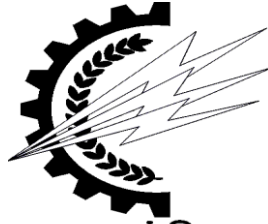


# **M.P.MADHYA KSHETRA VIDYUT VITARAN CO.LTD.**

**(A Wholly Owned Govt. of M.P. Undertaking)**

# **BHOPAL**



**प्रकाश एवं विकास**

**TENDER SPECIFICATION  
NO.CMD/MK/04/227  
(DUE FOR OPENING ON 10-10-2011)  
FOR SUPPLY OF**

**11 KV RESINE CAST EPOXY MOULDED DRY TYPE/ OIL  
IMMERSED & 33 KV OIL IMMERSED OUTDOOR TYPE  
CURRENT TRANSFORMERS OF VARIOUS RATIOS**

**CHIEF GENERAL MANAGER (PUR),  
OFFICE OF THE CHAIRMAN AND MANAGING DIRECTOR,  
M.P.MADHYA KSHETRA VIDYUT VITARAN CO. LTD.,  
NISHTHA PARISAR, BIJLINAGAR, GOVINDPURA, BHOPAL-462023**

**PHONE NO.(0755)-2678325, 260233-36**

**FAX NO. (0755)- 2589821**

**Website – [www.madhyavitaran.nic.in](http://www.madhyavitaran.nic.in)**

**OFFICE OF THE CHAIRMAN AND MANAGING DIRECTOR  
M.P. MADHYA KSHETRA VIDYUT VITARAN CO. LTD  
NISHTHA PARISAR, GOVINDPURA,  
BHOPAL - 462023**

**TENDER SPECIFICATION NO. CMD/MK/04/227  
DUE FOR OPENING: 10.10.2011**

**Name of Item**

***11 KV RESINE CAST EPOXY MOULDED DRY TYPE/ OIL  
IMMERSED & 33 KV OIL IMMERSED OUTDOOR TYPE  
CURRENT TRANSFORMERS OF VARIOUS RATIOS***

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**OFFICE OF THE CHAIRMAN & MANAGING DIRECTOR  
M.P.MADHYA KSHETRA VIDYUT VITARAN CO. LTD.  
(A Wholly Owned Govt. of M.P.Undertaking)  
NISHTHA PARISAR, BIJLINAGAR, GOVINDPURA, BHOPAL-23  
PHONE NO. 0755-2678325, 2602033-36  
FAX NO.0755-2589821**

Postal Order/Demand Draft No.....

.....

Tender issued to M/s .....

**TENDER FORM**

The undersigned hereby tender and offer (subject to the Company's conditions of tendering) the MP Madhya Kshetra Vidyut Vitaran Co. Ltd., Bhopal to supply the plant, machinery and materials and execute and do the several works and things which are described or referred to in the Details of Technical Particulars attached to tender document no.CMD/MK/04/227 and its enclosure and in Schedules to the side Details of Technical Particular copies of which are annexed here to and which under the terms thereof are to be supplied, executed and done by the contractor and to perform and observe the provisions and agreements or the part of the contract contained in or reasonable to be referred from the said tender documents for the sums and at the rates sets out in Schedule-I annexed here to.

The questionnaire enclosed with this tender document has been fully answered and is enclosed herewith (if the questionnaire is not answered in full, the answer to various question may be taken so as to be advantageous to the Company unless contrary is mentioned in the body of the tender).

Date the ..... Day ..... 2011

TENDERER'S SIGNATURE  
(With Seal)

**OFFICE OF THE CHAIRMAN & MANAGING DIRECTOR  
M.P. MADHYA KSHETRA VIDYUT VITARAN CO. LTD.  
(A Wholly Owned Govt. of M.P. Undertaking)  
NISHTHA PARISAR, BIJLINAGAR, GOVINDPURA, BHOPAL-23  
PHONE NO. 0755-2602033-36 FAX NO.0755-2589821**

**TENDER – NOTICE**

MPMKVVCL, Bhopal, invites **online** bids from **manufacturers only** as per Tender Specifications on the website <http://mpmkvvc.mpeprocurement.gov.in>, under e-Procurement System as per details tabulated hereunder :-

| Tender specn. Number | Particulars   | Approx value (Rs. in Lakhs) | Tender fee (in Rs.) | Date of Pre-Bid Conference | Last date of purchase of tender document by making payment online | Date of opening of tender (at 3.30 pm) |
|----------------------|---|-----------------------------|---------------------|----------------------------|---|--|
| CMD/MK/04/227        | 33 KV & 11 KV Single Phase out door type Current Transformers of various ratio. | 283.21                      | 2000.00             | 24.09.11                   | 03.10.11  | 10.10.11                               |

1. Tender documents can be purchased **only online** from <http://mmkvvc.mpeprocurement.gov.in> by making online payment for the Tender Document Fees **upto 03/10/2011**.
2. The Bid Data should be filled in and the Bid Seals (Hashes) of all the envelopes and the documents which are to be uploaded by the Bidders should be submitted online upto as per time schedule (Key Dates).
3. **The Pre Bid Conference in the O/o CMD (CZ) will be held on 24.09.11 at 3.30 PM.**
4. The **EMD** of Rs. 50,000/- in favour of Sr. A.O (HOAU), MPMKVV Co. Ltd. payable at Bhopal along with **hard copy** of offer duly filled in & **supporting documents** *excluding Price & Quantity* should be dropped in the Tender Box of Purchase Section, O/o CMD (CZ), Bhopal by due date of opening of respective tender by 1500 hrs.
5. Since the online bidders are required to sign their bids online using Class III – **Digital Certificates** only, hence they are advised to obtain the same at the earliest. For further information, Contractors are requested to contact **Nex Tenders (India) Pvt. Ltd.**, A-6 Sahyog Parisar, E-8 Shahpura, Opp. Maakhan Lal University, Bhopal – 462 039, Tel No. 0755-4075010, Email Address : [bhopal@nextenders.com](mailto:bhopal@nextenders.com)

(Note : It may take upto 4 working days to issue Digital Certificates)

6. Bidders intending to participate in the Tender are required to get themselves trained on the e-Procurement System. The Bidders are required to contact the Service Provider - Wipro – Nex Tenders to confirm their session in advance.

7. The complete tender would be available on MPMKVCL website [www.madhyavitaran.nic.in](http://www.madhyavitaran.nic.in) but *only for* reference and for hard copy submission.

//save electricity//

(SANJEEV P. PURANIK)  
CHIEF GENERAL MANAGER (PUR)

**Key Dates :**

| Seq No | MPMKVVC Stage                                | Contractor Stage                   | Start Date & Time | Expiry Date & Time |
|--------|--|------------------------------------|-------------------|--------------------|
| 1      | Tender Preparation And Release of NIT        | -                                  | 15-09-2011 05:00  | 15-09-2011 15:50   |
| 2      | -  | Tender Purchase - Online           | 15-09-2011 17:51  | 03-10-2011 17:30   |
| 3      | -  | Tender Download                    | 15-09-2011 19:51  | 03-10-2011 17:30   |
| 4      | -  | Submit Bid - Hash Online           | 15-09-2011 17:51  | 04-10-2011 17:30   |
| 5      | Close for Bidding - Generation of Super Hash | -                                  | 04-10-2011 17:31  | 05-10-2011 17:30   |
| 6      | -  | Submit Bids Online - Re-encryption | 05-10-2011 17:31  | 10-10-2011 15:00   |
| 7      | Open EMD & Technical / PQ bid                | -                                  | 10-10-2011 15:30  | 10-10-2011 17:40   |
| 8      | Open Financial / Price-Bid                   | -                                  | 11-11-2011 15:30  | 11-11-2011 17:45   |

**ANNEXURE – III****IMPORTANT INSTRUCTION TO BIDDER FOR SUBMITTING BID AGAINST  
TENDER SPECIFICATION NO. CMD/MK/04/200**

1. Here are some of the very important instructions which every tenderer should read carefully for compliance before submitting his bid.

2. The tender is in three parts as explained below:-

(a) **PART - I:** This part is fulfilling the requirement of deposit towards Earnest Money. The tenderer in this envelope should put either the original money receipt in support of having deposited cash with Sr. A.O., MPMKVCL, Bhopal towards Earnest Money OR the Bank Draft for the purpose OR the photocopy of his permanent Registration with District Industries centre as SSI Unit of M.P. for the items quoted duly attested by the General Manager of DIC of the area. Photocopy of valid registration certificate issued by NSIC, for small or medium scale unit, as the case may (as validity of certificate is three years as per NSIC, the certificate should be re-validated, in case date of issue / last re-validation is more than three years old.)

(b) **PART-II: -** Envelope for this part shall contain Technical and Commercial aspects of the Bid and documents supporting the same.

(c) **PART-III: -** Envelope for this part shall contain only the Price Bid, Schedule-I (A, B & C) (**only Online**)

3. **METHOD OF SUBMISSION OF BIDS AND THEIR OPENING:**

(a) There have to be three envelopes for each of the Parts of the Bid as explained above in point No. 2. All the three envelopes shall then be put in one main envelope. Additional envelope containing tender fee as DD drawn in favor of Sr. AO MPMKVCL, Bhopal for the tender documents which have been downloaded from website The main envelope shall be super scribed as under:-

- |       |   |          |
|-------|---|----------|
| (i)   | "T.S. CMD/MK/04/227 DUE FOR OPENIGN ON <b>10.10.2011</b>  |          |
| (ii)  | "THIS ENVELOPE CONTAINS THREE ENVELOPES TOWARDS PART-I, II AND III OF THE BID"                        |          |
| (iii) | "IT IS CERTIFIED THAT WE CATEGORICALLY AGREE TO THE FOLLOWING CLAUSES OF THIS TENDER SPECIFICATION":- |          |
| (a)   | PAYMENT TERMS   | : AGREED |
| (b)   | SECURITY DEPOSIT  | : AGREED |
| (c)   | PENALTY   | : AGREED |
| (d)   | PERFORMANCE GUARANTEE   | : AGREED |
| (e)   | P.V. CLAUSE   | : AGREED |

In absence of above certification on the main envelope itself, the same shall not be opened and the offer shall stand rejected.

