price) should be enclosed in a common envelope. This envelope containing both Part-I (Techno-commercial) and Part-II (Price) should again be 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 and should reach the Purchase Officer on or before the time and date specified for its receipt. If the tenderer fail or omit to furnish/reach anyone part of the tender, i.e. either Part-I or Part-II within the initial due date and time specified for its receipt in the instruction sheet of this tender document, such tenders will be treated as incomplete and are liable for rejection.
- 2.6 If tenderer includes prices of any nature in Part-I (Techno-commercial) of the tender such offers are liable for rejection without any notice to the tenderers.
- 2.7 The tenderers shall ensure that the rates quoted by them are given both in figures and words failing which the tenders are liable to be rejected.

3.0 EARNEST MONEY DEPOSIT (EMD)

- 3.1 The Tenderer shall submit, as part of its bid, interest free Earnest Money Deposit (EMD) for an amount as specified in the Invitation for Bids. In the case of foreign bidders, the EMD shall be submitted either by the principal or by the Indian agent and in the case of indigenous bidders, the EMD shall be submitted by the manufacturer or their specifically authorized dealer/bidder. EMD shall be submitted by way of Demand Draft from **SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI 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. (For this tender, the EMD amount is Rs.1,20,000/-).**
- 3.2 The EMD of unsuccessful Tenderer will be discharged/returned after finalizing award of the Contract/placement of Purchase order.
- 3.3 The successful Tenderers EMD shall be discharged upon the Bidder submitting the Security Deposit as specified in the contract/purchase order, without any interest.
- 3.4 **Exemption from payment of EMD:** The firms registered with DGS&D, NSIC, DPS or Micro and small (MSEs) vendors registered with NSIC under single

point registration scheme are exempted from payment of EMD provided valid registration certificate is submitted along with the offer. In the case of foreign bidders, payment of EMD is exempted if they submit their bid directly or through their Indian agent in **foreign currency** against the tender document bought by them, so that the order can be placed directly on their Principals.

3.5 **The EMD may be forfeited:**

3.5.1 If a Tenderer withdraws or amends or modifies or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or

3.5.2 In case of a successful tenderer, if the tenderer fails to furnish order acceptance within 15 days of the order or fails to submit the Security Deposit within 21 days from the date of contract/order.

4.0 **LATE/DELAYED TENDERS**

4.1 If the envelope containing Part-I (Techno-commercial) and Part-II (Price) does not reach the Purchase Officer, IPR on or before the due date and time specified for its receipt, such tenders will be treated as Delayed/Late tenders and will neither be opened nor considered by the Purchaser and will be summarily rejected. The tenderers should therefore take care and ensure that both Part-I and Part-II of their tenders reach the Purchase Officer, IPR on or before the due date and time specified for their receipt to avoid the rejection of the tenders.

5.0 **OPENING OF TENDERS**

5.1 Unless otherwise pre-opened or postponed with advance intimation to the tenderers, tender will be opened in two stages on the date and time indicated in Sr.No.12 of the instructions sheet of this tender document.

5.2 Part-I (Techno-commercial) of the tender will be opened at the first stage on the due date and time indicated for opening in the instruction sheet of this tender document while the Part-II (Price) will be opened at the second stage after completion of the evaluation of the Techno-Commercial Part (Part-I) of the tender.

5.3 While all the tenderers who submit tenders within the due date and time specified for its receipt will be permitted to participate in the opening of Part-I (Techno-Commercial) of the tender on the due date and time indicated in the instruction sheet of this tender document, opening of the Part-II (Price) of the tender can be attended to only by such of those tenderers whose Part-II (Price) of the tenders are found to be technical suitable/acceptable to the Purchaser and to whom intimation thereof is given by the Purchaser by Email/letter.

5.4 The tenderers whose Techno-commercial part (Part-I) are found suitable/acceptable to the Purchaser, will be given seven days advance intimation by the Purchaser to enable such tenderers to depute their representative to participate in the opening of the Part-II (Price) of the tender. The technically unqualified tenderers will neither be given any intimation about

the due date and time of opening of Part-II (Price) of the tender nor will they be permitted to participate in the opening of the same. **Part-II (Price) of the technically disqualified tenderers will not be opened.**

6.0 AUTHORITY LETTER

- 6.1 The tenderers who wish to participate in the opening of the tenders may depute their representatives to IPR on the respective due date and time as indicated in the instruction sheet of this tender document with an authority letter addressed to the Purchase Officer which should be produced to the officers who are opening the tenders, on demand to prove the bonafides of the representative who participates in the opening of the tender. In case the representative of the tenderer fails to produce such an authority letter on behalf of the tenderer, he will be debarred from participating in the opening of the tenders.
- 6.2 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.

7.0 HOLIDAYS

- 7.1 If the date (s) specified for receipt and opening of the tenders is/are declared as holidays abruptly by the competent authority due to any administrative reasons, then the due date(s) for receipt/opening of tenders will get postponed automatically to the next working day. As for instance, if the due date for receipt of tender falls on 3rd of a particular month and its opening on 4th day of the month and if the 3rd day of the month is declared as a holiday, then the due date for receipt of tenders will stand automatically postponed to 4th day of the month while its opening will be on the 5th day of the month.

8.0 TECHNICAL CLARIFICATIONS

- 8.1 After opening the part - I (Techno-Commercial) of the tender, if it becomes necessary to seek clarifications from the tenderers, the same will be sought for from the tenderers by the Purchase Officer. In such an event, the tenderer shall –
 - 8.1.1 furnish all technical information/clarification to the Purchase Officer directly to reach on or before the due date fixed by the Purchase Officer indicating the envelope with Purchaser's tender reference. If the technical clarifications/details sought from the tenderers do not reach on or before the due date, such tenders will be liable for rejection at the discretion of the Purchase Officer without any further notice.

8.2 DATE FOR OPENING OF PART-II (PRICE):

After completion of technical evaluation, Part-II (Price) of only technically qualified tenderers shall be opened. The due date and time of opening of Part-II (Price) shall be intimated only to the technically qualified tenderers. Whose Part-I offers have been found suitable will only be permitted to participate in the opening of the Part-II (Price) of the tender.

9.0 VALIDITY OF OFFERS

9.1 Offers shall be kept valid for acceptance for a period of of 120 (One hundred twenty) days from the date of opening of Part-II (Price) of the tender. Offers with shorter validity period will be liable for rejection.

10.0 CATALOGUES/TECHNICAL LITERATURE

10.1 All necessary catalogues/drawings, technical literature data as are considered essential for full and correct evaluation of the offers shall invariably accompany the Part-I (Techno-Commercial) of the tender.

11.0 TERMS AND CONDITIONS OF THE CONTRACT

11.1 It must be clearly understood that any contract concluded pursuant to this invitation to tender shall be governed by the General Conditions of the Contract as contained in Section "B" of this tender document. Tenderers must therefore, take special care to go through these general conditions of contract and in exceptional cases if any deviations are proposed, these must be clearly indicated in the Part-I of the tender as a separate annexure instead of merely enclosing their printed conditions of Sale. Tenders made subject to counter conditions or far too many deviation from the general conditions of contract, i.e. Section "B" of this tender document are liable to be ignored. It should also be realised that failure to bring out deviations from the General Conditions of Contract contained in Section "B" of this tender document will imply that the tenderer is willing to execute the contract as per the Purchaser's terms and conditions of contract.

12.0 TENDERING CONDITIONS FOR BIDS

12.1 The prices quoted must be FIRM and preference will be given to such tenders. In exceptional cases (e.g. items involving substantial use of raw materials susceptible to sharp fluctuations in prices) if prices quoted subject to variation it shall be on the basis of a standard 'Price Variation Formula'. The basis for calculation shall be very clearly stated. Here again preference will be given to the tenders with a specific ceiling on escalation.

12.2 Prices quoted by the tenderer should include all charges involved for direct and safe-delivery of the stores to the consignee/place of delivery indicated in the tender document. If a tenderer so desires, separate lumpsum charges for safe-delivery of the stores to the consignee/purchaser's site, could be furnished. However, the purchaser reserves the right to call for break-up. The purchaser will neither undertake responsibility for transit insurance nor pay for it separately.

12.3 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.

- 12.4 The stores shall neither be despatched under 'owner's risk' nor consigned to 'self', but only to the consignee's name and address indicated in the Purchase order. Non-adherence to this condition shall make the contractor liable to bear all consequential penalties/expenses such as demurrage, wharfage, etc. which the Purchaser may incur.
- 12.5 The consignee will, as soon as possible, but not later than 45 days from the date of arrival of stores at destination notify the contractor of any loss or damage to the stores that may have occurred during transit to enable the contractor to repair/rectify the defects/damages or replace the goods as is appropriate, free of all charges. In case it is desired by the contractor for returning of the material to them all expenses towards transportation etc. will be borne by the supplier and also will furnish bank guarantee towards the cost of material.
- 12.6 In case an Indian supplier/Agent furnishes an offer for supply of out-rightly imported stores, the price of such stores shall be quoted in Indian Rupees for delivery to the consignee's premises exclusive of import duties and on firm price basis. However, the percentage/quantum of all import duties payable should be quoted separately for consideration of the purchaser wherever necessary.
- 12.7 **Conditional Discount:** In case the tenderer offers any conditional discount with regard to acceptance of their offer within a specific payment terms, delivery, quantity etc. the purchaser will not take into consideration such conditional discount while evaluating their offer.

13.0 SPARES AND ACCESSORIES

- 13.1 Tenders for plant/machinery/equipment/component shall also indicate prices for essential accessories, optional accessories and spares necessary for satisfactory operation of the plant/machinery/equipment.
- 13.1.1 for a period of two years and
- 13.1.2 for a period of five years
- 13.2 Prices for accessories and spares shall be itemized. Tenders where only lumpsum prices are indicated are liable to be ignored. Particular care must be taken to list out each item of spare and quantity recommended and also the individual price for these items. These details should be included only in Part-II (Price) of the tender. However, a list of spares and accessories without Price should be included in Part-I (Techno-Commercial) of the tender.

14.0 QUANTITY

- 14.1 The purchaser reserves the right to accept tenders for any quantity of his choice and the tenderer shall be bound to accept a contract for any quantity. The Purchaser also reserves the right to accept or reject lowest or any tender in full or in part without assigning any reasons.

15.0 STATUTORY LEVIES SUCH A CENTRAL EXCISE DUTY, CUSTOMS DUTY AND SALES TAX

15.1 EXCISE DUTY

- 15.1.1 Institute for Plasma Research is entitled for Excise Duty Exemption as per Notification No.10/97-Central Excise dated 1.3.1997. Necessary Excise Duty Exemption Certificate will be provided by the purchaser after placement of order, but prior to dispatch of the material.
- 15.1.2 The bidders should not include the Excise duty in the quoted price, which can put them into a disadvantageous position. They should, however, quote separately the percentage/quantum of excise duty applicable.
- 15.1.3 Excise Duty Exemption Certificate will be issued only in favour of the contractor with whom the purchase order is placed for the end product and not in favour of the third party. However, in case the offer is received from a sole-selling agent of the original equipment manufacturer for which documentary proof should be submitted, issue of Excise Duty Exemption Certificate in favour of the original equipment manufacturer can be considered, provided such request is made in the original offer.
- 15.1.4 The tenderer shall be solely responsible for the declaration regarding excise duty made in his offer and shall indemnify the purchaser from any claim or its liability from the excise authorities at any stage.
- 15.1.5 In case of tenderers quoting excise duty as 'NIL', it will be taken that in the event of an order no excise duty shall be payable during the currency of the contract and the purchaser will not entertain any request for admission of excise duty or issue of excise duty exemption certificate under any circumstances.

15.2 CUSTOMS DUTY

- 15.2.1 The purchaser is entitled for assessment of Customs Duty at the concessional rate of 5% as per Amendment No. 24/2002-Custom dt. 1.3.2002 to Customs Notification No.51/96-Custom dt. 23.7.1996, issued by the Department of Revenue, Ministry of Finance in respect of purchases made for the Research Institutions under the Department of Atomic Energy, and the purchaser will obtain and provide the requisite certificate from the appropriate authority for availing of the concessional rate of custom duty.
- 15.2.2 In case an Indian supplier/agent submits an offer for supply of out rightly imported stores in Indian Rupees, they should quote the price for sale on High-Seas, i.e. CIF Port of Destination (like CIF Ahmedabad). However, the transit insurance for the same should be taken from an Indian Insurance company nominated by the purchaser, so as to provide insurance coverage from anywhere in the world to anywhere in

India. The Custom Clearance of the consignment in such cases will be arranged by the purchaser.

- 15.2.3 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.
- 15.2.4 Customs Duty exemption certificate will not be issued for raw materials/components or any other intermediary materials going into the manufacture of the end product.
- 15.2.5 **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.
- 15.2.5.1 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.
- 15.2.5.2 The type and nature of after sales services to be rendered by the Indian Agent.
- 15.2.6 Both Indian Agent or Principal/OEM can not bid simultaneously for the same item/product in the same tender.
- 15.2.7 The Indian Agents are allowed to quote on behalf of only one foreign Principal/ Supplier against this tender.
- 15.2.8 Copy of Registration Certificate with DGS&D or DPS.

15.3 SALES TAX

- 15.3.1 Sales/General/Taxes where legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done no claim for Sales/General Taxes will be admitted at any later stage and on any ground whatsoever. **Purchaser has no 'C' or 'D' form.**
- 15.3.2 When Sales/General Sales Tax is claimed as extra by the Contractor/ Supplier in general and on packing charges in particular the following certificate should be submitted by the Suppliers/Contractors to the paying authority on the bills itself:-
- 15.3.2.1 Certified that the goods and packing charges on which Sales Tax/Central Sales Tax had been charged have not been exempted under the Central Sales Tax or the State Sales Tax Act or the rules made thereunder and the amount charged on account of Sales Tax on these goods and packing charges are

not more than what is payable under the provision of relevant Act or the rules thereunder.

- 15.3.2.2 Certified further that we have actually paid Sales Tax/Central Sales Tax and are being assessed to Sales Tax on packing charges and also that where there are statutory exemptions, under the relevant Act/Law of the State Government concerned, we have availed ourselves of it and certified non-availability of such a provision for Sales Tax on packing charges wherever claimed.
- 15.3.2.3 Certified that in respect of amount claimed in the bill no claim is pending for refund or is admissible Certified that in the event of our getting refund in whole or in part of the element of Sales Tax/Central Sales Tax on packing charges, claimed from Government, we shall pass on the benefit to the Purchaser by remitting to Government the amount equivalent to the amount of refund obtained by us.
- 15.3.2.4 Certified further that we (our Branch or Agent) _____ (address) _____ are registered as dealers in the state of _____ under Local Regn.No. _____ and in the State of _____ under Central Regn.No. _____ for the purpose of Sales tax.

15.4 FLUCTUATION IN THE EXCISE DUTY/CUSTOMS DUTY

Unless otherwise specifically agreed to in terms of the Contract, the purchaser shall not be liable for any claim on account of fresh imposition and/or increase in Excise Duty, Customs Duty and Sales tax on raw materials and/or components used directly in the manufacture of the contracted stores, taking place during the pendency of the contract.

16.0 SAMPLES/PROTOTYPES

- 16.1 If any called for shall be submitted free of all charges by the Tenderer and the Purchaser shall not be responsible for any loss or damage thereof for any reason whatsoever. In the event of non-acceptance of the tender, the tenderer will have to make arrangements to remove/collect the sample/prototypes at his own expenses.

17.0 DETAILS OF BANKERS

- 17.1 The tenderer shall submit along with Part-II (Price) of the tender the name and address of his bankers.