(b) Even, after certification on the body of the main envelope, if any ambiguity is found in any part upon opening of the main envelope or even after opening of the subsequent envelopes, the offer shall be rejected.

(c) In addition to the superscription as detailed above on the main envelope, each of the three envelopes towards Part-I, II & III are to be super scribed as under:-

“Part-I/II/III, as the case may be, of Tender Specification No.CMD/MK/04/227 due for opening on 10.10.2011”

(d) Upon successful verification of the fulfillment of the requirement of earnest money deposit on opening of envelope of Part-I, second envelope towards Part-II shall be opened on the same day. The price bid i.e. Part-III shall be opened on the same day or later on for the tenderers who have fulfilled the eligibility criteria of the tender.

4. The questionnaire appended in Schedule-VI (A, B & C) should be very clearly answered.

5. The quoted prices should be “VARIABLE” and indicated strictly in the format appended with this Tender Specification in Schedule-I (A, B & C). The prices quoted in any other manner/format shall not be considered for evaluation of the tender.

6. The Company may not entertain any deviation from commercial terms & conditions as specified in the Tender Specification and the offers showing deviations are likely to be rejected.

7. Photocopies of the orders/performance reports received from other Electricity Boards/Govt. undertakings etc. should be enclosed, in case no orders received from MPSEB /Discom in the past. However, the details of the past experience in respect of supply of tendered items either of MPSEB/Discom or of the other Boards/Utilities have to be given in Schedule-VII (A & B).

**8. POOL RATES:**

The bidders, specifically the SSI Units of the State, are advised to quote their own individual rates. It may please be noted that if the same rate is quoted by more than one bidder, suggestive of a cartel, then such offers may not be considered by the Company. It may also please be noted that the competitive rate quoted by each tenderer may be one of the main criteria quantity to be ordered on each successful bidder.

**9. BASIC QUALIFICATION OF BIDDERS:**

a) The bidding is open only to manufacturer who provide satisfactory evidence:

(i) As per clause -2 of Annexure-I enclosed herewith.

(ii) In case of new unit not yet executed order from MPSEB or its successor companies, should have minimum five years experience in the field of design, manufacturing of the equipment offered and have supplied 25% of the tendered quantity (assorted rating) to any State Electricity

Boards, Power Utilities during last five years. The order copy and Material Receipt Certificate is required to be enclosed with the offer as documentary evidence.

**b) Financial Criteria:-** The purchaser will take account of the following financial criteria to verify the qualification of the bidder. These criteria shall be evaluated on a **Pass-Fail** basis only:-

**(i) Financial Situation:-**The audited financial statements of accounts for the last three years submitted by bidder shall be evaluated and last year of audited accounts should show **positive net worth** and average annual sales of supply of material and equipments for the year last financial year should be more than **10%** of the tender value. The approximated value of the instant tender is **Rs. 283 lakh**.

**(ii) Availability of Financial Resources:-** The documents submitted by the bidder, including the audited financial accounts must demonstrate that the bidder has adequate working capital available to undertake this contract, which will be equal to at least **15%** of the tender value. If the bidder's working capital is inadequate, the bidder should supplement this with a Banker's letter confirming the availability of a **line of credit** such that the bidder's available working capital plus line of credit are in total of at least **15%** of the tender value.

(c) Please ensure that at-least 10% of tendered quantity of assorted rating is offered, failing which offer shall be liable for rejection.

#### 10. **CONFLICTING INTEREST:-**

Bidder shall not have a conflict of interest with one or more parties. Participation by bidder(s) with a conflict of interest situation will result in the disqualification of all bids in which it is involved. Discom-CZ considers a conflict of interest to be a situation in which a party has interest that would improperly influence that party's performance of official duties or responsibilities, contractual obligations or compliance with applicable laws and regulations, and that such conflict of interest may contribute to or constitute a prohibited corrupt practice. A bidder may be considered to be in a conflict of interest with one or more parties if including but not limited to:-

- i) have controlling share holders as his/her family members viz spouse, son, daughter, father, mother or brother etc. in common or
- ii) have a relationship with each other, directly or through common third parties that puts them in a position to have access to information about or influence on the bid of another bidder.

The bidders shall be requested to furnish following documents in this regard:-

- i) Copy to latest Income Tax return/Permanent Account Numbers (PAN) of all the partners/Directors (in case of company) along with names, addresses and telephone Nos./ Mobile Nos. of each Partner/Director.
- ii) Latest partnership/ownership deed of the firm quoting the tender.
- iii) Copy of list of directors (in case of a company) with names, addresses and telephone Nos./Mobile Nos. of each director.
- iv) Power of Attorney to sign the tender documents and all correspondence before and after placement of order.
- v) Copy of Sales Tax clearance certificate.

11. **Type Test Certificates**:- The tenderers are advised to submit the following type test certificates as per relevant IS in force with type tested drawings from CPRI, ERDA or any

other NABL accredited lab. **Type test reports/certificates for the tests conducted on the tendered item/material shall not be older than 5 years on the date of opening of technical commercial bid:-**

- (i) Short time current test certificate as per IS: 2705/1992 for 11 KV Rasine Cast Epoxy molded & 33 KV Oil Immersed CT units for each ratio as per tender specification.
- (ii) Lightning Impulse test certificate as per IS: 3156/1992 IS: 2705/1992 for each ratio of 11 KV Rasine Cast Epoxy molded & 33 KV oil immersed CTs.
- (iii) Temperature rise test certificate as per IS: 3156/1992 IS: 2705/1992 for each ratio of 11 KV Rasine Cast Epoxy molded & 33 KV oil immersed CTs.
- (iv) High voltage power frequency wet withstand test certificate as per IS: 3156/1992, IS: 2705/1992 for each ratio of 11 KV Rasine Cast Epoxy molded & 33 KV oil immersed CTs.
- (v) Determination of error/accuracy class.

12. **EARNEST MONEY:**

The tenderers shall deposit the Earnest Money amounting to Rs.50, 000.00 as per details in Annexure–I. Please note that in case of units registered with DIC having permanent registration, (valid up to validity of the offer) has to produce necessary competency certificate.

13. To enable us quick and easy examination and evaluation of the bids, it is advised to follow below mentioned instructions while submitting bids:-

- (a) Photocopies of the orders/performance reports received from other Electricity Boards/ Govt. undertakings etc. should be enclosed, in case no orders received from MPSEB in the past. However, the details of the past experience in respect of supply of tendered items, either of MPSEB/Discom or of the other Boards/Utilities have to be given in Schedule-VII (A & B).
- (b) The documents should be put in Part-II of the Bid in the following sequence:-
  - (i) Tender form in original.
  - (ii) Schedule-V (Details of Type Tests carried out on Equipments alongwith copy of Type Tests certificate from Govt. recognized laboratory of National Repute).
  - (iii) Schedule-VIII (Source of procurement of raw material alongwith copy of invoice).
  - (iv) Questionnaire duly answered (Schedule-VI Part-A, B & C).
  - (v) Schedule-VII (Part-A) (towards performance & past experience).
  - (vi) Schedule-VII (Part-B) (towards commercial deviations).
  - (vii) Schedule-VII (Part-C) (towards technical deviations).
  - (viii) Schedule-II (A), (B) & (C) [Technical Specification.
  - (ix) Schedule-III (A), (B), (C) & (D) [Guaranteed Technical Particulars].

- (x) Certificates towards capacity, sales tax clearance, income tax clearance or towards exemption of sales tax or excise duty.
- (xi) Printed literatures towards technical specification etc.
- (xii) Any other documents required as per the tender.

(c) In part-III of the Bid, only price bid has to be kept, which should be strictly as per our prescribed format (Schedule-I (A, B&C)).

(Sanjeev P. Puranik)  
**CHIEF GENERAL MANAGER (PUR),**  
**O/O CMD, MPMKVV CO.LTD. BHOPAL**

**ANNEXURE – I****GENERAL INSTRUCTIONS TO BIDDERS****1. GENERAL:-**

Chief General Manager (Pur), on behalf of the CMD, M.P. Madhya Kshetra Vidyut Vitaran Co. Ltd Bhopal here in after referred as "Company", will receive online tenders / bids for procurement of 11 KV Rasine Cast Epoxy molded & 33 KV oil immersed outdoor type current transformers as indicated in Schedule-I (A & B) in accordance with the attached specification for supply at area stores Bhopal, Gwalior and Guna in Madhya Pradesh.

**2. BASIC QUALIFICATION OF BIDDERS:-**

This bidding is open for Manufacturers only.

(a) That they are qualified manufacturers who regularly manufacture the 11 KV Rasine Cast Epoxy molded Dry Type/Oil Immersed & 33 KV oil immersed outdoor type current transformers and have adequate technical knowledge and practical experience.

(b) That they do not anticipate change in the ownership during the proposed period of contract i.e. 36 months from the date of supply of last consignment, (if such a change is anticipated, the scope and effect thereof shall be defined).

(c) That, they have adequate financial stability and status to meet the financial obligations pursuant to the scope of the assignments. (The Bidders should submit at least two copies of their profit and loss account and balance sheet for the last three years including Turn-over).The Bidder should furnish documentary evidence regarding execution of purchase order to Government. Departments/SEBs/NTPC etc in past three years.

(d) That, they have adequate plant and manufacturing capacity available to perform the assignment properly and expeditiously within the time period specified. The evidence shall consist of written details of the installed manufacturing capacities and present commitments (excluding the assignment under this specification) of the bidder or his principal. If the present commitments are such that the installed capacity results inadequacy of the manufacturing capacities to meet the requirement of equipment / material corresponding to this bid, then the details of alternative arrangements to be organized by the Bidder for this purpose shall also be furnished.

(e) That they have established quality assurance system and organizations designed to achieve high level of quality equipment and reliability during their manufacturing activities. For this, quality assurance plan and action taken for implementing the same has to be furnished.

**3. EARNEST MONEY:-**

(i) The Tenderer shall deposit the Earnest Money amount vis-à-vis the value of the material offered as shown hereunder:-

|     | <b>Value of Material</b>                      | <b>Earnest Money</b> |
|-----|---|----------------------|
| (a) | Upto Rs. 10000/-                              | Rs. 100/-            |
| (b) | Above Rs. 10000/- and upto Rs. 2.5 Lakhs      | @ 1%                 |
| (c) | Above Rs. 2.5 Lakhs and upto Rs. 3.0 Lakhs    | Rs. 2,500/-          |
| (d) | Above Rs. 3.0 Lakhs and upto Rs. 7.0 Lakhs    | Rs. 5,000/           |
| (e) | Above Rs. 7.0 Lakhs and upto Rs. 15.0 Lakhs   | Rs. 7,000/           |
| (f) | Above Rs. 15.0 Lakhs and upto Rs. 25.0 Lakhs  | Rs. 10,000/          |
| (g) | Above Rs. 25.0 Lakhs and upto Rs. 35.0 Lakhs  | Rs. 15,000/          |
| (h) | Above Rs. 35.0 Lakhs and upto Rs. 50.0 Lakhs  | Rs. 20,000/          |
| (i) | Above Rs. 50.0 Lakhs and upto Rs. 75.0 Lakhs  | Rs. 30,000/          |
| (j) | Above Rs. 75.0 Lakhs and upto Rs. 100.0 Lakhs | Rs. 40,000/          |
| (k) | Above Rs. 100.0 Lakhs                         | Rs. 50,000/          |

(ii) The tenderers are permitted to quote for part quantities and pay earnest money only to the extent of the participation on the basis of slabs specified above. If the earnest money amount is found to be less than required for corresponding value of the materials offered, the offer shall be limited to that quantity only.

(iii) The Earnest Money can be deposited in one of the following forms only:-

- (a) In cash, to be deposited with the Senior Accounts Officer, MPMKVV Co. Ltd., Bhopal.
- (b) By Bank Draft in favour of Senior Accounts Officer, MPMKVV Co. Ltd., Bhopal.

**No offer will be accepted without Earnest Money Deposit, unless exempted by the Board/Company.** If on opening of tender any discrepancy in EMD amount is noticed, the tender shall be rejected and returned to the tenderer. The tender fee shall be deposited in the form of DD drawn in favor of Sr. AO MPMKVVCL, Bhopal for tender forms which have been downloaded from website.

(iv) The following are exempted from payment of Earnest Money Deposit:-

(a) SSI Units of Madhya Pradesh permanently registered with DIC / Ancillary Units of MPSEB. **The registration should be permanent and should be specifically for the items quoted in the tender and valid on date of opening of tender.**

(b) Small Scale Units registered with NSIC:- The small Scale Unit permanently registered with NSIC, whose registration certificate is valid for the item quoted on due date of opening of commercial and technical bid shall be entitled for exemption from EMD. (The renewal / amendment of certificate should not be more than 3 years old from the due date of opening of tender).

(c) The Medium / Large Scale Manufacturing Units, located in Madhya Pradesh (other than SSI / Ancillary units to MPSEB and Govt. undertaking) are permitted to furnish the EMD @ 50% (Half) of the rates prescribed above. Here also permanent registration is a must in respect of specified item against this tender.

(d) Fully owned State / Central Govt. manufacturing units, if 100% shares are held by the Govt. concerned for which documentary evidence must be furnished with the offer.

(e) The photocopy of the NSIC / SSI Registration Certificate for the tendered items duly attested by GM / Manager, DIC of the area or an officer of MPSEB/Discom Company not below the rank of EE, shall be furnished with the offer. In case of unattested copy, the original certificate should be produced at the time of tender opening for verification.

(f) All the SSI/NSIC units should quote / offer the material only to the extent they are registered for respective items with SSI / NSIC organisation. The certificate should be valid and duly renewed as the case may be.

(v) The bidder, who comes under above categories, should furnish documentary evidence with the offer, failing which his offer shall be rejected.

(vi) In case, the bidder withdraws this offer during the validity period, after placement of order, the EMD amount shall be forfeited.

(vii) **RETURN OF EARNEST MONEY TO UNSUCCESSFUL BIDDERS:-**

a) EMD shall be returned to the unsuccessful bidders, as soon as possible, after the tender is decided. No interest shall be paid on EMD amounts.

b) EMD of bidders on whom the orders have been placed, shall be returned on acceptance of security deposit. No, interest shall be paid on EMD amount.

4. **TAXES AND DUITES:-**

4.1 **MODVAT:** - The Tenderer should confirm in his offer that effect of modvat has already been taken care of while quoting the prices.

4.2 **All taxes and duties should be indicated separately. Any kind of taxes and duties shall not be paid extra in any case.**

4.3 M.P. Madhya Kshetra Vidyut Vitaran Company Ltd., Bhopal is a Registered Dealer and TIN Number is 23263605361. Therefore necessary declaration form, wherever applicable, shall be issued after receipt of material at destination, by the M.P. Madhya Kshetra Vidyut Vitaran Company Ltd., Bhopal. Any other applicable declaration form for concessional rate of Sales tax/Commercial tax as may be in force shall be given only after the legal position is verified at our end.

4.4 Tenderers outside the State of M.P. should also include the prevailing rate of Sales Tax/Commercial Tax in the State of origin so that the concessional rate of CST payable against 'C' form may be limited to the Sales Tax applicable for State of origin, from where the material move, in case, these are lower than the concessional rate of CST.

5. **AMENDMENT IN SPECIFICATION:-**

The Company may revise or amend the specification, prior to the date notified for opening of tender. Such revision / amendment, if any, will be communicated to all those who have bought the tender documents as Amendment / Addendum to the invitation of tender.

**6. BIDS RECEIVED BY MESSENGER:-**

When tenders are delivered by a special messenger, the same should be dropped in the Tender Box, kept in the O/o, CMD, M.P. Madhya Kshetra Vidyut Vitaran Co. Ltd, Nishtha Parisar, Govindpura, Bhopal(MP)-462023, on all working days indicated in tender notice between 10.30 hours to 15.00 hours only. Nobody is authorised to receive grant receipt for tender delivered by hand.

**7. TELEX / TELEGRAPHIC / FAX BIDS:-**

Telex / Telegraphic / Fax offers will not be accepted under any circumstances.

**8. DELAYED / LATE BIDS:-**

The Company shall not assume any responsibility for any postal delays either for the late receipt of documents by bidders or late receipt of bids by the Board. No extension in time shall be granted on such grounds.

**9. ALTERNATIVE BIDS:-**

Bid should be submitted as per intent of tender documents; any alternative offers are liable to be rejected.

**10. MISTAKES IN BIDS:-**

Rates should be quoted in both; figures and words. In case of ambiguity between rates in figures and words, lower of the two shall be considered. Such offers can also be rejected.

**11. LUMP SUM BASED BIDS:-**

In case prices for some items or all items are given as a lump sum, instead of unit prices as required in the tender specifications, Company can summarily reject such incomplete tender.

**12. PRINTED TERMS AND CONDITIONS IN BIDS:-**

Supplier's printed terms and conditions will not be considered as forming part of the tender under any circumstances whatsoever it may be.

**13. ALTERATION – CORRECTION IN BIDS:-**

No alteration / correction in the tender document will be permitted.

**14. INCOMPLETE BIDS:-**

Tender which is incomplete or obscure is liable for rejection.

**15. ACCEPTANCE OF PART / WHOLE BIDS – RIGHTS THEREOF:-**

Company reserves the right to accept/reject wholly or partly any tender without assigning any reason whatsoever. No correspondence in this regard shall be entertained.

**16. AMBIGUITIES IN CONDITIONS OF BIDS:-**

In case of ambiguous or self contradictory terms / conditions mentioned in the bid, interpretation as may be advantageous to the Company may be taken without any reference to the tenders.

**17. DISQUALIFICATION OF BIDS:-**

A bid which gets opened before the due dates as a result of improper or no indication having been given on the cover to indicate that it is a tender, will be disqualified. Bidder will not be permitted to change the substance of his tender on post interpretation/improper understanding grounds. This includes post tender price changes/modifications etc after opening of Price Bid. In such events, otherwise, i.e., when a bidder does not comply, tender will be rejected.

**18. LANGUAGE OF BIDS:-**

All tenders should be made either in English or in Hindi only.

**19. INCOME TAX / SALES TAX CLEARANCE CERTIFICATE:-**

The bidder shall furnish Income Tax Clearance Certificate from competent authority. Alternatively, the bidder shall give reasons for his inability to furnish such a certificate. The Company reserves the right to reject any tender if Income Tax and Sales Tax certificate or the reasons for the bidder's inability to furnish such a certificate are not furnished.

**20. QUESTIONNAIRE FILLING IS ESSENTIAL:-**

A "QUESTIONNAIRE" (Schedule VI, Part A, B & C) alongwith specification is enclosed for technical/commercial details. It is compulsory on the part of the bidder to furnish all details as per the "Questionnaire". In case, this is not filled in and enclosed with the offer, the bid will be rejected.

**21. DEVIATIONS FROM TERMS & CONDITIONS:-**

Offers with deviation in the terms of payment, liquidated damages, security deposit and performance guarantee are liable to be rejected out rightly.

**22. PAST EXPERIENCE:-**

Supplier having past experience in manufacture and supply of material should furnish the list of supplies made (alongwith order copies) during the last 5 years for the materials supplied by them, as per enclosed Schedule – VII Part "A". A certificate in this regard from the organisation to which supply is made in the past shall have to be furnished alongwith the offer, failing which the tender may not get any preference for his past experience.

**23. SUBMISSION OF BIDS:-**

- (i) The tender shall be submitted in three (3) parts:-

**Part – I shall contain "EARNEST MONEY DEPOSIT / DOCUMENT WHICH ENTITLE FOR EXEMPTION FROM EMD".**

**Part – II shall contain “COMMERCIAL BID AND THE TECHNICAL BID”.**

The details about these two bids are discussed in Annexure – I and II respectively. Relevant information that the bidders are liable to submit, comprises duly filled-in Questionnaire, all schedules any other information that is sought in the tender.

**Part – III shall contain “PRICE BID”, in the price Schedule. The bidder shall ensure that the prices / rates are filled in accordance with the proforma for “Price and Quantity” Schedule – I (A & B).**

(ii) Tender being submitted must be signed by a person holding a Power of Attorney authorizing him to do so, certified copies of which shall be enclosed.

(iii) Tender submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorised to submit the Tender on behalf of the Company and shall be accompanied with certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Tender on behalf of the Company.