18.0 PARTNERSHIP/PROPRIETARY COMPANIES

- 18.1 If the tenderer is a partnership firm or Joint Hindu Family concern, the names and full particulars of the partner or the members of the joint Hindu Family owning the concern, the tender must be signed:

- 18.1.1 In the event of your being a sole proprietary concern by the sole Proprietor or by constituted attorney duly authorised to tender into and sign agreement on his behalf including agreement to refer disputes arising under or relating to such agreements to arbitration by power of attorney signed by the Proprietor and authenticated by a Notary Public or a Magistrate.
- 18.1.2 In the event of your being a partnership firm, by all Partners or by a constituted Attorney duly authorised to enter into and sign agreements on behalf of the partnership firm including agreements to refer disputes arising under or relating to such agreements to arbitration by a power of attorney duly executed by the partner and authenticated by a Notary Public or a Magistrate.
- 18.1.3 In the event of the tenderer being a limited company under the common seal of the company by a constituted Attorney duly authorised to enter into and sign agreement, to refer dispute arising under or relating to such agreements, to arbitration by a power of attorney executed under your common seal and authenticated by a Notary Public or a Magistrate.
- 18.1.4 In the event of the tenderer being a Hindu Joint Family concern, by a Karta of the Joint Family when the tender is signed by a constituted attorney of the Sole Proprietor of the concern or when the tender is signed on behalf of the firm by a constituted Attorney of its Partners as provided in sub-clause (18.1.1) and (18.1.2) above, then original power of attorney appointing him as such constituted attorney shall be supplied with the tender or if a tender is executed on behalf of a Limited Company by its constituted attorney as provided in sub-clause (18.1.3) above, the original power of attorney along with resolution (if it is required under its Articles of Association) authorising and affixation of its common seal on the power of attorney and a copy its Articles of Association shall be supplied with the tender. If however, the power of attorney has be previously furnished to and approved by the Purchaser the Contractor need not send the same with the tender.

19.0 QUANTITIES

- 19.1 Quantities indicated are approximate only and one or more of the items of the stores tendered, or a portion of any one or more of the items of such stores may be accepted and the tenderer notwithstanding that his Tender has not been accepted in whole shall be bound to supply contracted quantity to the Purchaser.

20.0 SUBMISSION OF DRAWINGS

- 20.1 The tenderer shall furnish all drawings pertaining to the plant/machinery/equipment/component to the Purchaser along with the tender for correct understanding and appreciation of the tender in quadruplicate. Besides,

tenderers should also furnish general arrangement, schematic and such other drawings prescribed by the Purchaser within 4 weeks from the date of receipt of a Purchase Order for approval. Such drawings should be furnished along with Part-I (Techno-Commercial) of the tender. Tenderer's drawing will form part of the purchase order/contract only after these are approved by the Purchaser.

21.0 INSTALLATION AND COMMISSIONING

- 21.1 Wherever, the purchaser's invitation to tender calls for installation and commissioning or supervision of installation and commissioning of the instrument/equipment by the tenderer, the tenderer must clearly and separately quote the prices for the supply of the stores and the charges and the terms for installation and commissioning or supervision of installation and commissioning, as the case may be. The charges towards installation and commissioning should not be included in the price of the stores.
- 21.2 In respect of contracts involving installation and commissioning by the overseas supplier where identifiable charges for the same has been quoted by the tenderer, he shall bear the Income-tax liability as per the rates prevailing at the time of undertaking the job in accordance with the Income tax Act in force in India, which at present is 20% on the installation and commissioning charges.

22.0 INSPECTION

- 22.1 The Contractor shall be responsible for an perform all inspection and testing required in accordance with the contract/purchase order and specifications included therewith.
- 22.2 The Purchaser may at his option depute his representative for inspection of the stores to be supplied under the contract or authorize and nominate a Quality Surveillance Agency of his choice for the purpose hereinafter called, in either case, the inspection.
- 22.3 The supplier shall give notice of readiness for inspection to the Inspector (deputed under clause 22.2 above) so that the Inspector can be present at the requisite time. In such an event delivery shall not be effected until an authorization or shipping release is obtained from the Purchaser.
- 22.4 The contractor shall allow reasonable facility and free access to his work/factory and records to the inspector for the purpose of inspection or for ascertaining the progress of delivery under the contract.

23.0 FACTORY REGISTRATION/SHOP & ESTABLISHMENT CERTIFICATE

- 23.1 The tenderers shall submit a copy of the Factory Registration/Licence or Shop & Establishment Certificate as applicable, along with the tender, failing which the tenders are liable for rejection.

24.0 PRODUCTS WITH ISI MARK

- 24.1 Products with ISI mark will be preferred.
- 24.2 In respect of following categories of item, Purchaser will consider offers for products with ISI mark only:
 - Fire Extinguisher
 - Building Material
 - PVC Pipes & fittings
 - Agricultural Implements & sprayers
 - Medical instruments such as syringes, needles, BP apparatus etc.

25.0 SHOP/FACTORY EVALUATION, QUALITY SURVEILLANCE /INSPECTION AND SUBMISSION OF PROGRESS REPORTS

- 25.1 The Purchaser or his technical authorities may at his option and prior to evaluation of the tender depute his Inspector or any quality surveillance Agency of his choice to the factory/workshop of the tenderer to assess and establish the manufacturing capability etc. of the tenderer. Similarly, the Purchaser may also depute his inspector/Quality Surveillance agency of his choice for inspection of the plant/machinery/ equipment/component during the various stages of manufacture in such an event the tenderer/contractor shall:-
 - 25.1.1 Allow reasonable facility and free access to his factory/work/records to the Inspector for the purpose of inspection or for ascertaining the progress of manufacture and delivery.
 - 25.1.2 Provide the drawings, tooling's, gauges, instruments etc. required for carrying out the inspection work.
 - 25.1.3 Produce an inspection plan to the Purchaser's satisfaction notifying him when check points on the plan are imminent.
 - 25.1.4 Not supply or deliver the plant/machinery/equipment/ component unless and until a Shipping Release or an authorisation for despatch is obtained in a format provided by the Purchaser. Failure to comply with this instruction will not only result in with holding of the payment to the contractor/supplier, but also hold the tenderer/contractor liable for payment of compensation to the Purchaser due to delay in clearance of the Equipment/plant/machinery/ component from the carriers.

26.0 INSTRUCTION MANUAL

- 26.1 In respect of plant/machinery/equipment/instrument/ apparatus, where instruction/ operation manual is normally necessary to enable the user to put the plant/machinery/ equipment/instrument/apparatus to proper use, the Contractor shall furnish such an instruction/operation manual specific to the stores being supplied along with the plant/machinery/equipment/ instrument/apparatus. The Contractor shall clearly specify in the offer about his readiness to supply instruction/ operation manual

27.0 PACKING

- 27.1 Tenderers shall note that packing for shipment shall be accordance with the instructions outlined in this tender document, each package shall be limited to the size and weights that are permissible under the existing Air and Sea limitations. Even when no packing specification is included in the invitation to tender, it will be Supplier's responsibility to provide appropriate packing depending upon the nature of the supply and the transportation and handling hazards.
- 27.2 The equipment shall be so packed and protected as not to suffer deterioration, damage or breakage during shipment and storage in a tropical climate.
- 27.3 Each package shall be properly labelled to indicate the type and quantity of material it contains, the purchase order number, its dimensions and weight and any other necessary data to identify the equipment and relate it to contract.

28.0 DEVIATIONS TO PURCHASER'S SPECIFICATIONS AND CONDITIONS OF CONTRACT

- 28.1 If any deviation or substitution from the technical specifications contained in Section "C" to this tender document is involved, such details should be clearly indicated in Part-I (Techno-Commercial) and should be added as an annexure to Part-I (Techno-commercial) of the tender as otherwise it shall be an admission on the part of the tenderer that he will supply the equipment as specified by the Purchaser. Similarly, deviations to the Purchaser's General Conditions of Contract/Special Conditions of Contract contained in Section "B" of this tender document shall be indicated by the tenderer in another annexure to Part-I (Techno-commercial) of the tenderer.
- 28.2 Part-II (Price) should be furnished in accordance with the format provided by the Purchaser at Section "D" of this tender document.

29.0 DELIVERY

- 29.1 Tenderer should note that no tender will be considered by the Purchaser unless the Tenderer can meet the delivery schedule specified by the Purchaser. **All equipments/machinery/ plant/component covered by this tender document should be completed within 3 (three) months from the date of approval of drawings.** The prices quoted by the tenderer should include all charges involved for direct and safe delivery of the items by Road to the project site of the Purchaser. If a tenderer so desires/separate lumpsum charges for transportation and safe delivery to Purchaser's site could be furnished. Purchaser will neither undertake responsibility for transit insurance nor pay for it separately. No other, delivery term will be accepted by the Purchaser.

30.0 ACCEPTANCE OF TENDERS

- 30.1 Acceptance of tenders by the Purchaser will be sent by fax, E-mail, letter etc. within the validity date of the tender and such a fax, letter etc. would then be

followed by a formal purchase order/contract. The tenderer whose offer is accepted will proceed with the execution of the contract on the basis of such advance acceptance of tenders without waiting for a formal purchase order/contract, and will be responsible to seek and obtain whatever clarifications that are necessary from the Purchaser to proceed with the manufacture without waiting for a formal purchase order/contract and delivery period will be reckoned from the date of the Letter of Intent.

31.0 RESULT OF THE TENDERS

31.1 Unsuccessful tenderers will not be informed of the result of their tenders.

32.0 SETTLEMENT OF COMMERCIAL TERMS AND CONDITIONS OF CONTRACT

32.1 In case the commercial terms and conditions of sale/contract stipulated in Part-I (Techno-commercial) of the tender submitted by the tenderer are at variance with the Purchaser's General Conditions of all Contracts/Special Conditions of Contract stipulated in Section "B" of this tender document, the Purchase Officer will settle the commercial terms and conditions of contract with the tenderers chosen for award of the contract by holding discussions with them OR by sending Fax/Letter/E-mail etc. In case the concerned tenderer to whom an intimation thereof is given does not respond/fail to respond to communication sent by the Purchaser within the date specified, his tender is liable for rejection at the discretion of Director, IPR and no complaints whatsoever will be entertained from the tenderer for rejection of this tender. The tenderers should not discuss with the technical authorities/user department any of the commercial terms and conditions of contract and any agreement/understanding reached between the tenderer and the technical authorities will not be valid and binding.

33.0 OFFERS BY FAX, TELEX, CABLE, TELEGRAM & E-MAIL

33.1 Offers sent/submitted by fax, telex, cable, telegram and e-mail will not be considered at all and are liable for rejection without any notice to the Tenderers.

34.0 COMPLIANCE WITH THE SECURITY REQUIREMENTS OF THE PURCHASER

34.1 The Contractor shall strictly comply with the Security Rules and Regulations of the Purchaser in force and shall complete the required formalities including verification from Police and any other authority and obtain necessary prior permission for entry into the Purchasers premises, wherever authorized by the Purchaser

35.0 PAST PERFORMANCE

35.1 In case the past performance of the tenderer is not found to be satisfactory with regard to quality, delivery, warranty obligation and non-fulfilment of terms and conditions of the contract, their offer is liable to be rejected by the purchaser.

36.0 CAPACITY & FINANCIAL STANDING

36.1 In case it is found that the tenderer does not possess the requisite infrastructure, capacity, capability and their financial standing is not satisfactory, such tender is liable to be rejected by the Purchaser.

37.0 CONFIDENTIALITY

37.1 Drawings, specifications, prototypes, samples or any other correspondence/details/information provided by the Purchaser relating to the tender or the contract shall be kept confidential by the contractor, and should not be disclosed or passed on to any other person/firm without the prior written consent of the purchaser. This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by the Contractor.

38.0 RESTRICTED INFORMATION CATEGORIES UNDER SECTION 18 OF THE ATOMIC ENERGY ACT, 1962 AND OFFICIAL SECRETS UNDER SECTION 5 OF THE OFFICIAL SECRETS ACT, 1923

38.1 Any contravention of the above mentioned provisions by the contractor, sub-contractor, consultant, adviser or the employees of the contractor will invite penal consequences under the aforesaid legislation.

39.0 PROHIBITION AGAINST USE OF THE NAME OF ANY INSTITUTION OF DEPARTMENT OF ATOMIC ENERGY WITHOUT PERMISSION FOR PUBLICITY PURPOSES

39.1 The Contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use the name of any Institution of Department of Atomic Energy for any publicity purpose through any public media like Press, Radio, TV or Internet without the prior written approval of the Purchaser.

40.0 FREE ISSUE MATERIAL (If specified in the tender documents)

40.1 Wherever contracts envisage supply of Free Issue Material (FIM) by the Purchaser to the contractor, such Free Issue Material shall be safeguarded by an insurance policy to be provided by the Contractor at his own cost for the full value of such materials and the insurance policy shall cover, the following risks specifically and shall be valid for six months beyond the contractual delivery date.

- **Risk to be covered:** Any loss or damage to the Purchaser's material due to fire, theft, riot, burglary, strike, civil commotion, terrorist act, natural

calamities etc. and any loss or damage arising out of any other causes such as other materials falling on purchaser's materials.

- **Insured by:** (Name of the Contractor)
- **Beneficiary:** Institute for Plasma Research, Near Indira Bridge, Bhat, Gandhinagar-382428.
- **Amount for which insurance policy to be furnished:** The amount will be indicated in the respective contract.

Free Issue Material (FIM) will be issued to the Contractor only after receipt of the Insurance Policy from the Contractor. The contractor shall arrange collection of the FIM from the Purchaser's premises and safe transportation of the same to his premises at his risk and cost.

Notwithstanding the insurance cover taken out by the Contractor as above, the contractor shall indemnify the purchaser and keep the Purchaser indemnified to the extent of the value of free issue materials to be issued till such time the entire contract is executed and proper account for the FIM is rendered and the left over/surplus and scrap items are returned to the Purchaser. The contractor shall not utilize the Purchaser's free issue materials for any job other than the one contracted out in this case and also not indulge in any act, commission or negligence which will cause/result in any loss/damage to the Purchaser and in which case, the Contractor shall be liable to the Purchaser to pay compensation to the full extent of damage/loss. The Contractor shall be responsible for the safety of the free issue materials after these are received by them and all through the period during which the materials remain in their possession/control/custody. The free issue materials on receipt at the Contractor's works shall be inspected by them for ensuring safe and correct receipt of the material. The Contractor shall report the discrepancies, if any, to the Purchaser within 5 days from the date of receipt of the material. The Contractor shall take all necessary precautions against any loss, deterioration, damage or destruction of the FIM from whatever cause arising whilst the said materials remain in their possession/custody or control. The FIM shall be inspected periodically at regular intervals by the Purchaser for ensuring safe preservation and storage. The contractor shall also not mix up the FIM with any other goods and shall render true and proper account of the materials actually used and return balance remaining unused material on hand and scrap along with final product and if it is not possible within a period of one month from the date of delivery of the final product covered by this purchase order. The Contractor shall also indemnify the Purchaser to compensate the difference in cost between the actual cost of the FIM lost/damaged and the claim settled to the Purchaser by the insurance company. The decision of the

Director, Institute for Plasma Research, as to whether the Contractor has caused any loss, destruction, damage or deterioration of the FIM while in his possession, custody or control from whatever cause arising and also on the quantum of damage suffered by the government, shall be final and binding upon the Contractor.

41.0 PURCHASE PREFERENCE

41.1 In respect of offers from Central Public Sector Enterprises, they will be eligible for purchase preference, if any, when they compete with the Private Sector Units as per the policy of the Government of India in force at the time of evaluation provided their offer is technically suitable.

42.0 PRICE PREFERENCE FOR MICRO & SMALL ENTERPRISES

42.1 In respect of offers from SSI units and Micro & Small Enterprises (MSEs) registered with appropriate Government authorities will be eligible for price preference, as admissible as per the policy of Government of India provided their offer is technically suitable.

43.0 PERMANENT ACCOUNT NUMBER

43.1 The tenderer shall submit a true copy of the PAN card/Letter issued by the Income-tax Department, along with the tender, failing which the tenders are liable for rejection.