(iv) **All the three parts shall be submitted in three separate sealed envelopes and these envelopes shall be properly super scribed as Part – I “Earnest Money Deposit”, Part-II “Commercial Bid and Technical Bid” and Part-III “Price Bid”. Each envelope shall also be super scribed with name of the item and TS number for which the tender is submitted, the name of the said bidder and the date of opening, as advertised. The tender i.e. all the three parts shall be submitted each in duplicate.**

(v) **The above three envelopes duly sealed are to be kept again in one envelope called main envelope and sealed.** This envelope should be properly super scribed stating that this envelope contains three separate envelopes for Part-I “EARNEST MONEY DEPOSIT”, Part-II “COMMERCIAL AND TECHNICAL BID” and Part – III “PRICE BID” **Schedule. Submitted Online only** in addition to tender specification No., name of item and tenderer. Details of Earnest Money Deposit, and due date of opening should be super scribed on this common envelope also. Beside this, it shall be certified on the main envelope itself that Company's **PAYMENT TERMS, PENALTY, SECURITY DEPOSIT and PERFORMANCE GUARANTEE CLAUSES**, as mentioned in tender specification, are acceptable to the bidder. This certification shall be in following manner:-

**TENDER SPECIFICATION NO.....DUE FOR OPENING ON .....  
FOR PROCUREMENT OF .....**

THIS ENVELOPE CONTAINS 3 SEPARATE ENVELOPES FOR:-

- i) PART I : "EARNEST MONEY DEPOSIT"
- ii) PART II: "COMMERCIAL AND TECHNICAL BID"
- iii) PART III: "PRICE BID" (**Online**)

**Note:- Price Bids are to be submitted mandatorily ‘ONLINE’ and shall not be accepted in physical form in any case.**

TO,

**THE CHIEF GENERAL MANAGER (PUR),  
O/o CMD, M.P. MADHYA KSHETRA VIDYUT VITARAN CO. LTD.,  
NISHTA PARISAR, BIJLINAGAR, GOVINDPURA,  
BHOPAL – 462023 (M.P.)**

**IT IS CERTIFIED THAT WE AGREE THE FOLLOWING CLAUSES OF  
TENDER SPECIFICATION:-**

- |       |                       |          |
|-------|-----------------------|----------|
| (i)   | PAYMENT TERMS         | : AGREED |
| (ii)  | SECURITY DEPOSIT      | : AGREED |
| (iii) | PENALTY               | : AGREED |
| (iv)  | PERFORMANCE GUARANTEE | : AGREED |
| (v)   | P.V. CLAUSE           | : AGREED |

**SIGNATURE OF TENDERER  
STATUS AND COMPANY'S SEAL**

(v) In absence of such certification on the main envelope itself, the same shall not be opened and the offer shall be rejected.

(vi) Even after certification on the body of the main envelope, if any ambiguity is found upon opening of the main envelope or after opening of the Price Bid, the offer shall be rejected.

**24. DATE AND TIME OF OPENING OF BIDS – CHANGES:-**

Tender shall be opened on the due date and time as notified in the presence of the tenderers or their authorised representatives who may be present. If the due date of opening/ submission of tender documents is declared as holiday by Central/State Govt. or local Administration, it will be automatically get shifted to the next working day, for which no prior intimation shall be given. The tender opening shall be continued on subsequent day, in case the opening of the entire tender is not completed on the day of opening.

It may please be noted that the due date/time of opening can be altered, extended, if desired by the purchaser, without assigning any reasons thereof. However, due intimation shall be given / published in News-Paper in such a case.

**25. OPENING OF EMD AND COMMERCIAL AND TECHNICAL BID:-**

The first envelope of Earnest Money Deposit shall be opened on the due date and time, as notified in the Notice inviting Tenders. The requirement for EMD shall be verified and thereafter, the second part, i.e., the Commercial and Technical Bid, shall be opened on the same date in respect of eligible tenderers.

**26. OPENING OF PRICE BID:-**

The offers which are in conformity with important commercial terms and conditions including Payment terms, Penalty, Security Deposit and Performance Guarantee clause of

Tender specification shall be eligible for opening of their Price Bid. The price bid shall be opened at a later date for which separate intimation will be sent to the tenderers, who have fulfilled the eligibility criteria of the Tender.

27. **CANVASSING OF BIDS:-**

Tender shall be deemed to be under consideration, after opening of tender/bid, till placement of order. During this period, the tenderers or their authorised representatives or other interested parties are advised strongly, in their own interest, to refrain from contacting by any means any of the Company's personal or Representative, on matters relating to tender under process.

28. **DESTINATIONS WHERE MATERIALS ARE REQUIRED:-**

The materials as per the specifications are required to be delivered at area stores situated at Bhopal, Itarsi, Gwalior and Guna only. The prices quoted should be on **F.O.R. DESTINATION** anywhere in these Area Stores accordingly.

29. **VALIDITY OF BIDS:-**

The offers shall be **valid for 180 days**. Validity of the offer shall be counted from the date of opening of bids. Those who do not agree for a validity of 180 days will do so at their own risk and their offers are liable to be rejected.

30. **AUTHORISATION/LOCAL REPRESENTATIVE:-**

Only authorised representative, possessing necessary authority letter from the bidder shall be allowed to participate in the tender opening.

31. **ACCEPTANCE OF TENDER:-**

- i) The Company may reject any or all tenders or to accept any tender considering advantageous to Company whether it is the lowest offer or not.
- ii) The Company may split the quantities against the tender on more than one firm for the same item. No reasons shall be assigned by the Company for this and the same will be binding on the tenderers.

32. **CHANGE OF QUANTITY:-**

The Purchaser reserves the right to vary the quantities of any or all items as specified in the technical specifications/schedules as may be necessary, based on Purchaser's judgement and vendor rating. No correspondence shall be entered into, nor discussed regarding quantity variation and no reason shall be assigned thereof in this regard.

33. **POOL RATES:-**

"The bidders, specifically the SSI Units of the State, are advised to quote their own individual rates. It may please be noted that if more than one bidder quotes the same rate, suggestive of a cartel, then such offers may not be considered by the Company. It may also please be noted that the competitive rate quoted by each tenderer may be one of the main criteria for quantity to be ordered on each successful bidders."

(Sanjeev P. Puranik)  
**CHIEF GENERAL MANAGER (PUR),**  
**O/O CMD, MPMKVV CO.LTD. BHOPAL**

**ANNEXURE-II****GENERAL TERMS AND CONDITIONS OF PURCHASE****1. PRICES AND STATUTORY LEVIES:-**

(a) The price of CTs are VARIABLE as per relevant IEEMA Price Variation Clause, both on plus & minus side without any ceiling. The basic price of the material and indices used shall be as published by IEEMA prevailing as on first working day of the month, one month prior to the date of tender i.e. **01.09.2011**. No upward variation shall be payable beyond the contractual delivery period, where the supplier is responsible for the delays.

(b) The prices shall be quoted exactly as per the price schedule-I enclosed with the tender specification, including all elements. In absence of this, the offer shall be liable for rejection.

**2. PACKING AND FORWARDING:-**

(a) The supplier shall be responsible for the Stores being sufficiently and properly packed at his expenses for transport by rail, road or sea, so as to ensure them being free from the loss/damage due to handling and transport to the destination.

(b) Each package shall be prominently and distinctly marked on at least two faces, indicating the full address of the consignee, destination station, name of equipment, purchaser's order number, weight and volume of the package etc.

(c) Each package shall contain in a water proof cover, a detailed description indicating the order reference and date and list of the contents. Each item contained in the package or box shall be described sufficiently, to enable easy identification. The quantity, weights etc. shall also be given.

(d) The packaging shall conform to the specification, rules and regulation prescribed by the Underwriters, Railways, and Transport Agencies. In case of any loss/damages to the consignment, due to non-standard packing the same shall be made good, free of all charges to Purchaser by the supplier. All the provision of this clause shall apply whether the disrupting cause is total or partial in its effects upon the ability of the supplier to perform.

**3. MODE OF DISPATCH:-**

The tenderer should clearly indicate mode of dispatch for the material. In case of dispatch through rail, the material is to be booked for respective destination railway station. In case of dispatch through road transport, the material should be dispatched through bank approved road transporter on door delivery basis only.

**4. TRANSIT RISK:-**

(a) Responsibility regarding covering of risk during transit of material shall entirely be on the supplier. The Company shall, in any case, not bear the transit risks/transit insurance charges.

(b) Transit damages/shortages/losses shall be reported by the consignees within 30 days from the receipt of the consignments. Such damages/shortages/losses shall be repaired/replaced by the suppliers, free of cost within one month from the date of intimation by the

consignee without waiting for his settlement from carrier or Insurance Company etc. If the supplier fails to do so the consignee (s) shall be free to get the repair work done from other sources and they shall be free to recover the cost of such material/expenses of repairs either from the supplier/balance bills or from the security deposit as deemed fit.

(c) While the necessary assistance shall be rendered by the consignee in lodging and processing the claims with carriers and the supplier's insurance underwriters, the responsibility shall rest with the supplier to immediately make good the shortages/losses/damages, without any extra cost and without waiting for the settlement of the claim.

(d) **Replacement of goods lost/broken or damaged including loss due to fire:-**

Notwithstanding anything here-in contained, the supplier shall undertake responsibility for the safe arrival of the material in good condition and without any loss or damage at the final destination and until the same is actually delivered to/received by the Company at its stores or other places of final destination. For this purpose, material carried by Railway or Road transport or other carriers shall be deemed to be so carried at the risk of the suppliers. In the case of transport damages/shortage, the payment shall be made only for the quantity received in good and working condition and consignee shall lodge claim with the suppliers/carrier with all necessary documents for settlements of the same with the carriers at supplier's end.

5. **DELIVERY:-**

(i) The supply of entire ordered quantity shall be made in three equal bimonthly installments from the date of receipt of order.

(ii) Any delay in delivery beyond this period shall attract penalty even though offer for pre-delivery inspection is made timely within the terminal date of delivery.

(iii) The material should be delivered to the consignees within 15 days from the date of issue of despatch instructions/clearances. Any delay in delivery beyond this period shall attract penalty even though offer for pre-delivery inspection is made timely within the terminal date of delivery.

(iv) **Deferment of deliveries:-**

Company reserves the right to defer or reschedule the delivery.

6. **FORCE MAJEURE:-**

**Force majeure condition is herein defined as:-**

(a) Natural phenomena, such as floods, draught, earth-quake and epidemics.

(b) Act of any Government Authority, domestic or foreign, such as war, quarantines, embargoes, licensing control or production or distribution restrictions.

(c) Accident and disruption such as fires, explosion, and increase in power cut with respect to date of tender opening, break-down of essential machinery or equipment etc.

(d) Strikes, slow down, lockout continuing for more than three (3) weeks.

(e) Failure or delay in the supplier's source of supply due to force majeure causes enumerated at (a) do (d) above, provided the supplier produces documentary evidence to show that there were no other alternative sources of supply available to him or if available, the lead time required was likely to be longer than the duration of the force Majeure at the normal source of supply.

(f) Any cause which is beyond the reasonable control of the supplier or purchaser as the cause may be.

All the provisions of this clause shall apply whether the disruption cause is total or partial in its effect upon the ability of the supplier to perform.

**Note:-** In case of much delay, the cause of force majeure condition will be taken into consideration only if the supplier within 15 days from the day of occurrence of such delay notifies. The company shall verify the facts and grant such extension as the facts justify. For extension due to force majeure conditions, the supplier shall submit his representation with documentary evidence for scrutiny by the purchaser and decision of the Company shall be binding on the firm.

## **7. TERMS OF PAYMENT:-**

7.1 Subject to completion of all contractual formalities, 100% payment alongwith excise duty and taxes corresponding to the consignment would be made within 45 days from the date of receipt of material at consignee in good condition against **MATERIAL RECEIPT CERTIFICATE (MRC)** issued by the consignee at the places given in Annexure-IV.

7.2 The supplier shall forward the original RR/MTR and Excise gate pass directly to consignee alongwith copies of following documents:-

- (i) A copy of bill
- (ii) Delivery challan
- (iii) Original copy of excise duty gate passes alongwith a photo copy.
- (iv) The inspection and/or T.C. approval.
- (v) Detailed packing list.

7.3 The original bills in triplicate should be forwarded to the paying authority and should be marked "**ORIGINAL**". The bill should indicate Sales Tax Registration Number and date allotted to him under Sales Tax Act.

7.4 The following documents will have to be forwarded to the paying authority alongwith bills in triplicate:-

- i) Bill/Invoice.
- ii) Original copies of excise duty gate pass along with one photocopy.
- iii) The inspection and /or T.C. approval.
- iv) Xerox copy of dispatch documents, i.e. RR/MTR etc.

7.5 The material Receipt Certificate will be forwarded by the consignee to the paying authority for payment, as well as to the suppliers towards acknowledgement of receipt of material including part consignment to the extent it is received in good condition and is serviceable.

7.6 The bills valuing up to Rs. 2.5 lakh, should be submitted to the concerned Sr. AO/RAO, MPMKVVCL, Bhopal, Gwalior & Guna respectively. In case bill value is more than the above amount, the bill should be submitted to the Dir.(Fin.), MPMKVV Co. Ltd., Bhopal for making payment.

**8. PENALTY:-**

(a) The time for and the date of delivery of the material stipulated in the order shall be deemed to the essence of the contract. In case of delay in execution or non-execution of the order, the Company as its option shall either:

(i) recover from the supplier/contractor as agreed towards liquidate damages as sum of ½% (half percent) of the price of any stores not delivered per week or part there of subject to a maximum of 10 % (ten percent) of the price of any stores not delivered.

**OR**

(ii) Purchase from elsewhere on account and at the risk and responsibility of the supplier, the stores not delivered or others or similar description.

**OR**

(iii) Cancel the contract for part or whole of the quantity on order, with liability.

(b) "For the purpose of calculating penalty, the date of receipt of offer of material in the office of CMD, MP Madhya Kshetra Vidyut Vitaran Co. Ltd., Bhopal shall be considered as the date of delivery subject to the condition that the offer has been received 15 days in advance of terminal date of scheduled delivery period and material delivered at stores within 15 days of despatch clearances. For early inspection, offer may be sent telegraphically or by telex/fax. The Company will not be responsible for any delays for ordinary/registered post inspection offers. Please note, in case material is not received within 15 days from the date of issue of despatch instructions, even though the delivery period exists, penalty shall be applicable on delay of despatch.

**9. PERFORMANCE GUARANTEE:-**

9.1 If during the course of 36 months subsequent to the date of issue of MRC, if any of the goods found to be defective in materials or workmanship or develops defects during service, they will have to be replaced by the supplier, free of all charges. All necessary arrangement on these accounts will be made by the suppliers.

9.2 The said material if required to be replaced, shall be collected by the supplier/firm from Area Stores site at their own cost and at their own responsibility. These materials will like-wise be returned duly repaired/replaced and tested subsequently by the supplier to the destination indicated on "Freight paid basis" at their cost in a **reasonable time** of 90 days from the date of intimation from stores. If the firm is failed to return duly repaired and tested equipments within this period to respective stores, then penalty shall be imposed @ 10% of the ordered value per month. The penalty shall be deducted from the pending bills or security deposit. The guarantee period as stipulated in clause 10.1 above shall also be applicable for repaired/replaced material, which shall however be counted afresh from the date of its delivery in our stores/at site.

- 9.3 Further, it is clarified that all the charges towards carrying out repairs including packing/forwarding loading/unloading shall be borne by the supplier. The amount deposited under security deposit clause shall also cover the performance guarantee of the replaced material.
- 9.4 All equipment/line materials reported failed within specified guarantee period may be replaced free of cost by the supplier/manufacturer concerned.
- 9.5 Actual cost of dismantling and replacement of these equipments/materials with the new ones shall be charged to the supplier's account.
- 9.6 To and fro transportation cost of such failed equipment shall also be borne by the supplier/contractor.
- 9.7 In the event of the supplier's inability to adhere to the aforesaid provisions, suitable penal action will be taken against them which may result in black-listing of the firm for future business with the Company for a certain period or altogether.

#### **10. SECURITY DEPOSIT:-**

- 10.1 On acceptance of offer, the supplier will have to deposit an amount of 10% of the total value of the order in cash or Demand Draft or Bank Guarantee as Security Deposit.
- 10.2 Cash to be deposited with Senior Accounts officer (HOAU), MPMKVV Co. Ltd., Bhopal and original receipt shall be produced to this office which shall be returned after conveying the acceptance of Security Deposit.
- 10.3 Demand Draft to be drawn in favour of Senior Accounts officer (HOAU), MPMKVV Co. Ltd., Bhopal drawn on any nationalized/scheduled Bank and payable at Bhopal.
- 10.4 Bank Guarantee in lieu of cash deposit on any nationalized/ scheduled bank strictly as per Company's proforma (to be supplied along with the order) valid sufficiently to cover the guarantee period in the office of CMD, MPMKVCo Ltd, Bhopal.
- 10.5 All SSI Units registered with Industries Department of MP shall be required to pay Security Deposit for only 5% (five percent) value of the order, subject to maximum of Rs.20,000/- in cash or DD. This concession is for such SSI Units of M.P. who are doing business up to Rs.50 Lacs annually only.
- 10.6 The Security Deposit shall have to be deposited within 30 days of issue of order.
- 10.7 The Company shall forfeit the security deposit in the event of non-execution/ part execution of the orders/poor performance of supplier/contractor besides invoking the Penalty Clauses.
- 10.8 The Security deposit shall be returned to the successful tenderer only after due and faithful performance of the order as per terms and conditions of the order and on expiry of guarantee period provided there are no claims outstanding to be recovered against the tenderers/ suppliers.
- 10.9 No interest shall be paid by the Company on security deposit furnished by the suppliers.

**11. EXTENSION ORDER:-**

The Company reserves right to place an extension order for any additional quantity to the extent of 50% quantity of the original order on the same rates, terms and conditions within 6 months from the date of orders.

**12. TESTING FACILITY AND TESTS TO BE CONDUCTED:-**

The tenderer must give their production capacity, all about testing lab and line testing facilities available with them in details for the tendered material. The tenderer should also give the details of test proposed to be conducted in their labs in the event of order with the details Indian Standard Specification/Codes.

**13. MATERIAL TEST CERTIFICATE:-**

Each item of the lot should be tested by the supplier and routine test certificate in duplicate giving the results of all tests prescribed in the relevant ISS (as mentioned in the Technical Specification Schedule) for ordered item shall be submitted to the office of the CMD, MPMKVV Co. Ltd, Nishta Parisar, Govindpura, Bhopal, for approval alongwith the letter/offer for inspection of material. Please note that each lot will be inspected at your works, which includes witnessing of all tests prescribed in ISS.

14. (A) **TYPE TEST CERTIFICATE:** - The tenderers are advised to submit type test certificates as per relevant IS in force with type tested drawings from CPRI, ERDA or any other NABL accredited lab duly attested by "Competent Testing Authority" alongwith the tender invariably. **Type test reports/certificates for the tests conducted on the tendered item/material shall not be older than 5 years on the date of opening of technical commercial bid:-**

(B) **DRAWING & CATELOGUE:-** General arrangement drawing showing location of secondary termination box & other accessories, dimensional drawing & design details shall be submitted by the tenderer with their offer firmly which shall be considerable for offered material.

**15. INSPECTION AND TEST CERTIFICATE:-**

(i) Each lot of offered material shall be inspected by inspecting officers of the Company /third party inspector before despatch. The supplier shall extend all reasonable and necessary help to the inspecting officer of the company to carry out testing of material at his works. The inspecting officer may open one or two units from each offered lot for confirmation of design parameters.

(ii) An intimation about the date, by which material shall be ready for inspection, indicating quantity, shall be given to the CGM (Pur), O/o CMD MPMKVV Co. Ltd., Bhopal, by the supplier, so as to reach him sufficiently in advance at least 15 days prior to expiry of delivery schedule, failing which, the suppliers shall be responsible for delay in delivery and levy of penalty. On receipt of such intimation, the material shall be inspected normally within 15 days.

(iii) The supplier shall not despatch the material unless specific despatch instructions are issued by the Purchase Section of the Company.

(iv) In case the inspecting officer deputed for inspection does not find the offered lot ready, the Company reserves the right to recover from the supplier, such charges as may have been incurred towards arranging such inspection. These charges have been mentioned in Clause-16 hereunder.