SECTION 'B'

**GENERAL CONDITIONS OF
CONTRACT**

**INSTITUTE FOR PLASMA RESESARCH
PURCHASE SECTION**

**GENERAL CONDITIONS OF ALL CONTRACT
&
SPECIAL CONDITIONS OF CONTRACT
GOVERNING SUPPLIES OF
PLANT AND MACNHINERY**

GENERAL CONDITIONS OF CONTRACT

1. DEFINITIONS

- 1.1 The term ‘PURCHASER’ means the Institute for Plasma Research or its successors or assigns.
- 1.2 The term ‘PARTICULARS’ means the following:
 - 1.2.1 Specification
 - 1.2.2 Drawing
 - 1.2.3 Sealed pattern denoting a pattern sealed and signed by the Inspector
 - 1.2.4 Proprietary make denoting the produce of an individual firm
 - 1.2.5 Any other details governing the construction manufacture and/or supply as existing for the contract.
- 1.3 The term ‘CONTRACTOR’ or ‘SUPPLIER’ means, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractors/Successors (approved by the Purchaser), representatives, heirs, executors and administrators unless excluded by the contract.
- 1.4 The term ‘CONTRACT’ or ‘PURCHASE ORDER’ means and comprises of a Letter or Email or ink signed or digitally signed document conveying acceptance of Contractor’s offer and invitation to tender, tender containing offer, advance acceptance of offer, general and special conditions of contract specified in the acceptance of offer and any subsequent amendments/alterations thereto made on the basis of mutual agreement.
- 1.5 The term ‘STORES’ or ‘MATERIAL’ means, the goods specified in the contract/purchase order which the contractor has agreed to supply under the contract.
- 1.6 The term ‘SUB-CONTRACTOR’ or ‘SUB-SUPPLIER’ means any contractor or supplier engaged by the contractor or the supplier with the prior approval of the Purchaser in relation to the contract/purchase order.
- 1.7 The term ‘INSPECTOR’ or ‘QUALITY SURVEYOR’ means any person nominated and deputed by the purchaser or their appointed Consultants or Quality Surveillance Agency or any other person from time to time authorized by the Purchaser to act as his representative for the purpose of inspection of stores under the contract/purchase order.

2. AUTHORITY OF PERSON SIGNING THE CONTRACT ON BEHALF OF THE CONTRACTOR

- 2.1 The person signing the contract or the purchase order or any other document in respect of the contract or purchase order on behalf of the contractor shall deemed to warrant that he has the authority to bind the contractor.

3. SUBLETTING OF CONTRACT OR BILLS OR ANY BENEFIT ACCRUING THEREFROM

- 3.1 The Contractor shall not sublet, transfer or assign the Contract or any part thereof or bills or any other benefits, accruing therefrom or under the contract without the prior written consent of the Purchaser (All Sub-contractors are required to be appraised and approved by the Purchaser before placement of orders by the Contractor/Supplier). However, such consent shall not be unreasonably withheld by the Purchaser, if such stores are not normally manufactured by the Contractor, such assignment or subletting shall not relieve the Contractor from any contractual obligation or responsibility under the Contract.
- 3.2 Any breach of this condition shall entitle the Purchaser to cancel the Contract or any part thereof and to purchase from other sources at the risk and cost of the Contractor and shall recover from the Contractor damages arising from such cancellations.
- 3.3 In case the Contractor sublets, transfers or assigns any part of the Contract with the prior written consent of the Purchaser, all payments to the Sub-Contractor shall be the responsibility of the Contractor and any requests from such sub-Contractor shall not be entertained by the Purchaser.

4. SECURITY DEPOSIT

- 4.1 On acceptance of tender, the Contractor shall at the option of the Purchaser and within the period specified by him, submit a Bank Guarantee from SBI or any one of the nationalized banks or reputed private banks, viz. AXIS Bank, ICICI Bank, IDBI Bank and HDFC Bank) towards Security Deposit not exceeding 10% (ten percent) of the tendered value of the contract/purchase order valid till acceptance of the material, as the Purchaser shall specify.
- 4.2 If the Contractor is called upon by the Purchaser to submit Security Deposit and the contractor fails to provide the same within the period specified such failure shall constitute a breach of the Contract and the Purchaser shall be entitled to make other arrangements for the repurchase of the stores contracted for at the risk and expenses of the Contractor in terms of clause 10.2.4 hereof and/or recover from the Contractor damages arising from such cancellation. No claim shall lie against the purchaser either in respect of interest if any due on Security Deposit or depreciation in value.
- 4.3 In case the tenderer is registered with DGS&D, NSIC, DPS or Micro and small (MSEs) vendors registered with NSIC under single point registration scheme can be considered for exemption from Security Deposit to the extent of the monetary limit of such registration, provided the past performance of the Contractor is satisfactory. In respect of contracts beyond the monetary limits of such registration, the Contractor shall furnish a Bank Guarantee for 10 of the excess value, towards Security Deposit.

5. SPECIFICATION, ETC.

5.1 Quality and Workmanship

- 5.1.1. The stores shall be of the best quality and workmanship and comply with particulars of the contract and in all respect shall be to the entire satisfaction of the Inspector and the Purchaser.
- 5.1.2 In particular and without prejudice to the foregoing conditions and in addition thereto when tenders are called for in accordance with 'particulars' Contractor's tender to supply in accordance with such particulars shall be deemed to be in admission on his part that he has fully acquainted himself with the details thereof and no claim on his part which may arise on account of non-examination of the 'particulars' will in any circumstances be considered by the Purchaser or be recoverable from him.

5.2 Contractor's Liability for Defective Stores

- 5.2.1 For a period of twelve months after the stores have been accepted by Purchaser the Contractor shall be responsible for any defects that may be discovered therein notwithstanding that such defects could have been discovered at the time of inspection or any defects therein are found to have developed under proper use, arising from faulty materials, design or workmanship and the Contractor shall remedy all such defects as aforesaid at his own cost provided he is called upon within a period of 14 months from the date of acceptance thereof to do so, by the Purchaser who shall state in writing in what respect the goods are faulty and further if in the opinion of the Purchaser the defects are of such a nature that it is necessary to replace or renew any defective stores, such replacement or renewal shall be made by the Contractor without any extra costs to the Purchaser, provided notice informing the Contractor of the defect is given by the Purchaser within the said period of 14 months. The decision of the Purchaser notwithstanding any prior approval or acceptance of the Inspector as to whether or not the stores delivered are defective or any defect has developed within the said period of twelve months or as to whether the nature of defects renewal or replacement shall be final conclusive and binding on the Contractor.

6. ALTERATION OF SPECIFICATIONS, PATTERNS AND DRAWINGS

- 6.1 The Purchaser reserves the right to alter, whenever necessary, specifications, patterns and drawings. As from the date, the Stores shall be in accordance with the specifications, patterns and drawings so altered, which the contractor is bound to comply with.
- 6.2 In the event of such alteration involving a revision in the cost, or in the delivery period, the same shall be discussed and mutually agreed to, taking into account the unit rates of similar items in the Contract. In case of disagreement, the decision of the Purchaser, in the cost or the delivery period, shall be final and conclusive.

7. SAMPLES

- 7.1 Samples submitted for any reason shall be supplied without charge and freight paid without any obligation of the Purchaser as regards safe custody or safe-return thereof.

All samples submitted must be clearly labelled with the Contractor's name and address and tender number. If the Contractor submits the sample with his tender the same shall not govern the standard of supply except when it has been specifically stated in the Purchase Order that it is accepted instead of any sealed pattern. Should certified samples be lent to the Contractor by the Purchaser, the Contractor is responsible for the return in perfect order of all certified samples with the labels intact.

8. PACKING

- 8.1 The contractor shall be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air so as to ensure their being free from any loss or damages on arrival at their destination. The packing and marking of packages shall be done by and at the expenses of the Contractor. Each package shall contain a Packing Note quoting Purchase Order number and date and showing its contents in detail.
- 8.2 Unless otherwise provided in the contract all containers (including packing cases, boxes, tins, drums and wrappings) in which the stores are supplied by the contractor shall be considered as property of the Purchaser and their cost as having been included in the contract price.

9. CONTRACTOR'S RESPONSIBILITY REGARDING DESPATCH

- 9.1 **Said to contain basis:** The contractor shall be responsible for obtaining a clear receipt from the Transport Authorities specifying the goods dispatched, Purchaser shall not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay for only such stores as are actually received by him in accordance with the Contract.
- 9.2 **Contractor's liability for freight and transport charges:** Unless otherwise expressly mentioned in the Purchase Order, the Contractor shall pay and bear all freights and all costs and expenses for transporting the stores to the place of delivery specified in the Purchase Order and the price specified in the Purchase Order shall be inclusive of all such freights, costs and expenses.
- 9.3 **F.O.R. Station of Despatch:** In the case of an 'F.O.R. station of despatch' contract, the stores shall be booked at full wagon rates whenever available and by the most economical route, and failure to do so will render the Contractor liable for the whole or part of any avoidable expenditure, caused to the Purchaser.

10. DELIVERY:

- 10.1 **Time for and date of delivery, the essence of the Contract:** The time for and the date of delivery of the stores stipulated in the purchase order shall be deemed to be the essence of contract, and delivery must be completed not later than the date specified therein.
- 10.2 **Failure and Termination:** Should the contractor fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, the Purchaser shall be entitled at his option either:

10.2.1 To recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 2% of the price of any stores which the contractor has failed to deliver as aforesaid, for each month or part of a month, during which the delivery of such stores may be in arrears, or

10.2.2 To recover from the Contractor, at the sole discretion of the Purchaser, token liquidated damages up to 10% of the normal liquidated damages may be imposed.

10.2.3 Conditions under which Liquidated Damages will be levied are as under:

CONDITION	LEVY OF LIQUIDATED DAMAGES
i) Delay in supplies resulted in monetary loss actual/demonstrable and supplier was fully responsible for the delay	Full Liquidated Damages will be levied as specified.
ii) Delay in supplies resulted in monetary loss actual/demonstrable but the supplier was responsible only for part of the delay and remaining part of the delay was beyond their control and attributable to the purchaser.	Full Liquidated Damages will be levied as specified for which supplier is responsible.
iii) Delay in supplies resulted in monetary loss actual/demonstrable and entire delay was due to circumstances beyond their control and fully attributable to the Purchaser	Liquidated Damages may be waived in full.
iv) Delay in supplies. However, monetary loss actual/demonstrable cannot be certified	Token Liquidated Damages equal of 10% of full Liquidated Damages will be levied.

10.2.4 To purchase or authorise the purchase elsewhere, without notice to the Contractor on the account and at the risk of the Contractor, the stores, not delivered or others of a similar description (where others exactly complying with the particulars are not, in the opinion of the Purchaser readily procurable, such opinion being final, readily procurable) without cancelling the contract in respect of the consignment(s) not yet due for delivery, or

10.2.5 To cancel the contract or a portion thereof, and, if so desired, to purchase or authorize the purchase of stores not so delivered or others of similar description (where others exactly complying with the particulars are not, in

the opinion of the Purchaser readily procurable, such opinion being final, readily procurable) at the risk and cost of the Contractor.

In the event of action being taken under clause 10.2.2, 10.2.3 or 10.2.4 above, the Contractor shall be liable for any loss which the Purchaser may sustain on that account, provided that the repurchase or, if there is an agreement to repurchase then such agreement, is made within six months of the date of such failure. But the contractor shall not be entitled to any gain on such repurchase made against default. The manner and method of such repurchase shall be in the entire discretion of the Purchaser, whose decision shall be final. It shall not be necessary for the Purchaser to serve a notice of such repurchase on the defaulting contractor. This right shall be without prejudice to the rights of the Purchaser to recover damages for breach of contract by the Contractor.

10.2.6 **Extension of time:** As soon as it is apparent that contract dates cannot be adhered to an application shall be sent by the contractor to the Purchaser. If failure, on the part of the Contractor to deliver the stores in proper time shall have arisen from any causes which the Purchaser may admit as reasonable ground for an extension of time (and his decision shall be final) he may allow such additional time as he considers it to be justified by circumstances of the case without prejudice to the Purchaser's rights to cover liquidated damages under clause 22 hereof

10.2.7 However, if the contractor fails to apply and secure extension of contract delivery dates before effecting the delivery of the supplies against the contract, acceptance of such stores by the Purchaser will in no way prejudice the rights of the Purchaser to levy the liquidated damages for delayed deliveries nor will it entitle the contractor for payment of statutory levies that come into force after the expiry of the contract delivery dates.

11. INSPECTION AND REJECTION

11.1 **Inspection and Rejection:** The stores shall be tendered by the Contractor for inspection at such places as may be specified by the Inspector, at the Contractor's own risk, expenses and costs and shall lie at such places of inspection at the risk of the Contractor and the stores will be subject to inspection and test as may be considered necessary by the inspector and his decision as regards rejection of goods shall be final and binding on the Contractor. If any goods are rejected as aforesaid, then without prejudice to the foregoing provision, the Purchaser shall be at liberty to

11.1.1 Allow the Contractor to re submit without prejudice to the Purchaser's right to claim and recover Liquidated damages as provided in clause 22 hereof, stores in replacement of those rejected within a time specified by the Purchaser (which time shall be essence of the contract), the contractor bearing the cost of freight for such replacement without being entitled to any extra payment, or

11.1.2 Buy the quantity of stores rejected or others of a similar nature elsewhere at the risk and cost of the Contractor in accordance with the provisions contained in second paragraph of clause 10.2.4 hereof without effecting the Contractor's liability as regards the supply of any further consignments due under the Contract, or

11.1.3 Terminate the Contract and recover from the Contractor the loss Purchaser thereby incurred

- 11.2 **Removal of rejection:** Any stores submitted for inspection and rejected by the Inspector must be removed by the Contractor within fourteen days from the date of receipt of intimation of rejection, provided that in the case of dangerous infected or perishable stores, the Inspector (whose decision shall be final) shall notify the Contractor to remove such stores within 48 hours of receipt of intimation of rejection and it shall be the duty of the Contractor to remove them accordingly. Such rejected stores shall lie at the Contractor's risk from the time of such rejection and if not removed within the aforementioned time, the Purchaser shall have the right either to return the rejected stores to the Contractor at the Contractor's risk by such mode of transport as Purchaser may select or to dispose off or segregate such stores as he thinks fit at the Contractor's risk and on his accounts and to appropriate such portion of the proceeds as may be necessary to cover any loss or expenses incurred by the Purchaser in connection with the said sale. Freight to destination of stores rejected after examination at destination shall be recoverable from the Contractor at the Tariff Rate.
- 11.3 **Test Certificate and Guarantees:** Test Certificate Guarantees, if required by the Inspector shall be obtained and furnished by the Contractor free of costs.

12. RECTIFICATION AND REPLACEMENT OF DEFECTIVE STORES

- 12.1 If the inspector find that the contractor has executed any unsound or imperfect work, the inspector shall notify such defects to the contractor and the contractor on receiving the details of such defects or deficiency, shall at his own expenses, within seven days or otherwise within such time as may be mutually agreed upon as reasonably necessary, proceed to alter, reconstruct or remanufacture the stores to the requisite standard and specifications as called for by the tender specification.

13. RECOVERY OF SUMS DUE

- 13.1 Whenever any claim for payment of, whether liquidated or not, moneys arises out of or under this contract against the Contractor the Purchaser shall be entitled to recover sum by appropriating, in part or whole, by encashing the Bank Guarantee submitted towards Security deposit by the Contractor, if a Security Deposit is taken against the Contract. In the event of the security being insufficient or no Security Deposit has been taken from the Contractor then the balance or the total sum or which at any time hereafter may become due to the Contractor under this or any other contract with the Purchaser, should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the Purchaser on demand the remaining balance due. Similarly, if the Purchaser has or makes any claim, 'whether liquidated or not against the Contractor under any other contract with the Purchaser the payment of all moneys payable under the contract to the contractor including the security deposit shall be withheld till such claims of the Purchaser are finally adjudicated upon and paid by the Contractor.
- 13.2 All demurrage, wharfage and allied expenses incurred by the Purchaser, if any, due to delayed clearance of Stores in view of non receipt, incomplete or delayed receipt of documents by the Purchaser, shall be recovered from the payment due to the Contractor.

14. BAR/PERT CHART

14.1 The contractor at the discretion of the Purchaser shall submit the BAR/PERT chart indicating various activities from the date of purchase order to handing over of the stores.

15. PERFORMANCE BANK GUARANTEE

15.1 In the event of acceptance of the offer in respect of plant, machinery, equipment, instrument, etc. the tenderer will be required to submit a performance bank guarantee for 10% of the total value of the stores inclusive of all statutory levies and other charges admitted in the contract, from SBI/any nationalized bank or private sector banks, namely, ICICI Bank, IDBI Bank, HDFC Bank and AXIS Bank, on a non-judicial stamp paper of appropriate value valid till 2 months beyond the expiry date of warranty period as per the Purchaser's format towards satisfactory performance of the plant, machinery, equipment, instrument, etc. during the warranty period. In case of bids in currency other than INR performance bank guarantee shall be furnished from any bank of international repute.

15.2 In case of non-submission of performance bank guarantee by the Contractor, an amount equivalent to 10% of the total value of the stores and other charges admitted in the contract will be retained by the purchaser till the expiry of the warranty period of the stores.

15.3 Offers of the tenders who are not agreeable to furnish performance bank guarantee or retaining of an equivalent amount by the purchaser as per clause No.15.1 and 15.2 above, are likely to be rejected.

16. PERMIT AND LICENCES

16.1 The contractor shall secure and pay all licenses and permit at his end which he may be required to comply with all laws ordinances and regulations of the public authorities in connection with the performance of his obligations under the contract. The contractor shall be responsible for all damages and shall indemnify and save the purchaser harmless from against all claims for damages and liability which may arise out of the failure of the contractors to secure and pay for any such licenses and permits or to comply fully which any and all applicable laws ordinances and regulations.

17. PATENTS & PATENT RIGHTS INDEMNIFICATION

17.1 The Contractor shall indemnify and keep indemnified the Purchaser from and against any and all claims, actions, costs, charges and expenses arising from or for infringement of patent rights, copy right or other protected rights, of any design plans, diagrams, drawings in respect of the stores supplied by the contractors or any of the manufacturing methods or process adopted by contractor for the stores supplied under the contract.

17.2 In the event of any claim being made or action being taken against the purchaser in respect of the matter referred to clause 17.1 above, the contractor shall promptly be notified thereof and he shall at his own expense, conduct all negotiations for the settlement of the same and any litigation that may arise therefrom.

17.3 In the event of any designs, drawing, plans or diagrams or any manufacturing methods or process furnished by the contractor constituting infringement of patent or any other protected rights and use thereof is restrained, the contractor shall procure

for Purchaser, at no cost to the latter, the rights to continue using the same or to the extent it is possible to replace the same so as to avoid such infringement and subject to approval by the Purchaser or modify them so that they become non-infringing, but such modifications shall otherwise be to the entire satisfaction of the Purchaser.

18. LAW GOVERNING THE CONTRACT

18.1 This Contract shall be governed by the laws of India for the time being in force. The marking of all stores supplied must comply with the requirements of India Acts relating to Merchandise Marks and all the rules made under such Acts.

19. JURISDICTION

19.1 The Courts of Ahmedabad only shall have jurisdiction to deal with and decide any legal or dispute arising out of this contract.

20. SETTLEMENT OF DISPUTES

20.1 The Purchaser and the Contractor shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

20.2 If the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

21. ARBITRATION

21.1 Notwithstanding anything contained in clause No.19 above, in the event of any question, dispute or difference arising under these conditions or any condition contained in the Purchase Order or in connection with this contract, (except as to any matters the decision of which is specially provided for by these conditions) the same be referred to the sole arbitration of the Director, IPR or of some other person appointed by him. It will be no objection that the Arbitrator is a Government servant, that he had to deal with matters to which the contract relates or that in the course of his duties as a Government servant has expressed views on all or any other matters in dispute or difference. The award of the arbitrator shall be final and binding on the parties to this Contract.

21.2 It is a terms of contract:-

21.2.1 If the arbitrator be the Director, IPR (i) in the event of his being transferred or vacating his office by resignation or otherwise, it shall be lawful for his successor-in-office either to proceed with the reference himself, or to appoint another person as arbitrator; or (ii) in the event of his being unwilling or unable to act for any reason, it shall be lawful for the Director, IPR to appoint another person as arbitrator; or

21.2.2 If the arbitrator be a person appointed by the Director, IPR in the event of his dying, neglecting or refusing to act, or resigning or being unable to act for any reason, it shall

be lawful for the Director, IPR to proceed with the reference himself or to appoint another person as arbitrator in place of the outgoing arbitrator.

21.2.3 Subject as aforesaid, the Arbitration Act, 1996 and the rule thereunder and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this clause. The Arbitrator shall have the power to extend with consent of the Purchaser and the Contractor the time for making and publishing the award. The venue of arbitration shall be the place as the Purchaser in his absolute discretion may determine.

22. LIQUIDATED DAMAGES

22.1 As per Standard Terms & conditions, the Purchaser reserves the right to levy the Liquidated Damages, for delay in supply beyond the contractual delivery date at the rate of 2% of the value of the stores the delivery of which is delayed, for each month or part of a month.

23. EXERCISING THE RIGHTS AND POWERS OF THE PURCHASER

23.1 All the rights, discretions and powers of the Purchase under the contract shall be exercisable by and all notices on behalf of the Purchaser shall be given by the Purchase Officer and any reference to the opinion of the Purchaser in the terms and conditions contained in these General Conditions of all Contracts shall mean and be construed as reference to the opinion of any of the persons mentioned in this clause.

24. TRAINING

24.1 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. If demanded by the Purchaser, such training shall be conducted at Purchaser's site by the Contractor free of charge. The duration of training shall be mutually decided upon by the Purchaser and the Contractor.

25. OCTROI

25.1 Octroi is not applicable in our case.

26. PRICE VARIATION

26.1 The prices quoted must be FIRM and preference will be given to such tenders. Prices charged by the supplier for the goods supplied and the services performed under the contract shall not vary from the prices quoted by the supplier in its bid with the exception of any price adjustment authorized in the Schedule of Requirements.

26.2 In exceptional cases (e.g. items involving substantial use of raw materials susceptible to sharp fluctuations in prices) if prices quoted subject to variation it shall be on the basis of a standard 'Price Variation Formula'. The basis for calculation shall be very clearly stated. Here again preference will be given to the tenders with a specific ceiling on escalation.

27. RISK PURCHASE

27.1 In the event supplier fails to fulfill the contractual obligations as per the terms and conditions of the Contract, the Purchaser has an option of completing the Contract at

the risk and expenses of the Contractor. While initiating risk purchase at the risk and expenses of the supplier, the Purchaser must satisfy himself that the supplier has failed to deliver and he has been given all the opportunities as per the Contract to execute the Contract and also adequate and proper notice. Wherever risk purchase is resorted to, the supplier is liable to pay the additional amount spent by the government, if any as compared to contracted amount. All the factors including the method of recovering such amount should also be considered while taking a decision to invoke the risk purchase.

28. LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS

- 28.1 Any sum of money due and payable to the Contractor under any contract may be withheld or retained by way of lien by the purchaser or any other person or persons contracting through the Director, IPR against any claim of the Purchaser or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Purchaser or with other such person or persons.
- 28.2 It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Purchaser will be kept withheld or retained as such by purchaser till this claim arising out of in the same contract or any other contract is either mutually settled or determined by the arbitrator, and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

**SPECIAL CONDITIONS OF CONTRACT GOVERNING SUPPLIES OF
PLANT AND MACHINERY**

- 29.** In addition to the General Conditions of Contract hereinbefore set out the following special conditions shall apply to contracts for the supply of Plant and Machinery and manufactured equipment. These Special Conditions where they differ from the General Conditions shall over-ride the later.
- 30. DEFINITION OF PLANT**
- 30.1 The word "PLANT" wherever, appears in these "Special Conditions of Contract governing supplies of Plants and Machinery" shall mean all machinery, plants, equipment or parts thereof or what the Contractor agree to supply under contract as specified in the Purchase Order.
- 31. MISTAKES IN DRAWING**
- 31.1 The Contractor shall be responsible for and shall pay for an alterations of the works due to any discrepancies, errors or omissions in the drawings or other particulars supplied by him whether such drawings or particulars have been approved by the Purchaser or not.

32. RESPONSIBILITY FOR COMPLETENESS

32.1 Any fittings or accessories which may not be specifically mentioned in the specification but for which are usual or necessary, are to be provided by the Contractor without extra charge and the plant must be complete in all respects.

33. REJECTION OF DEFECTIVE PLANT

- 33.1 If the plant after the acceptance thereof be discovered to be defective, notwithstanding that such defects could have been discovered at the time of inspection, or found to have failed to fulfill the requirements of the contract or developed defects after erection within a period of 12 months from the date of erection, whether such erection is done by the Purchaser or by the Contractor, the Purchaser shall be entitled to give a notice on the contractor setting forth details of such defects or failure and the contractor shall, provided such notice is given within a period of 14 months from the date of such erection or acceptance, forthwith make the defective plant good or alter the same to make it comply with the requirements of the contract at his own cost and further if in the opinion of the Purchaser, the defects are of such a nature that the defects cannot be made good or required without impairing the efficiency or workability of the plant or if in the opinion of the Purchaser the Plant cannot be repaired or altered to make is comply with the requirements of the Contract, the Contractor shall, provided a notice is given by the Purchaser in this behalf within a period of 14 month from the date of erection or acceptance thereof, remove and replace the same within plant conforming to the stipulated particulars in all respect at the Contractor's own cost. Should he fail to do so within a reasonable time, the Purchaser may reject at the cost of the contractor the whole or any part of the Plant as the case may be which is defective or fails to fulfill the requirements of the contract. Such replacement at the cost of the Contractor shall be carried out by the Purchaser within a reasonable time which plant of the same particulars or when the plant conforming to the stipulated particulars are not in the opinion of the Purchaser readily procurable, such opinion being final, then the nearest substitutes.
- 33.2 In the event of such rejection the Purchaser shall be entitled to use the plant in reasonable and proper manner for a time reasonably sufficient to enable him to obtain replacement as hereinbefore provided.

34. INSPECTION AND FINAL TESTS

34.1 All tests necessary to ensure that the plant complies with the particulars and guarantees shall be carried out at such place or places as may be determined by the inspector. Should, however, it be necessary for the final tests as to performance or guarantees to be held over until the Plant is erected at site they shall be carried out within one month of completion of erection.

35. TRANSPORT AND RESPONSIBILITY FOR BREAKAGES EN-ROUTE

35.1 Unless otherwise specified the Purchaser will take delivery of the plant from the place named in the purchase order but the contractor will be responsible for any damage which may be caused to the Plant during transit to the site of erection thereof.

36. INTIMATION ABOUT DELIVERY

36.1 If the Purchaser shall have notified the Contractor in writing that the former is not ready to take delivery, no plant or materials shall be forwarded until an intimation in writing shall have been given to the Contractor by the Purchaser that he is ready to take delivery.

37. ERECTION AND COMMISSIONING

37.1 In all cases where contracts provide for supervision of erection and commissioning or for test at the Purchaser's premises the Purchaser except where otherwise specified, shall provide free of charge, such labour, materials, fuels, stores, apparatus and instruments as may be required from time to time and as may reasonably be demanded by the contractor to carryout efficiently such supervision of erection and commissioning and for the requisite test. In case of contracts requiring electricity for the completion of erection, commissioning and testing at site, such electricity shall be supplied free to the contractor.

38. WARRANTY

38.1 For a period of twelve calendar months after the plant/machinery/equipment/instruments has been put into operation (or a suitable mutually agreed longer period to be reckoned from the date of last major shipment depending upon the nature of the plant/machinery/equipment/instrument) the Contractor shall be responsible for any defects that may develop under conditions provided for the contract and under proper use, arising from the faulty materials, design or workmanship in the plant or from faulty erection of the plant by the Contractor, but otherwise and shall rectify such defects at his own cost when called upon to do so by the Purchaser who shall state in writing such defects.

38.2 If it becomes necessary for the Contractor to replace or renew any defective portions of the plant for purpose of rectification under this clause, the provisions of this clause shall apply to the portions of the plant so replaced or renewed under the expiration of six months from the date of such replacement or renewal or until the end of the above mentioned period of twelve months whichever may be the later. If any defects not rectified within reasonable time, the purchaser may proceed to get the work done at contractor's risk and expenses but without prejudice to any other rights which the Purchaser may have against the Contractor in respect of such defects. as provided in clause 10.2.4 or 10.2.5.

38.3 All inspections adjustments, replacements or renewals carried out Contractor during the warranty period shall be subject to the same conditions as in the contract.

38.4 Contractor shall, spare parts of equipment before going out of production, give adequate advance notice to the purchaser so that the latter may order requirement of spares in one lot if so desires.

38.5 The contractor shall further guarantee that if spare parts go out of production, will make available blue prints, drawings of spare parts and specifications of material at no cost to the Purchaser, if and when required in connection with the equipment to enable Purchaser to fabricate or procure spare parts from other sources.

38.6 The provision of this clause shall remain effective and binding upon the Contractor even after the completion or expiration of the contract and till the

plant/machinery/equipment supplied under the contract is in use by the Purchaser.

39. MODE OF PAYMENT

- 39.1 Unless otherwise agreed to in writing between the Purchaser and the Contractor, payment for the delivery of the material will be made as follows.
- 39.1.1 10% of item sr.no.1 and 3 under Price Bid (Part-II) will be paid as advance against submission of Bank Guarantee for an equivalent amount from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid till delivery of the entire material covered in the contract/purchase order. This payment will be made only after signing the contract/Purchase order and submission of Security Deposit.
- 39.1.2 10% of item sr.no.1 and 3 under Price Bid (Part-II) will be paid after approval of drawings by IPR and on receipt of Bank Guarantee for an equivalent amount from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid till delivery of the entire material covered in the contract/purchase order.
- 39.1.3 60% of item sr.no.1 and 3 under Price Bid (Part-II) + 100% of other charges will be paid against delivery of material at IPR site, its verification by IPR representative and on receipt of Proforma Invoice in triplicate.
- 39.1.4 The final 20% of item sr. no. 1 and 3 under Price Bid (Part-II) and 100% of item sr. no. 2 will be paid within 30 days from the date of final acceptance of the system at IPR and on receipt of Performance Bank guarantee for 10% of the contract value from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid through out the guarantee period mentioned in the contract/purchase order.
- 39.1.5 **Advance payments other than mentioned above will be loaded with interest @ 12% p.a. upto the delivery period quoted for the purpose of comparison of price amongst the bidders.**
- 39.1.6 Wherever, advance payment is involved, it will be paid only against submission of Bank Guarantee from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank). Bank Guarantees should be furnished as per IPR format.
- 39.1.7 **Bank Charges:** All bank charges to be borne by the Contractor/Supplier.
- 39.1.8 No correspondence will be entertained within 30 days from the date of receipt of material and bills, whichever is later.
- 39.1.9 **Interest for delay in supply beyond the contractual delivery date:** Wherever advance payments are sought for by the contractor and admitted in the contract, against Bank Guarantee for equivalent amount, in the event of any delay in supply beyond the contractual delivery date for reasons attributable to the contractor, interest charges @ 12% shall be levied for the period beyond the contractual delivery date, on the amount of balance advance payment to be adjusted.

40. DELAY IN ERECTION

40.1 Wherever erection of a plant or machinery is the responsibility of the Contractor as a term of the contract and in case the Contractor fails to carry out the erection as and when called upon as to do within the period specified by the Purchaser, the Purchaser shall have right to get the erection done through any source of his choice. In such an event, the contractor shall be liable to bear any additional expenditure that the Purchaser may incur towards erection. The Contractor shall, however, not be entitled to any gain due to such an action by the Purchaser.