**16. FAKE INSPECTION CALL:-** All such firms who after giving inspection call do not offer materials to Inspecting officer for inspection due to one or other reasons, shall be required to remit a sum of Rs. 5,000/- per officer.

**17. RIGHT TO CARRY OUT INSPECTION DURING MANUFACTURING:-**

(i) The Company at its option will inspect the material on order during its process of manufacturing including the inspection of raw material and will request the supplier to carry out such tests as may be necessary to ensure proper quality check. Samples of components of the material shall be subject to quality check by the inspecting officer during manufacturing. In the event of stage inspection, if any discrepancy is noticed, the supplier shall be given immediate notice to suspend further manufacturing until corrective measure are taken and the process cleared.

(ii) **Factory Inspection:-**

(a) The factory inspection of the tenderers who have not executed any order of MPSEB /Discom shall be carried out before placing detailed order.

(b) During pendency of the order, the factory inspection may be conducted by Company's authorized officers, as and when felt necessary, for ensuring production of quality material.

(iii) The supplier shall extend all reasonable and necessary assistance to the inspecting officer of the Company to carry out testing of equipment/material, at his works.

**18. ACCEPTANCE OF MATERIAL**

The MPMKVVCL has option to conduct Routine/Type tests/STC test with acceptance test on the samples from the consignment of material received at our consignee Area Stores before its acceptance from any of the lot to be supplied against the order. The said test shall be conducted on any one unit of the received lot.

The sample Unit may be selected for conducting Type Test/routine tests/STC test with acceptance test from the lot of Current Transformer units received in Area stores. The selected samples shall be sent with complete details for testing as per specification at any independent NABL accredited Laboratory like ERDA, CPRI etc. In case the sample unit fails in any of the Routine/Type tests/Acceptance test(with STC test), the entire lot shall be rejected.

The EE (stores) shall verify and ensure that the serial number and make is engraved on the sides of the Current Transformer Units.

“The Type test/Acceptance test charges of NABL testing shall be borne by MPMKVVCL. In case the sample fails in Type test/Acceptance test, then the entire charges, including transportation & establishment expenses shall be recovered from the supplier.”

**19 PRICE CONSIDERATION ZONE (10% Above Lowest Acceptable Rate) :-**

Subject to fulfilling the financial, experience and techno-commercial criteria, the MPMKVCL reserves the right to distribute the quantities amongst the bidders other than lowest also. The counter offer shall be limited to the bidders whose computed FOR rate including taxes, duties and freight, other levies is within the price band of 1.10 times of the lowest acceptable offer.

The offers of lowest 3 bidders confirming acceptance to all commercial and technical terms and conditions as also meeting technical requirements as per tender specifications and whose quoted prices are within above price consideration zone of 10% above Lowest Acceptable Rate shall be considered eligible.

**20. OFFERED QUANTITY:-**

The bidder who has quoted/offered the **Lowest Acceptable Rate** will be required to accept the quantity allocated, if it is within the offered quantity by him. In the event of non acceptance, the bid security (EMD) shall be forfeited, alongwith punitive action against the firm including debarring the firm for a period of five years for any business with Discom.

**21. DISTRIBUTION OF QUANTITY AMONGST ELIGIBLE BIDDERS****(A) In case lowest acceptable F.O.R. destination rate is from regular firm:-**

60% of proposed quantity to L-1 bidder (limiting the same to offered quantity) and balance 40% quantity amongst L-2 to L-3 bidders falling within price consideration zone of 10% above L-1 and at the price of L-1. The order shall be placed to L-3 when the offered quantity by L-2 is less than the balance 40% and at the price of L-1. However the bidders shall have to offer a minimum of 10% of the proposed quantity, below which their bid shall not be evaluated.

**(B) In case lowest acceptable F.O.R. destination rate is from a new firm (not supplied material to Discoms of MP and whose supply performance is not known) and difference between L-1 & other eligible bidders is within price consideration zone of 10%:-**

Capacity of the L-1 bidder or 50% of proposed quantity, whichever is lower, to L-1 bidder (subject to satisfactory inspection prior to placement of detailed order and limiting the same to offered quantity) and balance quantity amongst L-2 and L-3 bidders only falling within the price consideration zone of 10% above L-1 and at the price of L-1. Order shall be placed to L-3 when the offered quantity by L-2 is less than the balance 50%, at the price of L-1. However the bidders shall have to offer a minimum of 10% of the proposed quantity, below which their bids shall not be evaluated.

**(C) In any of the cases of para 21 (A) and (B) above where L-2 & L-3 do not accept the counter offers.**

If L-2 & L-3 bidders do not accept the counter offer for the quantity and price offered by the utility, the balance quantity shall be procured through retendering or by enhancement of the quantity on L-1. The L-1 will be required to accept the enhanced quantity provided it is within the offered quantity. In the event L-1 does not accept enhanced quantity, as above, bid security shall also be forfeited. Suitable provisions in this regard shall be incorporated in the bid documents.

**22. UNSATISFACTORY PERFORMANCE**

Even on fulfillment of all the criteria it may please be noted that:-

- (i) The bidders should not be debarred/black listed by any Discoms of MP including Central Zone Company. In such cases, the offers of such bidders shall be summarily rejected. An undertaking (self certification) to this effect has to be produced/enclosed by the bidders with their offer.
- (ii) In case of those bidders whose past performance has not been satisfactory against previous tenders of MPSEB / Companies formed on restructuring of MPSEB, they may not be considered for order. Following shall attribute to poor performance of a bidder:-
  1. Non-execution of previous order(s)/inordinate delay in supply of material.
  2. Failures of material in testing & non-replacement of the same by the supplier.
  3. Failures of material enmasse as reported by the field officers.

**23. RECOVERIES FOR LIABILITIES AGAINST OTHER CONTRACTS:-**

All amounts recoverable from the successful bidder against earlier contracts with the Board will be adjusted from payment due against the contract that may be awarded under this specification.

**24. ROYALTIES AND PETENTS:-**

All royalties for patent or any charges for usage or infringement there of that may be involved in the supply shall be included in the offered price and the supplier shall protect purchaser against any claim thereof. Supplier is fully responsible for such contractual dealing and purchaser shall not be called upon to bear any such charges.

**25. COMPLIANCE OF REGULATIONS:-**

The supplier shall warranty that all goods covered under procurement, shall have been produced, sold, dispatched, delivered, tested, in strict compliance with all applicable Rules, Regulation including Industrial (Development and Regulation) Act 1951 and any amendment there under. Labour agreement, working conditions and technical codes and requirements, as applicable from time to time.

The supplier should execute and deliver such documents, as may be needed, by the purchaser in evidence of compliance. All laws, Rules and Regulation are required to be incorporated in this reference. Any liability arising out of contravention of any of the laws shall be the sole responsibility of the vendor and the purchasers shall not be responsible in any manner whatsoever.

**26. CANCELLATION OF ORDER:-**

26.1 The Company may upon written notice of default, terminate contract in the circumstances detailed hereunder:-

- a) If in the option of the Board, the supplier fails to deliver the material within the time specified or during the period for which extension has been granted by the Company.
- b) If in the option of the Company, the supplier fails to comply with any of the other provisions of this contract or material is found not in accordance with prescribed specifications and or the approved samples.

- c) If as a result of stage inspection, it is revealed that material and/or, workmanship is sub-standard which is likely to affect the performance of the finished products a notice would be served by the Board to the supplier to suspend further activities and to take urgent steps towards corrective measures, failing which the entire order would be cancelled.

26.2 In the event of such termination, the Company shall exercise the discretionary powers as:-

- (a) To recover from the supplier then agreed liquidated damages as approved in the clause No. 9 above.

**OR**

- (b) To purchase from elsewhere after giving due notices to the supplier on account and at the risk of the contractor such stores/material not so delivered or others of similar description in respect of consignment not yet delivered.

**OR**

- (c) To cancel the contract reserving Company's right to recover damages.

26.3 Notwithstanding that the powers under clause [22.2 (a), (b) & (c)] referred to above, are in addition to the rights and remedy available to the Board under the law of India relating to contract.

26.4 In the event of risk purchase of stores of similar description, the opinion of the Company shall be final. In the event of action taken under the clause 22.2 (a) or (b) above, the supplier shall be liable to pay for any loss, which the company may sustain on that account but the supplier shall not be entitled to any saving all such purchases made against the default.

26.5 The decision of the Company shall be final regarding the acceptability of the store supplied by supplier and the Company shall not be required to give any reason in writing or otherwise at any time for the rejection of the stores/material.

26.6 In the event, the Company does not terminate the order as provided in clause 26.1 and 26.2 above, the supplier shall continue execution of this order, in which case he shall be liable to the Company for liquid detail damages for the delay as per clause 9, until supplies are accepted.

27. **ARBITRATION:-**

If, at any time, any question, or difference. Whatsoever shall arise between the purchaser and the supplier, upon, or in relation to or in connection with the contract, either party may forthwith give to the other, notice in writing of the existence of such question, dispute or difference, and the same shall be referred to the adjudication of two Arbitrators, one to be nominated by the purchaser and the other to be nominated by the supplier in the case of said Arbitrator not agreeing, then to adjudication of the Umpire to be appointed by the Arbitrator, whose, decision shall be final and binding on the parties and the provisions of the Indian Arbitrator Act 1940, and of the rules there under and any statutory modification thereof shall be deemed to apply. The Arbitrators or the Umpire as the case may be, are bound to give a detailed speaking award assigning reasons for the findings.

Suppliers under the contract shall be continued by the Supplier during the arbitration proceedings, unless otherwise, directed in writing by the purchaser or unless the matter is such that the work cannot possibly be continued until the decision of the Arbitrator or of the Umpire, as the case may be, is issued.

**27. JURISDICTION:-**

Any dispute or difference, arising under, out of, or in connection with Tender/contract order shall be subject to exclusive jurisdiction of court at Bhopal only.

**28. RANDOM TESTING:-**

28.1 Inspection of material before despatch or waiver of inspection will not relieve the supplier from his responsibility to supply the material strictly in accordance with the specification. The Company shall have option to test the samples selected at random from the supplies effected and subject it to routine/acceptance/type test to be conducted at CPRI.