SECTION 'C'

**TECHNICAL SPECIFICATIONS OF
STORES AND DRAWINGS**

L.T. CIRCUIT BREAKER PANEL AND BUSDUCTS

TITLE OF THE TENDER DOCUMENT:

**DESIGN, FABRICATION, INSPECTION, TESTING, DELIVERY,
INSTALLATION AND COMMISSIONING OF L.T. CIRCUIT BREAKER
PANEL AND BUSDUCTS**

INSTITUTE FOR PLASMA RESEARCH

I - PROJECT INFORMATION & AUXILIARY FACILITIES

1.	Purchaser	Institute for Plasma Research Village Bhat, Gandhinagar Dt. PIN-382 428 Gujarat, INDIA Phone: +91-79-23962000 Fax: +91-79-23969017 Web: www.ipr.res.in
2.	Site elevation (average)	55 meters above MSL
3.	Ambient temperature	Max. (annual): 47 °C ; Min. (annual): 4 °C Average (annual): 35 °C Design (max): 50 °C; (min): 4 °C
4.	Relative humidity	Max.: 95 % ; Min.: 10 %
5.	Rainfall	823 mm average (annual) June-August
6.	Wind data	Max. wind speed: 130 kmph Prevailing direction: SW to W Design wind pressure: 150
7.	Seismic data	0.08 g (as per latest guidelines)
8.	Accessibility by road : by rail : by sea : by air	up to site (Hansol-Gandhinagar H-way) Ahmedabad Rly. Stn. (12 km.) Bombay Harbor (525 km.) Ahmedabad Airport (6 km.)
9.	Auxiliary power supply (each of the voltages can be made available at one point of connection to the sources)	a) AC 415 ± 10 % V, 3 phase, 50 ± 5% Hz, 4 wire system b) DC 220 ± 20 % V, 2 wire, floating

II - TECHNICAL PARTICULARS**SCOPE:**

The scope includes design, manufacture, inspection, testing at contractor's/his sub-contractor's works, safe transportation at IPR site, and installation & commissioning of 415 V Distribution System consists of three (3) numbers of L. T. Switchgear Panels, and two (2) numbers of L.T. Bus duct with all the necessary equipment for 415 V Power distribution, including the following, as per the specifications, descriptions, drawings, terms and conditions laid herein. Required LT Power cable shall be supplied by Purchaser for installation, control cables (if any), fitting hardware shall be part of this technical specification.

BILL OF QUANTITY:

Sr. No.	Descriptio	Qty.
1.	L.T. Circuit Breaker Panels	3
3.	L.T. Bus duct	2

BIDDER'S DRAWINGS:

1. All drawings submitted by the bidder, shall be in sufficient details to indicate the type, size, arrangement, weight, internal connections, fastening arrangements, dimensions for installation, clearance between phase-phase / phase-ground and any other necessary information for each component.
2. Drawings submitted by the contractor for approval will be checked / reviewed by the Purchaser and comments, if any on the same will be conveyed to the vendor. It is the responsibility of the contractor to incorporate correctly all the comments conveyed by the Purchaser on the drawings.
3. Drawings prepared by the contractor and approved by the purchaser shall be considered as part of the specifications. All drawings shall be fully corrected to agree with the actual as built construction.

DEVIATIONS:

All the deviations shall be clearly indicated in their bids by the bidder.

1. SPECIFICATION FOR L.T. CIRCUIT BREAKER PANELS

1.1 SCOPE:

The scope covers design, fabrication, inspection and testing at contractor's/his sub-contractor's work of Three (3) nos. of L.T., AC, Cubical pattern Circuit Breaker panel with all accessories, as specified in this document and in the tender drawings.

1.2 CODES AND STANDARDS:

The design, materials, construction, manufacture, inspection, testing and performance of L.T. Circuit Breaker Panel shall comply with all currently applicable statutes, regulation and safety codes in the locality where the equipment will be installed. The equipment shall also conform to the latest applicable standards and codes of practice. Some of the reference standards are mentioned in this tender document.

1.3 BILL OF MATERIAL:

Refer to sheets enclosed.

1.4 DESIGN FEATURES:

The L.T. Circuit Breaker panels are required for distributing power to various systems and utilities.

The breaker panel shall be suitable for use in rated voltage of 415 V earthed electrical system having maximum system voltage of 415 V +10%.

The design and construction of the panel shall be strong enough to take the load of breaker, bus bars, cables, relays instruments etc. and withstand rated maximum fault level and rigorous adverse weather conditions. Provision shall be made for expansion and contraction of enclosure due to temperature.

The breaker, bus bars, cables etc. shall be suitable for continuous operation under site conditions indicated elsewhere with conductor temperature of 105°C maximum. Also the conductor temperature during short circuit shall not exceed 250 °C. Bus bars shall be suitable for short time overloads.

The panel shall be 100% insulated, which means there shall be no access to any live part. All joints shall be shrouded with special removable PVC blocks.

The hinged door shall be designed to withstand internal arcing and shall be interlocked in such a way that it cannot be opened with the breaker in closed position.

Further all operations shall be possible with door closed.

- a) Special insulating barrier shall be provided where bus bar passes from one panel to another to restrict arc from propagating, across the full length of the board in event of bus fault.

- b) Wiring circuits fed from a supply common to a number of feeder panels shall be protected so that failure of a circuit in any one feeder does not prevent operation of other feeders.
- c) Circuit of one feeder panel should be capable of isolation for maintenance purposes without affecting other circuits.
- d) Doors, covers and all non-current carrying metallic parts shall be earthed through flexible copper wires. This should also include instrument casing and cable armour, which should also be connected to the earth bus.
- e) For safety, a spring-loaded scraping earth shall be provided on each withdrawable tray of draw out design circuit breaker panel ensures continuous earthing when trolley is withdrawn and having direct connection to the main earth bus.

1.5 CONSTRUCTIONAL FEATURES:

1.5.1 The Basic Cubicle:

- a) The basic enclosure shall be fabricated from cold rolled sheet steel material, of thickness not less than 2 mm in all sides. For all the load bearing application sheet steel thickness shall not be less than 2 mm. Doors and covers shall be made of cold rolled sheet steel of thickness not less than 1.6mm. Stiffeners shall be provided wherever required. The panel frames shall be fabricated using cold rolled sheet steel of thickness not less than 2.5 mm.
- b) The cubicle shall have four distinct compartments each separately earthed – Breaker compartment, Relay & Instrument chamber, Bus bar chamber, CT & Cable chamber.
- c) The doors and removable covers shall be provided with neoprene gaskets to make the panel dust and vermin proof.
- d) Any metal to metal joint anywhere inside the panel shall be gasketed to achieve zero gap. Between two panels special T type gasket shall be provided for zero gap and aesthetics.
- e) The panel board shall be complete with all internal wiring, bus-bars, labels, accessories etc. as specified.
- f) Labels shall be provided for all identifiable like breakers, relays, indicating lamps, control switches, selector switches and accessories etc.
- g) For safety, the panel door shall be opened only by means of tools to prevent unauthorized opening. This shall include door interlock, shrouding of live parts etc.
- h) The floor-mounting LV Distribution panels shall be supported on floor stands or pedestals made of steel sections. The floor stands would have sufficient mechanical strength to carry the weight of the entire switchboard safely.
- i) The height of the floor stands shall be such as to allow the appropriate termination of the cables in the switch mounted above or below the bus bar chamber at convenient heights.
- j) Painting: Seven-tank process treatment shall be followed for treatment of the fabrication parts of the panel. Two coats of epoxy based primer shall be applied before applying two final coats of epoxy paint which shall have good weather

resistance and heat transfer properties. Electrostatic epoxy powder coating shall be applied after pre-treatment. The colour of painting shall be RAL7032.

1.5.2 The Breaker Compartment:

- a) The CB compartment shall receive the trolley in case of ACB, which houses the CB and PT. The trolley engagement to the enclosure is of horizontal isolating horizontal draw out type.
- b) The CB trolley shall have three distinct positions – Service, test and isolated. All three positions shall have latching facility and service and test position has locking facility. These two positions shall have limit switch with auxiliary contacts for interlocking.
- c) In draw-out air circuit breaker, components of a feeder shall be mounted on with drawable trolley. The trolley shall be provided with guides and low friction sliding devices. Trolley shall be provided with simple insertion and withdrawal device, which also locks the tray in fully inserted position.
- d) ACB's and MCCB's shall be arranged in multi-tier form if design permits looking at its size and thermal properties for better optimization of overall size of enclosure and of available space.

1.5.3 The Bus bar Chamber:

- a) The bus bar chamber on the top shall house the bus bars, which shall be accessed only by special tools.
- b) Bus bars shall be of Electrolytic Copper material and shall comply to the requirements of IS: 8130. The bus bars should have rectangular section. The size of the bus bar should be clearly indicated in the quotation.
- c) The bus bars shall be supported non-hygroscopic, anti-tracking high impact epoxy cast resin insulator. The support shall be rigid and suitable for all thermal and electrodynamic stresses arising out of short circuit current for 3 sec.
- d) Bus bars shall be designed for rated normal continuous current and fault level for one(1) second as specified in BOM, without injurious heating.
- e) Bus bars in the switchgear may be provided with insulating sleeves OR insulating coatings. The sleeves or coating material shall comply with the following requirements -
 1. The insulating material shall safely withstand the hot-spot temperatures of the bus bars.
 2. The material shall be flame retardant in accordance with ANSI-C37.20.
 3. Thermal cycling tests should have been carried out (on representative samples of insulated bus bars) to prove that insulation will not flake off or deteriorate during the expected life of the switchgear which is 30 years. One cycle is from full-load temperature to no-load temperature. Expected numbers of cycles are 20,000.

4. Accelerated thermal and dielectric aging tests should have been conducted on the material for expected life of the switchgear.
 5. The thickness of insulation on the bus bars shall be sufficient to withstand 1.5 kV rms for one minute.
 6. Minimum phase to phase and phase to earth clearances shall be 25 mm.
 7. The material shall have low dielectric loss.
 8. It shall have good thermal conductivity to dissipate heat.
- f) If there is any de-rating of bus bars due to the above, the same shall be furnished. Silver plating of all bus bar joints shall be provided so that temperature rise of 55°C over 50 °C ambient temperature can be allowed as per ANSI C37.20.
- g) The bus bars and every tap off joints shall be colour coded.

1.5.4 The CT and Cable Chamber:

- a) A spacious cable chamber at the rear of the panel shall be provided. It shall be suitable for receiving number of cables of different size as mentioned in Cable schedule. The cable box shall be accessed through removable rear cover.
- b) The cable box shall be design for cable entry from top or bottom as mentioned in BOM. The bus duct entry shall be from top.
- c) Sufficient distance between cable gland plate and terminal lug shall be provided for cable termination.
- d) For bottom cable entry, a removable 3-mm MS gland plate shall be provided. For single core cable non-magnetic gland plate shall be provided.
- e) Various Clearances shall be as per the standards and practices.

1.5.5 The Relay and Instrument Chamber:

- a) Protective relays and indicating instruments shall be mounted on the door. Auxiliary relays should be projection mounted inside the cubicle.
- b) Control wiring shall be done using 650 V grade black PVC stranded wire 1.5 sq. mm for control and 2.5 sq. mm for CT circuit.
- c) As a standard practice, all control cables shall be neatly bunched together with ferrules at either end of each wire. As per application colour ferrules shall be provided.
- d) The wire bunch shall be passed through PVC ducts.
- e) For safety and reliability, cable bunch shall be routed through flexible metallic conduit wherever it passes through HV compartments like breaker, PT chamber etc.
- f) Bus wiring shall be through grommets. Separate terminal stack shall be provided for inter-panel wiring.
- g) All wiring practices shall be as per IS-375.

1.6 AIR CIRCUIT BREAKER (ACB):

- a) ACB shall fully conform to IS: 13947 part I & III.

- b) ACBs shall be designed for circuit protection of 415 V, three phase four wire AC distribution system. They shall be designed for use in panel boards as main breakers and for protection of feeder circuits and connecting equipment.
- c) The ACB's shall be suitable for installation on multi-tier panel box.
- d) The terminals of the ACBs shall be designed to maintain adequate clearances and to accept Aluminum cables and busbars.
- e) ACBs shall be of draw-out type, electrically / motor operated and of ratings as per
- f) BOM. The fully draw out type compartments shall be provided
- g) All ACB's shall be provided with integrated microprocessor based trip releases for overload, short circuit and earth fault with multiple characteristic curves & adjustable settings for each characteristic to ensure proper co-ordination with upstream and downstream breakers.
- h) For all air circuit breakers, monitoring of close and trip circuit voltages, trip coil shall be provided.
- i) Each circuit breaker shall be provided with distinct SERVICE/TEST/ ISOLATED positions.
- j) Potential free auxiliary contacts suitable for integration with SCADA shall be provided for ACB's status indication (ON, OFF & TRIP) and remote operation (Closing & Opening), relay status monitoring.
- k) Motor for ACBs shall be rated at 220 V, AC

1.7 MOLDED CASE CIRCUIT BREAKER (MCCB):

- a) Molded Case Circuit Breakers shall fully conform to IS: 13947 part II.
- b) MCCB's shall be designed for circuit protection of 415 V, three phase four wire AC distribution system. They shall be designed for use in panel boards as main breakers and for protection of feeder circuits and connecting equipment.
- c) The terminals of the MCCB's shall be designed to maintain adequate clearances and to accept Aluminum cables.
- d) The insulating case and cover shall be made of high strength, heat resistant, flame retardant thermosetting material, providing a very high dielectric strength, high withstand capability against thermal and mechanical stresses, protection against secondary fire hazards and enhanced safety of operating personnel.
- e) All MCCB's shall be provided with integrated static trip releases for overload, short circuit and earth fault with multiple characteristic curves & adjustable settings for each characteristic to ensure proper co-ordination with the overload, short circuit and earth fault protection provided on upstream and downstream (a) air circuit breakers and (b) MCCB.
- f) Potential free auxiliary contacts suitable for integration with SCADA shall be provided for MCCB's status indication (ON, OFF & TRIP).

1.8 MINIATURE CIRCUIT BREAKERS (MCB):

- a) The MCB's to be used in the DB shall be of completely molded design suitable for operation at 240/415V 50 Hz system.
- b) The capacity shall be 10 kA.
- c) The M.C.B's shall have overload and short circuit protection.
- d) The M.C.B's shall be provided with thermo-magnetic trip releases.
- e) The MCB time current characteristic shall be coordinated with H.R.C. Fuse/PVC cable characteristics. The unit shall comply with latest edition of IS 8828, BS 3871, VDE 0641 etc.

1.9 RESIDUAL CURRENT CIRCUIT BREAKER (RCCB):

- a) Supply of RCCB of 100 mA sensitivity and IP 54 degree of protection with following salient details and of below mentioned capacity suitable for operation on 240V/440V either single phase(2 pole) or three phase and neutral(4 pole) AC supply.
- b) Each unit shall have the below mentioned salient facilities:-
 - i. Unit to be purely current operated.
 - ii. Tripping through switch lock of electromagnetic type.
 - iii. Trip free with test switch facility.
 - iv. To operate even in case of neutral failure.
 - v. Neutral advance mechanism.
 - vi. Unit to operate for nominal voltage well below maximum safe value of 10V
- c) Unit shall comply with latest IS 12640 standard.

1.10 CURRENT TRANSFORMERS:

- a) Current transformers shall comply with IS: 2705.
- b) Construction of CT's shall be bar type, separately mounted type.
- c) CT's shall be provided with two (2) nos. of cores, one for metering and another one for protection. Each core shall carry its own secondary winding. In case of ACB's protection C.T will be part of the ACB and shall be as per manufacturers standards.
- d) Protection CT cores are intended for over load, Short circuit current and Earth fault protection, the design should be based on the information provided below.
- e) Formulae: $V_{kp} = 2 \times I_f \times (R_s + R_p)$; $I_{ext} = (I_s - I_f)/4 @ V/2$
 - a. R_p : pilot wire resistance for a pilot length of 250 meters.
- f) The contactor should ensure that the ratio, VA burden & accuracy of the CTs are correctly provided to meet the requirements of the relays & meters connected to the CTs.

1.9 POTENTIAL TRANSFORMERS:

- a) Potential transformers shall comply with IS: 3156.
- b) PT's shall be of Magnetic type.
- c) PT's shall be single of core and should used for both metering and protection.
- d) Protection is intended for under voltage protection.

1.10 PROTECTION, METERING AND INDICATION:**1.10.1 Protection & Control:**

- a) Each Air circuit breaker (ACB) shall be provided with Microprocessor based releases for overload, short circuit and earth fault.
- b) Under-voltage relays should be provided in all incoming feeders to monitor the availability of power supply in each bus of LT Panels. When loss of supply is detected, designated feeders should be automatically disconnected using multiplied contacts of the Under-voltage relays.
- c) Static trip releases shall be provided with all MCCBs in outgoing feeders for short circuit protection, overload protection & earth fault protection.
- d) The relays should feature inherent high accuracy, high reliability and stable characteristics for both current and time setting functions.
- e) The relays should provide guaranteed performance in the specified operating conditions at specified ambient conditions without any need for specific ventilation or air conditioning.
- f) Adequate number of relay auxiliary contacts should be available for direct interface with breaker, monitoring and interlocking.
- g) Auxiliary contacts associated with ACBs/ MCCBs /Relays for all above fault conditions or combined fault signal suitable for integrating with computer based supervisory control and data acquisition system (SCADA) shall be provided.
- h) All ACB incoming and outgoing feeder control signals ON, OFF and TRIP shall be available for remote operation.
- i) For all downstream MCCB outgoing feeders control switch shall be provided for local operation in panel itself.
- j) Flexible settings on protection relays and releases shall be provided as follows :
 - Over load setting: 0.4 to 1.0 times the rated current.
 - Over load time delay: 5 to 40 sec.
 - Short circuit pick up level setting: 1.5 to 14 times the rated current.
 - Short circuit time delay: Inst., 30 to 300 msec.
 - Earth fault settings: 0.2 to 0.8 times the rated current.
 - Earth fault time delay: Inst., 100 to 300 msec.
 - Under voltage settings: 0.35 to 1.1 of rated voltage.
 - Under voltage time delay: Inst., to 0.5 sec.

1.10.2 Metering:

- a) As per BOM/SLD Incoming and Outgoing feeders shall be provided Ammeter with ampere selector switch and current transducer. Ammeter range will be same as CT primary rating.
- b) All Incoming feeders shall be provided, Voltmeter of scale 0-500 V with voltage selector switch and voltage transducer.
- c) All above meter shall be Panel mounting type and 90° deflection, 96 mm² size for all feeders.
- d) All measured signals for current and voltage associated with every feeder shall be available for integration with SCADA remotely through Ampere Transducer (AT). One spare output from AT shall be provided.
- e) Contractor should indicate the control supply voltage and provision made for providing control supply to the various transducers in each L.T. Panel.
- f) Protective fuses of 4 A rating associated with voltage measurement and protection shall be provided.

1.10.3 Indication:

- a) A set of Neon indicating lamps showing breaker status (ON, OFF & TRIP) shall be provided with auxiliary contacts for remote monitoring.
- b) Visual indication within breaker panel for breaker Service/Test/Isolated position shall be provided for draw out ACBs.
- c) Protective fuses of 4 A rating associated with all indicating lamps shall be provided.

1.11 ACCESSORIES:

All breaker panels shall be provided with following accessories -

- a) Motor-wound spring charged closing mechanism with motor suitable for 220 V AC for ACB's.
- b) Earth fault relay for all downstream MCCB outgoing feeders.
- c) U/V trip suitable for 230 V AC for all incoming feeders.
- d) Close Coil & Trip Coils rated for 220 V AC for all breakers.
- e) CTs of rating specified in BOM for all the feeders.
- f) PTs of rating
specified in BOM for all incoming feeders.
- g) Auxiliary contacts - 4 NO + 4 NC for ACB and 2 NO + 2 NC for MCCB.
- h) Operating handle for MCCBs

1.12 EARTHING:

- a) A copper earth bus of size not less than 35 x 6 mm² continuously run at the bottom of the panel shall be provided.
- b) The earth bus shall be robust and capable of carrying full short circuit current for 1 sec.

- c) Doors, covers and all non-current carrying metallic parts shall be earthed through flexible copper wires. This should also include instrument casing and cable armour, which should also be connected to the earth bus.
- d) The earth bus shall have provisions for terminals at each end for connecting to grid earthing.

1.13 DRAWING:

Detailed Power and Control circuit drawing along with Fabrication drawings showing breaker arrangement and the overall size of bus bars, enclosure, fixing details, support, joints, etc. shall be submitted by the successful bidder for approval of purchaser. The bidder shall incorporate purchaser's comments / modification suggested. Actual fabrication of the Panels shall be carried out only after the approval of the purchaser.

1.14 TESTS:

- 1. All Type tests and routine tests shall be conducted, as per relevant IS standard specified.
- 2. In case supplier has carried out type tests on similar type and rating of Panels during the past Five (5) years, test reports in the last five (5) years, it may be submitted with the offer.

TECHNICAL SPECIFICATIONS FOR L.T. CIRCUIT BREAKER PANELS

Sr. No.	Parameter	Data	
1	General :		
	Type of L. T. Panel	Breake	
	Application	For Distribution	
	Quantity	3 (three) nos.	
	Installation	Indoor	
	Type of panel mounting	Body mounted	
	Ambient conditions	As per Proj. Inf - I	
2	System Data :		
	Rated Voltage	415 V	
	Rated Frequency	50 Hz	
	No. of Phases	3 ph, 4	
	Fault Level	As per	
	Grounding	Effective	
3	Ratings :	ACB	MCCB
	Rated normal current	as per BOM	as per BOM
	No. of Poles	3 P & 4 P	3 P & 4 P
	Rated Voltage	415 V	415 V
	Rated Frequency	50 Hz	50 Hz
	Rated insulation voltage	1.0 kV	800/690 V
	Rated impulse voltage	8 kV	8 kV
	Rated short circuit breaking capacity	as per BOM	as per BOM
	Rated short circuit making capacity (peak)	105 kA	105 kA
	Type of Mounting	Draw-out	Fixed
	Releases	Microprocessor	Static
	Operating Mechanism	Motorised	Trip Free
	Operating time : time	Opening ≤ 70 ms ≤ 70 ms	≤ 70 ms ≤ 70 ms
	Method of operation	Local & Remote	Local
Rated supply Voltage & Frequency	230V, 1ph AC	230V, 1ph AC	
4	Bus Bar :		
	Rated normal current	as per SLD	
	Rated voltage	415 V	
	Rated Frequency	50 Hz	
	No. of phases	TPN	
	Rated insulation test voltage	2.5 kV	
	Rated short circuit current	As per SLD	
	Rated peak short circuit current	105 kA	
Max. rise in temperature above ambient	55 °C		
Insulation	Heat shrinkable PVC sleeves		

5	Terminal Connections :	
	Incoming Feeders	By XLPE Cables for all panels except for LTP # 21 for which Bus Ducts shall be provided.
	Outgoing Feeders	By XLPE Cables (Except one feeder where provision for busduct termination shall be
6	CT :	
	Type	Ring type
	Ratio	as per BOM
	Accuracy Class :	
	a) Measuring core b)	1 5P
	Rated Burden :	
	a) Measuring core b)	10 VA 15 VA
	Accuracy limit factor :	
	a) Measuring core b)	1 10
	Short time current rating	of breaker rating with which it is
	Rated insulation test voltage	2.5 kV
7	PT :	
	Type	Magnetic type
	Number of secondary	1 (One
	Ratio	415 V / 110 V
	Accuracy class :	
	a) Measuring core	3
	Rated burden :	
	a) Measuring core	50 VA
	Voltage factor and rated time	1.2 continuous
	Rated insulation test voltage	2.5 kV
8	Accessories :	
	Under voltage relay	1) with Trip contacts required 2) Local /Remote
	Earth fault relay	1) with Trip contacts required 2) Local/Remote
	Shunt trip	1) with contacts required 2) Local/Remote
	Closing coil	1) with contacts required 2) Local/Remote
	Auxiliary contacts	4 NO + 4 NC – for ACB 2 NO + 2 NC – for MCCB
	Visual indicating lamp	ON, OFF & TRIP -230V 1ph AC

	Ammeters + Am. Sel. S/w + Am. Transducer	as per
	Voltmeters + Vm. Sel. S/w + Vm. Transducer	0-500V
	Door lock	1) with contacts required 2) Local/Remote
	Safety shutter	
	Space heater with s/w & thermostat	1 no. for each vertical section
9	Enclosure :	Cubical pattern, sheet steel, dust and vermin proof suitable for indoor installation with IP-52 degree of
10	Clearances :	Various electrical clearances like phase to phase & phase to earth on poles, busbars, cable & busduct terminating boxes etc. shall be in accordance with applicable standards and Indian

2. SPECIFICATION FOR L. T. BUS DUCTS

2.1 SCOPE

This specification scope covers design, manufacture, inspection and testing at contractor's/his sub-contractor's works and installation and commissioning of two(2) numbers of L.T. Bus Ducts as specified in this document for interconnection between indoor L.T. Switchgear & outdoor transformer.

2.2 CODES AND STANDARDS:

The design, material, construction, manufacture, inspection and testing of Bus Duct shall comply with all currently applicable statutes, regulations and safety codes in the locality where the equipment shall be installed. Indian Standard for L.T. Bus duct is IS-8623.

2.3 BILL OF MATERIAL:

Sr. No.	System	From	To	Rated Bus Amps	Approx. Length m
1.	Bus Duct # 1	DT-1, Sec.	I/C-1, LTP- 21	4000	1 x 7
2.	Bus Duct # 2	DT-2, Sec.	I/C-2, LTP-21	4000	1 x 7

Bus Duct # 1 shall be designed in such a way to enable cable connection at the transformer end. The size of the cables to be terminated are 3 runs of single core, 1000 sq. mm. per phase.

2.4 DESIGN FEATURES:

1. The bus ducts are required for supplying power from the distribution transformers to the breaker panels.
2. The bus ducts shall be suitable for use in 415V earthed electrical system having maximum system voltage of 415 V +10%.
3. The construction of the bus duct shall be strong enough to take the load of busbars and withstand rated maximum fault level and rigorous adverse weather condition. Provision shall be made for expansion and contraction of enclosure due to temperature.
4. The bus bars shall fully insulated for 1-min. power frequency withstands voltage and heat shrinkable sleeves shall be used for protection and insulation.
5. The bus duct shall be suitable for continuous operation under site conditions indicated elsewhere with conductor temperature of 105 °C maximum. Also the conductor temperature during short time rating shall not exceed 250 °C. Bus duct shall be suitable for short time overloads.
6. The bus bar support shall be rigid for all thermal and electrodynamic stresses arising out of short circuit current for 3 sec.

2.5 CONSTRUCTION FEATURES:

2.5.1 Enclosure:

1. The bus duct enclosure shall be fabricated from CRCA sheet steel material of gauge 14 SWG or better on a suitable angle iron framework.
2. The enclosure shall generally be of rectangular cross section. The size of the enclosure should be indicated clearly in the quotation.
3. The construction shall be dust and vermin proof and provision must be there to open any portion of the bus duct for inspection without disturbing the bus bars.
4. There should not be any through bolt in any section of the enclosure. Any joint of busbar enclosure should be provided with flange.
5. Where ever bus ducts pass through walls, the following provisions shall be made -
 - a) An opening shall be made for the required dimension in the **existing walls**, using an approved procedure.
 - b) A wall frame assembly should be provided together with all hardware required for fixing the bus duct to the wall.
 - c) A fire barrier should be provided to prevent the spread of fire/smoke through the bus duct enclosure.

- d) The annular space between the bus duct enclosure & the wall opening should be properly sealed.
6. In order to take care of misalignments & tolerances in dimensions, Neoprene rubber bellows in the enclosure and flexible terminal interconnections should be provided at (a) the termination of the bus duct on the switchgear as well as (b) at the termination of the bus duct on the transformer.
 7. Filter type drain plug shall be provided at low point along with run of bus duct to drain out automatically any moisture condensing within the enclosure.
 8. Suitable Hot dip galvanized structural steel support shall be provided for the bus duct from ground level / wall bracket. The bidder should indicate clearly the details of support recommended by them.
 9. Outdoor bus duct between Distribution transformer and associated switchgear up to the partition wall should have a degree of protection of at least IP 56. All other indoor bus ducts can have degree of protection of at least IP 52.
 10. Painting : Painting of bus enclosure and supports shall be painted with 2 coats of epoxy base primer on which 2 coats of final epoxy paint of air craft grey shade as per IS:5 shade No. 631. Electrostatic epoxy powder coating is preferable.
 11. Earth bus of 50 x 10 mm copper should be provided for entire length of the bus duct.
The same should be painted with bituminous paints and shall be fixed on the outside of duct. Suitable copper links shall be provided at the joints of bus duct. Earth bus at the point of wall entry should have suitable arrangement as approved by the purchaser.

2.5.2 Bus Bars:

1. The conductor shall be Electrolytic Copper bus bar. It shall comply the requirements of IS: 8130.
2. The bus bar should have rectangular section. The size of bus bar should be clearly indicated in the quotation.
3. Bus bar insulation as in case of L.T. Circuit Breaker Panel shall also be applicable for Bus ducts.
4. The bus bar should be supported on non-hygroscopic, anti-tracking high impact epoxy cast resin insulator on every 500-mm interval. The support should be supported on single iron structure provided for enclosure.
5. Bus bars shall be thoroughly cleaned before carrying out any straight through joints, expansion joint or flexible joint. The joints shall be bolted such that the initial contact pressure remains substantially undiminished at all temperature up to rated full load temperature. Sprint washer shall be provided at every bolted joint. The joints shall have very low resistance.
6. All flexible joints shall be of copper only. The bidder should indicate clearly the contact pressure of the joints. Bidder along with tender shall furnish the details of joints.

7. Silver plating of all bus bar joints shall be provided so that temperature rise of 55 °C over 50 °C ambient temperature can be allowed as per ANSI C37.20.
8. All bends required for the complete run of the bus bars or bus duct shall be included in the length of the bus duct.
9. The following minimum clearance should be maintained throughout the length of the bus duct including joints and flexible expansion joints.
 - i) Phase to Phase : 25 mm
 - ii) Phase to Neutral : 25 mm
 - iii) Bus bar to enclosure : 35mm

2.6 DRAWING:

Detailed layout and fabrication drawings showing the sizes of bus bars, enclosure, fixing details, supports, bends, joints, wall entry assembly etc. shall be submitted by the successful bidder for approval of Purchaser. The bidder shall incorporate purchaser's comments/modification suggested. Actual fabrication of the bus duct shall be carried out only after the approval of the purchaser.

2.7 TESTS:

1. Type tests and routine tests shall be conducted as per relevant IS standard specified.
2. In case supplier has carried out similar tests on similar type and rating of Bus Duct, test reports may be submitted with the offer.

TECHNICAL SPECIFICATION FOR BUS DUCTS

Sr. No.	Param	Data
1.	Application	Power Distribution
2.	Quantity	2 (Two) nos.
3.	Installation	Indoor
4.	Cooling	Air Natural
5.	Ambient conditions	As per Section - I
6.	No. of Phases	3 phase + neutral
7.	Method of grounding	Effective
8.	<u>Ratings :</u>	
	Rated normal continuous current	4000 A
	Rated Voltage & Frequency	415 V, 50 Hz
	Rated Insulation test voltage	2.5 kV (for 5 min.)
	Rated short circuit current	50 kA (for 1 sec.)
	Rated peak short circuit current	110 kA
9.	Max. conductor operating temperature at full	105 °C
10.	Max. ambient temperature	50 °C
11.	Clearances	Various electrical clearances like phase to earth and phase to phase etc. shall be in accordance with applicable standards and Indian
12.	Enclosure :	Cubical pattern, sheet steel, dust and vermin proof suitable for indoor installation with IP-52 & 56 for outdoor installation degree of protection.

III - INSPECTION/TESTING

Purchaser and their authorized representative will carry out stage wise inspection as per the agreed QA plan. Contractor should prepare QAP in line with this requirement & submit the same for Purchaser's approval after the placement of order.

Following Routine and type tests as per applicable standards on L.T. Panel, individual components involve in it and Bus Duct are included in the scope. In case supplier has carried out similar tests on similar equipment (4000 A bus) in the last **Five** years; test reports/certificates may be submitted along with the offer. Routine and acceptance test shall be carried out in the presence of the Purchaser.