28.2 In case, the samples fail to withstand the required test, the entire lot will be liable to be rejected (i.e. unused material so supplied) and the supplier will have to refund the amount paid, including all taxes & duties, as well as the test charges thereof, after inspection. Such quantities or rejected material as identified shall be removed by the supplier and replaced in full at his own cost. The Company will not be responsible for levy of taxes on such rejected materials and deduction shall be in totality.

28.3 In case the random checking of supplies, if any deviation is noticed, a notice shall be given to the supplier, who shall arrange to depute his representative within 15 days for joint inspection. If during joint inspection any deviation is observed and material supplied is found not conforming to standard laid down in the relevant ISS, the Company reserves the right to impose any appropriate penalty for full quantity of material supplied against the order. The decision of the Company in this respect shall be final and binding on the suppliers.

**29. VARIATION IN THE ORDERED QUANTITY:-**

A tolerance in the ordered quantity will be allowed to the extent of  $\pm 2\%$  (plus minus 2%) and not for each consignment. MRCs shall be issued for actual receipt of quantity only.

**30. CORRESPONDENCE:-**

Copies of all important correspondence regarding the order shall be endorsed to the following:-

- i) Dir.(Fin.) O/o CMD, MPMKVV Co. Ltd., Bhopal
- ii) Concerned consignee
- iii) Concerned Sr. Accounts Officer/Regional Accounts Officer
- iv) C.E. (S&P), O/o CMD, MPMKVV Co. Ltd., Bhopal

**31. CLIMATIC CONDITIONS:-**

The climate conditions where equipment is intended for installation could be taken as under:-

|       |                                    |   |   |
|-------|------------------------------------|---|---|
| (i)   | Maximum temperature of air in shed | : | 45° C   |
| (ii)  | Minimum temperature of air in shed | : | 4° C  |
| (iii) | Maximum relative humidity          | : | 95% (The humidity sometime approaches saturation point) |
| (iv)  | Minimum relative humidity          | : | 10%   |

|        |  |   |                |
|--------|--|---|----------------|
| (v)    | Average No. of dust-storm days per Annum   | : | 40 days        |
| (vi)   | Average No. of rainy days per Annum  | : | 90 days        |
| (vii)  | No. of months of tropical monsoon conditions per annum.  | : | 3 months       |
| (viii) | Average annual rain fall   | : | 1250 mm        |
| (ix)   | Maximum wind pressure  | : | 150 kg/sq. mm. |
| (x)    | Altitude not exceeding   | : | 1000 meters    |
|        | (the limit of ambient temperature shall be 50°C peak and 35°C average over a period of 24 hours) |   |                |

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**O/O CMD, MPMKVV CO.LTD. BHOPAL**

**ANNEXURE –IV****LIST OF CONSIGNEE AREA STORES AND SENIOR/REGIONAL ACCOUNTS OFFICER**

| Sr. No. | Name of Consignee            | Name of Place to which material are to be dispatched | Concerned Sr. AO/RAO MPSEB. |
|---------|------------------------------|--|-----------------------------|
| 01.     | Addl. SE/EE (Stores), MPSEB. | Bhopal   | Bhopal                      |
| 02.     | Addl. SE/EE (Stores), MPSEB. | Gwalior  | Gwalior                     |
| 03.     | Addl. SE/EE (Stores), MPSEB. | Guna   | Guna                        |

**ANNEXURE –V****LIST OF SCHEDULED BANKS**

| S.No. | Name of R.A.O./Sr. A.O. | Name of Bank.                             |
|-------|-------------------------|---|
| 1.    | <b>Bhopal</b>           | (i) State Bank of India,                  |
|       |                         | (ii) Allahabad Bank                       |
|       |                         | (iii) State Bank of India, Evening Branch |
| 2     | <b>Gwalior</b>          | (i) State Bank of India                   |
|       |                         | (ii) Central Bank of India                |
| 3     | <b>Guna</b>             | (i) State Bank of India,                  |
|       |                         | (ii) Punjab National Bank                 |





**SCHEDULE – II (A)****TECHNICAL SPECIFICATION FOR 11 KV RESIN CAST EPOXY MOULDED DRY TYPE OUTDOOR TYPE CURRENT TRANSFORMER****1. SCOPE :-**

This specification covers design, manufacturing, testing, inspection before despatch at manufacturers works and delivery of 11 KV Resin cast epoxy moulded dry type Outdoor Single Phase Current Transformers for relaying and metering services in 11 KV solidly grounded system and delivery at various consignee Area Stores viz. Bhopal, Gwalior & Guna.

**2. GENERAL REQUIREMENT :**

- 2.2 11 KV Resin cast epoxy moulded dry type current transformer shall be of outdoor type, single phase, dead tank design and suitable for operation in humid atmospheres and in the tropical direct sun-light with temperature upto 50 degree centigrade. The complete secondary winding, core & coil alongwith primary winding should all together be epoxy moulded.
- 2.3 The above 11 KV CTs should be suitable for use in areas subject to heavy lightning storms. The CTs should be suitable for operation under the climatic conditions, prevailing in the State of M.P.
- 2.4 Further, the above CTs are required to be mounted on an out door structure in the switchyard. CTs will therefore, have suitable mounting holes at the base channel, for clamping it on the structure. This specification does not cover supply of mounting structures for the CTs which are being arranged by the purchaser, separately.
- 2.5 The current transformers shall have the following specification :-

|       |   | <b>11 KV</b>                                 |         |
|-------|---|--|---------|
| i)    | Nominal system voltage                        | 11 KV  |         |
| ii)   | Highest system voltage                        | 12 KV  |         |
| iii)  | Frequency                                     | 50 cycles                                    |         |
| iv)   | Earthing of the system                        | Effectively grounded                         |         |
| v)    | Insulation level                              | 28/75 KV                                     |         |
| vi)   | Short circuit level                           | 250 MVA                                      |         |
| vii)  | Minimum one second short time current rating  | 13.1 KA                                      |         |
| viii) | Minimum creepage distance                     | 300 mm                                       |         |
| ix)   | Rated secondary current                       | 5 Amps                                       |         |
| x)    | Tank sheet thickness                          | Min. 3mm                                     |         |
| xi)   | CT Ratio                                      | 200-100/5-5A<br>300-150/5-5A<br>500-250/5-5A |         |
| xii)  | No. of cores (with the following accuracies): | 2  |         |
| S.no. | Item  | Core-I                                       | Core-II |
| i)    | Purpose                                       | Protection/ Metering                         |         |
| ii)   | Rated output                                  | 15 VA  | 10 VA   |
| iii)  | Accuracy Class                                | 10P10  | 0.5     |

### **3. DESIGN :-**

As stated, the 11 KV Rasin cast Epoxy moulded dry type CTs shall be, resin cast epoxy moulded in composition as per relevant IS. Thus, the 11 KV CT & PT after providing insulation between core and windings thereafter shall be housed directly in the tank. Thickness of steel tank sheet shall not be less than 3mm. The contact area of the lead taken out from the primary stud should not be less than 1 sq. mm./Amp. Welded joints have to be minimized to avoid possibility of oil leakage. In any case welding in horizontal plane shall be avoided.

### **4. STANDARDS :-**

The current transformers shall comply with the latest issue of Indian Standard 2705 (Part-I, II, III & IV) or IEC-185 with latest amendment thereof.

### **5. GENERAL :-**

- 5.1 The 11 KV current transformers shall be outdoor single phase, resin cast epoxy moulded dry type, self cooled type suitable for the services indicated, complete in all respect conforming to the modern practices of design and manufacturing.
- 5.2 The core shall be of high grade, non-ageing electricals silicon laminated steel of low hysteresis loss and high permeability to ensure high accuracy at both normal and over-currents.
- 5.3 The current transformers shall be sealed properly to eliminate and prevent air, moisture from entering the tank. For gasketed joints, whenever used, nitrile butyl rubber gaskets, neoprene or any other improved material shall be used. The gasket shall be fitted in properly machined groove with adequate space for accommodating the gasket under compression. You have to submit complete details, drawings of gaskets which will be used between joints and also for mounting oil level indicator. The gaskets will be of best quality to avoid leakage of oil.
- 5.4 The maximum temperature attained by any part of the equipment, when in service, under continuous full load conditions and exposed to direct rays of sun, shall not exceed 45 degree centigrade above ambient.
- 5.5 The primary winding, terminals, terminal connectors clamps etc. are required to be designed considering the continuous over loading of 25 percent. For the 25 percent continuous over loading, the ratio and phase angle error shall be maintained within the specified limit applicable for normal loading conditions. Further, temperature rise for 125 percent loading shall be within the permissible limits specified in the relevant IS.

### **6. WINDINGS :-**

- 6.1 The current transformers core to be used for metering and instrumentation shall be of accuracy class specified in Clause 2.5 (xii) above. The primary winding shall be designed considering current density not exceeding 1.6 Amps/ Sq.mm. The saturation factor of this core shall be low enough not to cause any damage to measuring instruments in the event of maximum short circuit current.
- 6.2 Current transformer cores to be used for protective relaying purposes shall be of accuracy class specified or appropriate class suitable for over current protection. The cores shall be designed for a minimum saturation factor of 10 for the highest

setting. The magnetisation curves for these cores shall be furnished alongwith the drawings of CTs.

- 6.3 The rating of the secondary windings shall be 5 Ampere. For secondary connections, threaded studs terminal shall be provided and brought out in a compartment on side of current transformer for easy access. Further, the secondary terminals shall be provided with short circuiting arrangement. The secondary taps shall be adequately re-enforced to with-stand normal handling, without damage.
- 6.4 Secondary terminal studs shall be provided with atleast three nuts and adequate plain and spring washers for fixing the leads. The studs, nuts and washers shall be brass nickel plated. The minimum outside diameter of the studs should not be less than 6 mm. The length of atleast 15 mm shall be available on the stud for inserting the leads.
- 6.5 The CT secondary terminals shall be brought out to a suitable weather proof sheet metal terminal box for termination of multi core cables. The terminal box shall be provided with two nos. cable glands suitable for 4 core 1100 Volt grade, PVC Insulated 2.5 sq.mm. Copper Cable. The dimension of terminal box and its opening shall be adequate to enable easy access and working space with use of normal tools. The outer cover of the secondary terminal box shall have proper arrangement of sealing.