On L. T. Panels (on each panel):

- a) Temperature rise/Heat run test to be conducted for the measurement of Bus bar temperature with rated continuous current passing through them.
- b) Short circuit withstands test, carried out subject to the availability of test facility at CPRI.
- c) Rated momentary current test, during the first peak cycle of short circuit. d) Impulse voltage withstand test, as per IS-2070

On Bus Ducts:

- a) Temperature rise / Heat run test to be conducted for the measurement of Bus bar temperature with rated continuous current passing through them.
- b) Short circuit withstand test.
- c) Rated momentary current test, during the first peak cycle of short circuit. d) Impulse voltage withstand test, as per IS-2070

Test Reports:

Five copies of Test and Inspection reports / QA documents for all the above shall be supplied along with the above items.

REFERENCE STANDARDS:

Sr. No.	Descriptio	Standard No.
1.	L.T. Panels	IS - 8623
2.	ACB	IS – 13947 part 1 & 3
3.	MCCB	IS – 13947 part 2
4.	MCB	
5.	RCCB	IS-12640 Part-2
6.	Current Transformer	IS - 2705
7.	Potential Transformer	IS - 3156
8.	Distribution Board	IS 13032/ 8623
9.	L.T. Bus Ducts	IS - 8623
10.	Bus bars and bus bars connection	IS - 159
11.	Bus bar supporting insulators	IS - 2544

PREFERRED MAKE OF COMPONENTS:

Sr. No.	Descriptio	Make
1.	Air circuit breakers (ACB)	Schneider, SIEMENS, L&T, ABB
2.	Molded case circuit breakers (MCCB)	Schneider, SIEMENS, L&T, ABB
3.	Miniature Circuit Breaker (MCB)	Schneider, SIEMENS, L&T, ABB Havells, CGL
4.	Residual Current Circuit Breakers (RCCB)	Schneider, SIEMENS, L&T, ABB, Havells, Indo-Asian, CGL
5.	Distribution Boards	Schneider, SIEMENS, L&T, ABB, Havells, CGL
6.	Current transformer	AE / Kappa
7.	Potential transformer	AE / Kappa
9.	Relays	ABB, Siemens, GE
10.	Voltmeter, Ammeter	RISHABH / IMP / AE
11.	Fuses	GEC (Alstom)/Siemens/L&T
12.	Indicating Lamps	Siemens / Tecknic
13.	PVC ins. Wires	Finolex, Polyplast, Polycab
16.	Contactors/Push Buttons	L&T, Siemens, Schneider, ABB

IV INSTALLATION AND COMMISSIONING

Under the scope of installation and commissioning the successful bidder shall be responsible for site mobilization to install and commission the L.T. Circuit Breaker Panels and Bus-Ducts covered in this tender scope.

This includes unloading and storage of the L.T. Circuit Breaker Panels, Distribution Boards, Bus Ducts, and accessories at site, verification of equipment for damages and short supplies, making good all such damages and short supplies, and grounding of neutral, L.T. Panels, Distribution Boards, Bus ducts, etc. including supply of all hardware and connectors.

1. UNLOADING & STORAGE:

BIDDER has to take the complete responsibility of the unloading of the L.T. Circuit Breaker Panels, Distribution Boards and Bus Ducts at proper location at the site. The accessories shall be unloaded and stored at BIDDER's responsibility at the site. BIDDER will be fully responsible for timely unloading of panels, distribution boards, bus ducts, and accessories. IPR will not bear any expenses for the delay in unloading the panels, distribution boards, and bus ducts.

2. CIVIL WORK:

Civil work complying with all applicable standards and statutory norms will be constructed by the bidder for the installation of three (3) numbers of L.T. Panels, ten (10) numbers of Universal Mounted Distribution Boards, and four (4) numbers L.T. Bus Ducts. This includes grouting, fixing bolts; foundation bolts etc. along with supply of required hardware for fixing of L.T. Panels, Distribution Boards, and Bus Ducts. The bidder shall provide drawings for approval by the institute prior to taking up civil works.

4. TOOLS AND COMMISSIONING SPARES:

All the installation tools and commissioning spares are to be provided by the Contractor. These include crane of suitable capacity, trailer, megger (5 kV) and any other instruments or tools required during the erection and commissioning.

5. COMMENCEMENT OF WORK:

The installation work should be carried out immediately after receipt of intimation from IPR in that regard.

7. TESTS:

During commissioning the successful bidder has to perform all the required operational tests mentioned in the scope.

8. SITE TESTS:

Following tests should be carried out at site:

1. Insulation resistance measurement
2. Primary and Secondary injection.
3. Earth continuity

9. DRAWINGS, OPERATION/INSTRUCTION MANUALS:

1. Five (5) sets of drawings shall be submitted after placement of the purchase order before commencing the manufacture and construction. The drawings & data to be submitted after Purchase Order should include the following -
 - a) Assembly drawings of the switchgear showing plan, elevation and typical sectional views and locations of breaker compartment, cable terminations, busbar chamber, metering and relay compartment and terminal blocks for external wiring connections. Marshalling panel GA drawing showing the layout of terminal block & cabling etc.
 - b) Layout drawings for each bus duct, typical cross-section drawings of busducts and wall frame assemblies.
 - c) Schematic diagrams for control and supervision of circuit breakers.
 - d) Foundation plan showing location of foundation channels, anchor bolts and anchors, floor plans and openings for cables / bus ducts, etc.
 - e) Detailed literature/catalogues for all equipment being offered under this contract.
 - f) Any other drawings necessary for the correct and complete understanding of the equipment.
2. Together with the delivery of L.T. Breaker Panels, Distribution Boards, Bus Ducts, and various accessories the BIDDER shall supply Operation/Instruction manuals/catalogs for the, drawings of accessories and circuit diagram.
3. Reproducible for all drawings shall be supplied.

Important Note:

Bidders are requested to complete/fill-in the technical particulars in the data sheets enclosed and submit them with their Techno-Commercial Offer (Part-I).

Bidders shall also submit the following alongwith the Techno-Commercial Bid:

- a) Documents describing the profile of the company.
- b) Documents describing the infrastructure facilities including testing facilities.

**TECHNICAL PARTICULARS TO BE SUBMITTED ALONGWITH
THE TENDER**

ANNEXURE A1 - L. T. CIRCUIT BREAKER PANELS

S. No.	Parameter Description	Data	
1.	General :		
	Name of the manufacturer		
	Manufacturer's type		
	Application		
	Quantity		
	Type of construction		
	Suitable for indoor/outdoor application		
	Design ambient temperature		
2.	Breaker Feeder :	ACB	MCCB
	Breaker type		
	Number of Poles		
	Rated Current		
	Rated Voltage		
	Frequency		
	Rated insulation Voltage		
	Rated impulse withstand Voltage		
	Power frequency withstand Voltage		
	Rated ultimate short circuit breaking		
	Rated service short circuit breaking		
	Rated short circuit making Capacity(peak)		
	Rated short time withstand current for 1		
	Total Making time		
	Total Breaking time		
	Permissible service temperature		
	Permissible Loading: @ 50 °C		
	@ 60 °C		
	@ 70 °C		
	Endurance: Mechanical Operating Cycles		
	Watt loss per pole		
	Type of Mounting : Fixed / Drawout		

	Current ratio	
	Insulation withstand level	
	Number of cores per CT	
	<u>Measuring CT :</u> a) Accuracy class b) Rated burden	
	<u>Protection CT :</u> a) Accuracy class b) Rated burden c) Accuracy limit factor d) Minimum knee point voltage e) Max. excitation current at knee point voltage f) Max. secondary resistance at	
	Short time thermal current rating : a) Current	
	Class of insulation	
5.	Potential Transformer :	
	Make and type	
	Applicable standards	
	Voltage ratio	
	Insulation withstand level	
	Number of cores per PT	
	<u>Measuring PT :</u> a) Rated Burden b) Accuracy class	
	<u>Protection PT :</u> a) Rated Burden b) Accuracy class	
	Rated residual secondary voltage	
	Class of insulation	
6.	Enclosure :	
	Make	
	Suitable for indoor/outdoor application	
	Design ambient temperature	
	Thickness of sheet steel	
	Sheet metal cold rolled/hot rolled	
	Supporting Frame: material & size	
	Degree of protection (as per IS:2147)	

	Bill of material for the various equipments giving make, type, rating, etc. enclosed.	
	Whether the panel body mounted/pedestal mounted	
	Colour of finish paint : a) Interior b)	
	Dimension : a) Height b) Length	
	Maximum shipping length	
	Maximum shipping weight	
7.	Miscellaneous :	
	Make of following items, enclose detailed catalogues for the items offered : <ul style="list-style-type: none"> • Meters(Voltmeter & Ammeter) • Relays • CT's, PT's • Fuses • Ammeter & Selector switch • Voltmeter & Selector switch • Auxiliary contacts • Bus bar • Support Insulators • Indicating lamps 	
	Bus duct entry	
	Cable entry	
	Control wiring	
	CT wiring	
	Control Transformer with fuses provided	
	Space heater provided in every vertical section with thermostat and switch	
	Lamp with switch provided	
	3 Pin socket provided	
	List of routine tests to be conducted and the relevant standards	
	List of other tests to be carried out against extra price :	
	Items for remote control included : If yes, list out indicating quantity, make, rating, etc. :	

A2 - BUS DUCTS

Sr. No.	Parameter	Data
1.	Manufacturer's name & type	
2.	Suitable for indoor/outdoor application	
3.	Design ambient temperature	
4.	Thickness / Gauge of sheet steel	
5.	Sheet metal cold rolled / hot rolled	
6.	Cooling	
7.	Degree of protection	
8.	<u>Colour of finish paint :</u> a) Bus bar b) Enclosure Outside c)	
9.	<u>Bus bar :</u>	
	Material & relevant STD.:	
	Size	
	Temperature rise at rated current over design ambient temperature	
	Continuous current rating	
	Short circuit current rating (1 sec.)	
	Peak short circuit current rating	
10.	<u>Support Insulator :</u> a) Make b) Material	
11.	<u>Electrical Clearances :</u> a) Phase - Phase b)	
12.	<u>Test voltages :</u> a) Insulation voltage b) Impulse withstand voltage	
13.	<u>Earthing :</u> a) Type b) Earth Bus material & size	
14.	Bus duct support structure	
15.	All tests specified will be carried out	

Bill of Material (BOM)

Main Incomer LT Panel (LTP#21):

Panel	Load	Circuit Breaker	CT Ratio (A/A)	PT Ratio (V/V)	Meters (Digital)	Protection
Main LT Panel (Auxiliary Building)	Incomer from Transformer# 1	4 Pole ACB, 4000 A, EDO Type, 65 kA lsc.	4000/5	415/110	MFM : 0 - 4000 A, 0 - 500 V, f, kW, KVA, PF	50, 51, 50N, 51N
	O/G F#1:	3 Pole ACB, 3200 A, EDO Type, 65kA lsc.	3200/5		0-3200 A	50, 51, 50N, 51N
	O/G F#2:	3 Pole ACB, 2500 A, EDO Type, 65kA lsc.	2500/5		0 – 2500 A	50, 51, 50N, 51N
	O/G F#3:	3 Pole ACB, 1600 A, EDO Type, 65kA lsc.	1600/5		0 – 1600A	50, 51, 50N, 51N
	O/G F#4	3 Pole ACB, 800 A, EDO Type, 65kA lsc.	800/5		0 – 800 A	50, 51, 50N, 51N
	Bus Coupler	4 Pole ACB, 4000 A, EDO type, 65kA lsc.	4000/5		0 – 4000 A	50, 51
	Incomer from Transformer# 2	4 Pole ACB, 4000 A, EDO Type, 65 kA lsc.	4000/5	415/110	MFM : 0 - 4000 A, 0 - 500 V, f, kW, KVA, PF	50, 51, 50N, 51N
	O/G F#5:	3 Pole ACB, 3200 A, EDO Type, 65kA lsc.	3200/5		0-3200 A	50, 51, 50N, 51N
	O/G F#6:	3 Pole ACB, 2500 A, EDO Type, 65kA lsc.	2500/5		0 – 2500 A	50, 51, 50N, 51N

Panel	Load	Circuit Breaker	CT Ratio (A/A)	PT Ratio (V/V)	Meters (Digital)	Protection
	O/G F#7:	3 Pole ACB, 1600 A, EDO Type, 65kA Isc.	1600/5		0 – 1600A	50, 51, 50N, 51N
	O/G F#8	3 Pole ACB, 800 A, EDO Type, 65kA Isc.	800/5		0 – 800 A	50, 51, 50N, 51N
	Bus Coupler	4 Pole ACB, 4000 A, EDO type, 65kA Isc.	4000/5		0 – 4000 A	50, 51
<p>General Description: Indoor, Floor mounted, draw-out type 415 V Switchgear suitable for use on 415V ±10% 3Ø 4 wire, 50 Hz System, fully confirming to the specifications and SLD, complete with three main horizontal bus-bars of 4000 A rating and neutral of half the main bus rating and Top Bus Duct and Bottom Cable Entry/exit. For O/G F#1,2 and 6 provision shall be provided for busduct termination.</p> <p>Accessories: 1 set of Lamps (Red, Green, Yellow) for CB ON/OFF/TRIP indication for each I/C and O/G Feeder; Shunt Trip Coil, Closing Coil for ACB; Auxiliary s/w 4 NO + 4 NC for ACB; Mechanical ON/OFF indicator and spring charge indicator; 1 no. space heater with s/w and thermostat for each vertical section; 1 no. cubicle lamp with s/w and fuse; independent DP s/w with HRC fuse/MCB for DC close and trip control supplies and DP s/w with HRC fuse/MCB for AC control Supply.</p>						

LTP#25 (Aux Bldg Normal Power)

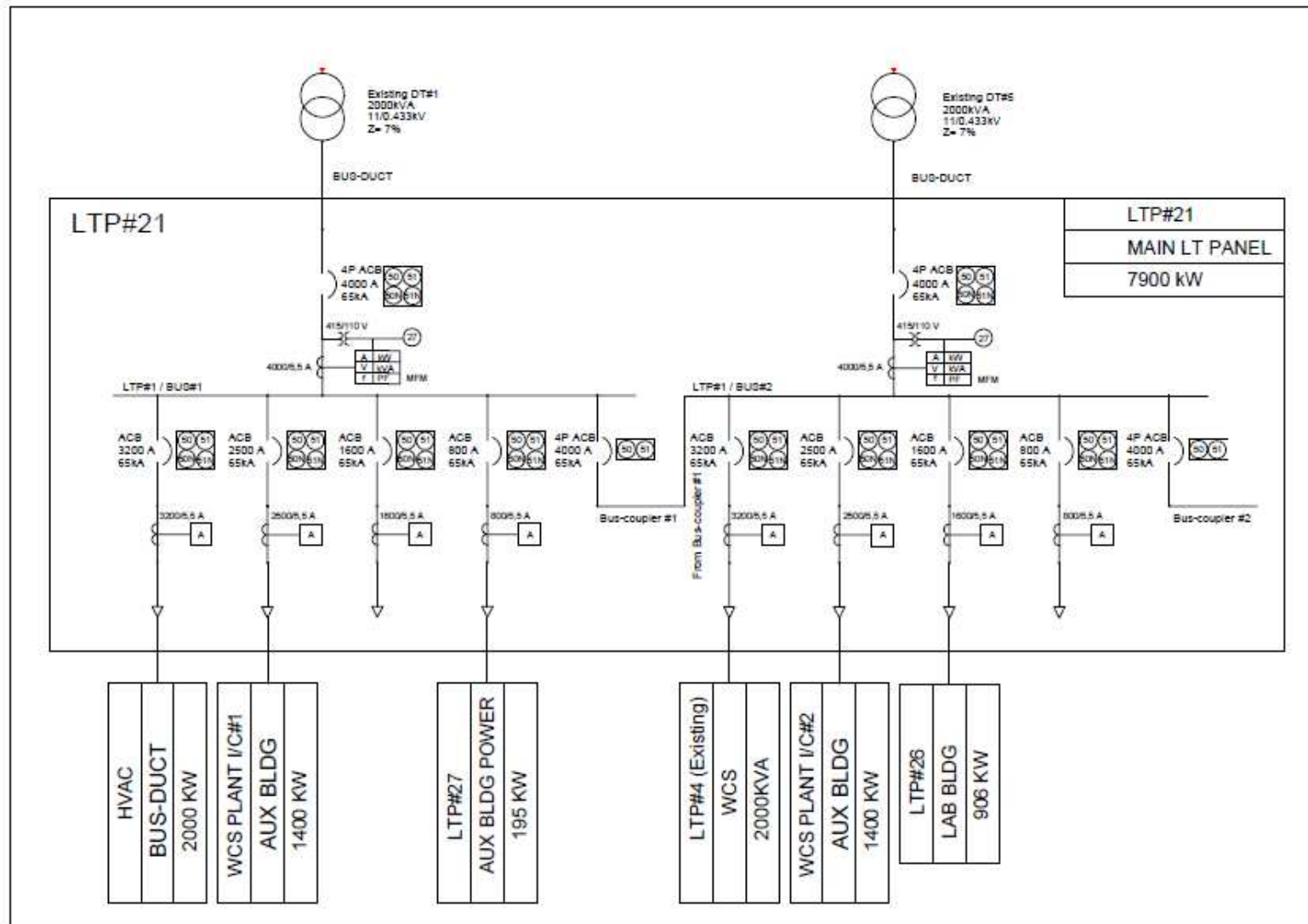
Panel	Load	Circuit Breaker	CT Ratio (A/A)	PT Ratio (V/V)	Meters (Digital)	Protection
LT Panel (Auxiliary Building)	Incomer from LTP#21 (Bus#1)	4 Pole MCCB, 630A, 65 kA Isc.	630/5	415/110	MFM: 0 - 630 A, 0 - 500 V, f, kW, KVA, PF	50, 51, 50N, 51N
	Aux_Bldg_F 1	3 Pole MCCB, 400A, 65 kA Isc.	400/5		0-400	50, 51, 50N, 51N
	Lab_Bldg_F2	3 Pole MCCB, 200A, 65 kA Isc.	200/5		0-200	50, 51, 50N, 51N
<p>General Description: Indoor, Floor mounted, draw-out type 415 V Switchgear suitable for use on 415V ±10% 3Ø 4 wire, 50 Hz System, fully confirming to the specifications and SLD, complete with three main horizontal bus-bars of 800 A rating and neutral of half the main bus rating and bottom Cable Entry/Exit. Accessories: 1</p>						

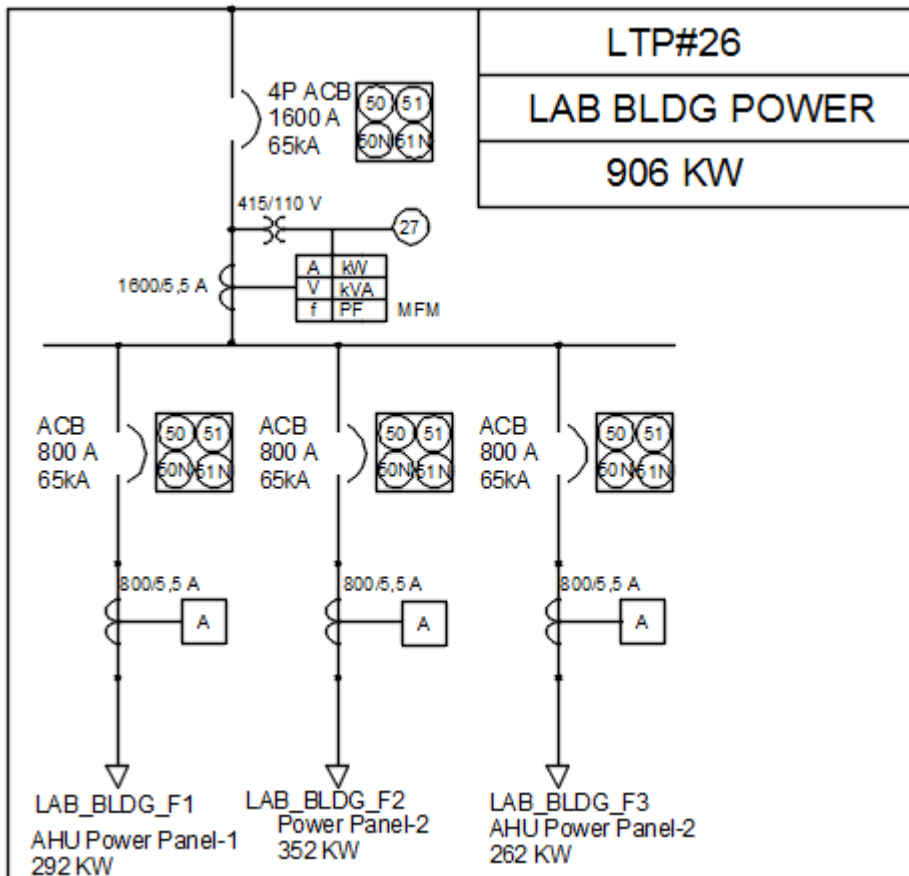
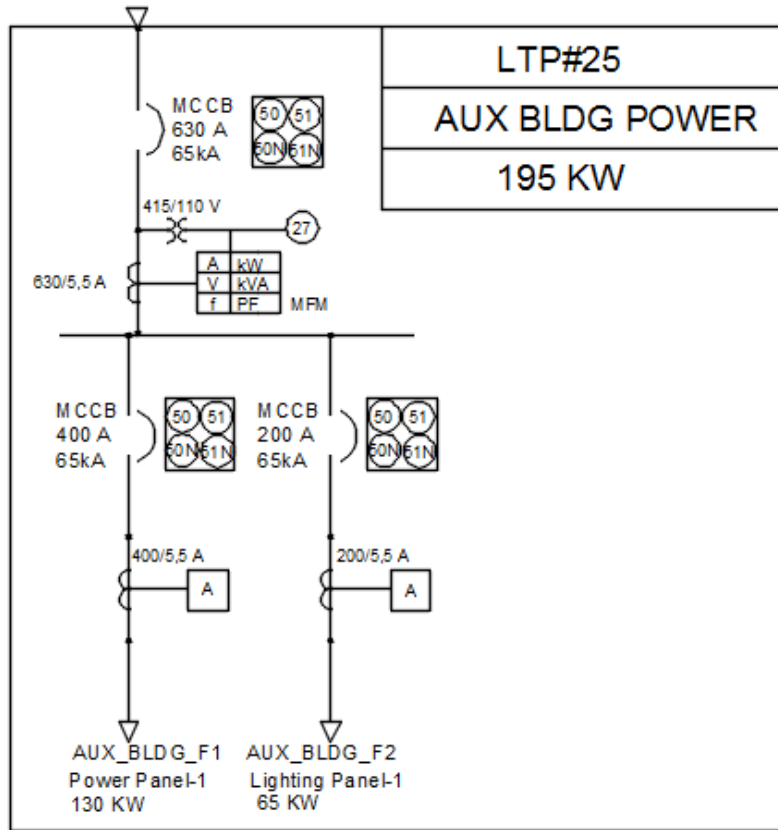
Panel	Load	Circuit Breaker	CT Ratio (A/A)	PT Ratio (V/V)	Meters (Digital)	Protection
set of Lamps (Red, Green, Yellow) for CB ON/OFF/TRIP indication for each I/C and O/G Feeder; 2 NO + 2 NC for MCCB; Mechanical ON/OFF indicator and spring charge indicator; 1 no. space heater with s/w and thermostat for each vertical section; 1 no. cubicle lamp with s/w and fuse; independent DP s/w with HRC fuse/MCB for DC close and trip control supplies and DP s/w with HRC fuse/MCB for AC control Supply.						

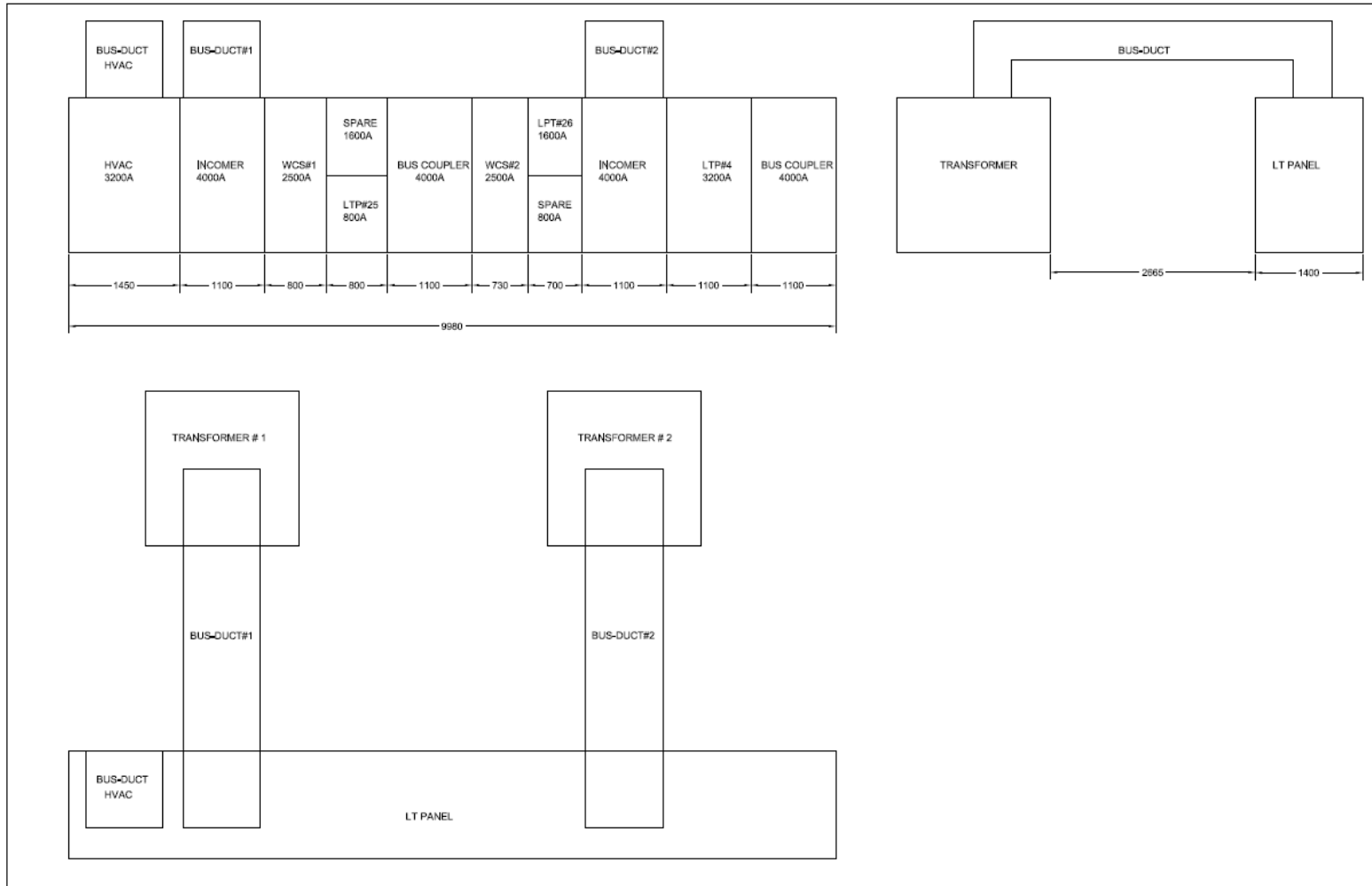
LTP#26 (Lab Bldg Normal Power)

Panel	Load	Circuit Breaker	CT Ratio (A/A)	PT Ratio (V/V)	Meters (Digital)	Protection
LT Panel (R&D Building-Divertor Area)	Incomer from LTP#21 (Bus#2)	4 Pole ACB, 1600A, EDO Type, 65 kA lsc.	1600/5	415/110	MFM: 0 - 1600 A, 0 - 500 V, f, kW, KVA, PF	50, 51, 50N, 51N
	Lab_Bldg_F1	3 Pole ACB, 800A, EDO Type, 65 kA lsc.	800/5		0-800	50, 51, 50N, 51N
	Lab_Bldg_F2	3 Pole ACB, 800A, EDO Type, 65 kA lsc.	800/5		0-800	50, 51, 50N, 51N
	Lab_Bldg_F3	3 Pole ACB, 800A, EDO Type, 65 kA lsc.	800/5		0-800	50, 51, 50N, 51N
<p>General Description: Indoor, Floor mounted, draw-out type 415 V Switchgear suitable for use on 415V ±10% 3Ø 4 wire, 50 Hz System, fully conforming to the specifications and SLD, complete with three main horizontal bus-bars of 1600 A rating and neutral of half the main bus rating and bottom Cable Entry/Exit and .</p> <p>Accessories: 1 set of Lamps (Red, Green, Yellow) for CB ON/OFF/TRIP indication for each I/C and O/G Feeder; Shunt Trip Coil, Closing Coil for ACB; Auxiliary s/w 4 NO + 4 NC for ACB and 2 NO + 2 NC for MCCB; Mechanical ON/OFF indicator and spring charge indicator; 1 no. space heater with s/w and thermostat for each vertical section; 1 no. cubicle lamp with s/w and fuse; independent DP s/w with HRC fuse/MCB for DC close and trip control supplies and DP s/w with HRC fuse/MCB for AC control Supply.</p>						

SINGLE LINE DIAGRAMS







GENERAL ARRANGEMENT DRAWING FOR LTP 21

TENDER FORM

**Part-I (Techno-commercial) of Tender No.IPR/TN/PUR/TPT/15-16-17
Dated 21/11/2016**

Last date for receipt	18/01/2017 at 13.00 hrs IST
Due date for opening	18/01/2017 at 14.30 hrs IST

Tenderer's Offer No. _____

Date _____

FROMM/s. _____

_____Telephone No. _____
Telegraphic/Cable Address:
Fax No.
Email:**To**

The Purchase Officer
Institute for Plasma Research
Near Indira Bridge
Bhat
Gandhinagar-382428 (INDIA)

Dear Sir,

I/We have gone through the tendering conditions pertaining to the Two Part Tender and General Conditions of Contracts and Special Conditions of Contracts contained in Section "B". I/We hereby agree to supply the stores conforming to the tender specifications incorporated in Section "C" of the tender document and also agree to abide by your General Conditions of all Contracts and Special Conditions of Contract contained in Section "B" of the Tender document.

- You will be at liberty to accept any one or more of the items of stores offered by us and I/We shall be bound to supply you the stores as may be specified in the Purchase Order/Contract.
- I/We hereby agree to keep the price valid for your acceptance for a period of 120 days from the date of opening of Part-II (Price) of the tender.
- Deviation to technical specifications contained in Section "C" of the tender documents are detailed in Annexure-A of the tender form while deviations proposed to the General/Special Conditions of Contract are detailed in Annexure "B" to this tender. Price applicable for the stores are indicated separately in a sealed envelope marked as Part-II (Price) of the tender.
- I/We are also enclosing herewith all the leaflets/catalogue, etc. pertaining to the stores offered.

Yours faithfully
Stamp and Signature of the Tenderer

SECTION 'D'

**FORMAT FOR SUBMISSION OF
PART-II
(PRICE)**

PART-II

PRICE BID FORMAT

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

Sr. No	Description	Quantity	Currency	Unit cost	Total price
1	Design, fabrication, inspection, testing and supply of LT Power Distribution Switchgear Panels for indoor use with accessories complete including resin cast CTs, PTs, protection relays, instrumentation, etc. as per the BOM.	1 Lot			
2	Installation and commissioning of above mentioned LT Power Distribution Switchgear Panels	1 Lot			
3	LT Bus Duct / Bus-Bar Trunking system with accessories complete	2 Nos.			
4	Other charges (If any)				
Total					

Total Price in words

.....

Description	Indicate percentage except freight		
	Percentage	Included	Excluded
Packing and forwarding			
Excise Duty			
Sales Tax/VAT			
Insurance			
Service Tax on Sr.No.4			
Freight			

Description	Vendor Terms
Delivery terms	
Warranty	
Payment	
Delivery schedule	
Validity	
Any other terms	

Place:

Date:

Signature of Bidder with seal