## **7. INSULATION :-**

- 7.1 The insulating materials shall be Rasine and Epoxy compound with hardener and accelerator as per GTP.
- 7.2 The current transformers shall be single phase, multicore, separately mounted, free standing type for outdoor installation.
- 7.3 The insulators shall be prepared from wet process porcelain with arrangement for sealing hermetically the metallic tank containing the core and the secondary winding.
- 7.4 The primary terminals of current transformer shall be of non-ferrous corrosion-proof material and shall be provided with suitable terminals connectors to receive ACSR Dog Conductors.
- 7.5 The terminals of primary and secondary winding shall be clearly marked according to relevant standards.

## **8. INSULATION WITHSTAND CHARACTERISTICS :-**

- 8.1 Insulation withstand characteristics of 11 KV CTs shall be as per IS: 2705 as shown in the table below :-

**TABLE**

| Nominal system voltage | Highest system voltage | Power frequency withstand voltage (for 1 minute) | Lightning Impulse withstand voltage (for 1 minute) |
|------------------------|------------------------|--|--|
| 11 KV (rms)            | 12 KV (rms)            | 28 KV (rms)                                      | 75 KV (peak)                                       |

- 8.2 The tank of CT shall be made of steel sheet of min 3 mm thick. The exterior of the CT tank shall be thoroughly cleaned, scraped and giving a primary coat and two

coats of durable oil and weather resisting enamel paint or hot dip galvanized. All steel bolts, nuts and fasteners exposed to atmosphere shall be hot dip galvanized conforming to IS: 2633.

- 8.3 Change in CT ratio will be obtained by providing tapings in the secondary windings, while the primary will have only one winding.
- 8.4 The Cuts are required only of outdoor type having fitted with outdoor type porcelain bushings. Compound filled CTs are not acceptable. The CTs will be dead tank design and live tank design CTs is not acceptable.

## 9. **TYPE OF MOUNTING :-**

The CTs shall be mounted on CT bracket, provided on Circuit Breaker's structure.

## 10. **TERMINAL CONNECTORS :-**

The terminal connectors required for connection of the current transformer to owner's equipment/ bus shall be in supplier's scope. The terminal connector shall be suitable for DOG ACSR Conductor. The terminal connector shall conform to latest version of IS:5561 or equivalent International Standard.

In respect of the terminal connector following shall be ensured:-

- (i) All current x'mer shall be provided with terminal connectors suitable to receive on Dog ACSR conductors. Clamps shall be designed adequately to take care of any bimetallic effect. Terminal connectors shall be tested for short circuit current capability, temperature rise.
- (ii) The terminal connector shall also meet the following requirements :-
- (a) Terminal connectors shall be manufactured & tested as per IS:5561.
  - (b) All castings shall be free from blow holes, surface blisters, cracks and cavities. All sharp edges and corners shall be blurred and rounded off.
  - (c) No part shall be less than 12 mm thick.
  - (d) The nuts, bolts & washers used in the current path shall be stainless steel.
  - (e) The bimetallic strips/ sleeve liner of minimum thickness of 2 mm shall be cast integral with aluminium body.
  - (f) All current carrying parts shall be designed and manufactured to have minimum contact resistance.
  - (g) The terminal connectors should be made Aluminium and manufactured by gravity die-casting process only. Sand die-casted connectors are not acceptable.
  - (h) The current ratings of terminal connectors shall be 300 amps for CT ratio 200-100/5-5 , 450 amps for CT ratio 300-150/5-5A, 600 amps for CT ratio 400-200/5-5A & 750 amps for CT ratio 500-250/5-5A .
  - (i) Size of terminal connector for which the clamp is designed and also rated current under site conditions shall be embossed/ punched on each part of clamps, except hardware.
  - (j) The conductor shall be tightened by atleast four bolts. Conductor hold length must not be less than 60 mm.
  - (k) The surface of clamps to be tightened by the bolts should be flat in shape, so that it may be possible to open the nuts and bolts by normal spanners. Therefore, any type of groove in the clamp body for fixing of nuts should be avoided.

- (l) The portion of clamp to hold the conductor should be flat and straight and not zig-zag in construction, at both the sides, so that heating of clamp by throttling action of current may be avoided.
- (m) Space of at least 50% of diameter of nuts should be available after hole at both the sides of conductor holding portion for better mechanical strength.

Each CT shall be provided with two separate terminals for bolted connection to 50x8 mm. MS flat to be provided by the purchaser for connection to station earth mat.

### 11. **STUDS** :-

The length of the primary studs available for clamping the terminals shall not be less than 60 mm. Minimum 2 nuts with a check nut and washer should be provided on upper side of stud.

The minimum size of stud diameter should be 16 mm for 200-100/5-5 Amps and 300-150/5-5 Amps CTs. Similarly 20 mm stud diameter for CT ratio 400-200/5-5A & 500-250/5-5A .

### 12. **BUSHING** :-

The basic insulation level of the bushing shall be as specified and porcelain shall be homogenous and free from cavities and other flaws. This shall be so designed as to have ample insulation and mechanical strength. All insulators of identical ratings shall be interchangeable. The type tested insulators shall be provided in the CT and test report shall be enclosed with the bid.

### 13. **TESTS** :-

(I) **Short time current ratings** :- The out door type CTs shall comply with the following requirements in respect of short time current ratings:-

- a) **Thermal Ratings** :- Short time thermal current rating assigned to the CTs for the rated time of 1 second shall be 18.4 KA for 33 KV and 13.1 KA for 11 KV CT.
- b) **Dynamic Rating** :- Peak value of the rated dynamic current which CT can withstand without being damaged electrically or mechanically with the secondary winding short circuited shall not be less than 2.5 times the rated short time thermal current.

(II) **Temperature Rise** :- Temperature rise of the CTs of outdoor type when carrying a primary current equal to continuous thermal current, at a rated frequency and at a rated burden, shall not exceed 45 degree centigrade above ambient temperature.

(A) **TYPE TEST**:- The CT offered shall be fully type tested for the following tests as per IS-2705 of 1992 with latest amendment thereof from CPRI, ERDA or any other NABL accredited lab and the type test certificates of CT with type tested drawings duly sealed and signed by the Testing Authority should be submitted invariably with the offer.

- a) Short time current tests.
- b) Temperature rise test.
- c) Lightning Impulse Voltage withstand test.
- d) High voltage Power Frequency wet withstand voltage tests
- e) Determination of errors according to the requirements of the appropriate accuracy class.

The type test certificate should not be more than 5 years old on the date of opening of tender.

(B) **ROUTINE TESTS**:- Each CT shall be subjected to following routine tests as per Indian Standard 2705 at the manufacturer works and test reports in duplicate giving results of these tests shall be submitted for purchaser approval before despatch of the equipment. Further, above test results shall be witnessed at the manufacturer works, if so desired by the purchaser, prior to despatch of the CTs :-

- a) Verification of terminal markings and polarity
- b) Power frequency dry withstand tests on primary windings
- c) Power frequency dry withstand tests on sec. windings
- d) Over-Voltage inter-turn test
- e) Determination of errors according to the requirements of the appropriate accuracy class
- f) Partial discharge test

15. In case of any change in design/ type of CT already type tested and are offered against this specification, the purchaser reserves the right to demand repetition of some or all the tests without any extra-cost at Independent Govt. Laboratory or any recognized standard lab.

**16. RATING PLATE :-**

The CT shall be provided with a rating plate with dimensions and marking as per the latest version of IS:2705/IEC-185. The marking shall be punched/ engraved and not painted. This rating plate shall also contain purchaser's order no. & date, month, year of despatch & guarantee period.

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**SCHEDULE –II (B)****TECHNICAL SPECIFICATION FOR 33 KV OIL IMMERESED OUTDOOR  
TYPE CURRENT TRANSFORMERS****1. SCOPE :-**

This specification covers design, manufacturing, testing, inspection before despatch at manufacturers works and delivery of 33 KV Outdoor Single phase, Minimum Oil Current Transformers for relaying and metering services in 33 KV solidly grounded system and delivery at various consignee Area Stores viz. Bhopal, Gwalior & Guna.

**2. GENERAL REQUIREMENT :**

- 2.2 33 KV current transformers shall be of outdoor type, single phase, oil immersed self cooled dead tank design and suitable for operation in humid atmospheres and in the tropical direct sun-light with temperature upto 50 degree centigrade.
- 2.3 The above 33 KV CTs should be suitable for use in areas subject to heavy lightning storms. The CTs should be suitable for operation under the climatic conditions, prevailing in the State of M.P.
- 2.4 Further, the above CTs are required to be mounted on an out door structure in the switchyard. CTs will therefore, have suitable mounting holes at the base channel, for clamping it on the structure. This specification does not cover supply of mounting structures for the CTs, which are being arranged by the purchaser, separately.
- 2.5 The current transformers shall have the following specification :-

| S.No  | Particulars of test                           |  | 33 KV                        |         |
|-------|---|--|------------------------------|---------|
| i)    | Nominal system voltage                        |  | 33 KV                        |         |
| ii)   | Highest system voltage                        |  | 36 KV                        |         |
| iii)  | Frequency                                     |  | 50 cycles                    |         |
| iv)   | Earthing of the system                        |  | Effectively grounded         |         |
| v)    | Insulation level                              |  | 70/170 KV                    |         |
| vi)   | Short circuit level                           |  | 1000 MVA                     |         |
| vii)  | Minimum one second short time current rating  |  | 18.4 KA                      |         |
| viii) | Minimum creepage distance                     |  | 900 mm                       |         |
| ix)   | Rated secondary current                       |  | 5 Amps                       |         |
| x)    | Tank sheet thickness                          |  | Min. 3mm                     |         |
| xi)   | CT Ratio                                      |  | 300-150/5-5A<br>400-200/5-5A |         |
| xii)  | No. of cores (with the following accuracies): |  | 2                            |         |
| S.no. | Item  |  | Core-I                       | Core-II |
| i)    | Purpose                                       |  | Relaying/ Metering           |         |
| ii)   | Rated output                                  |  | 15 VA                        | 10 VA   |
| iii)  | Accuracy Class                                |  | 5P10                         | 0.5     |

### **3. DESIGN :-**

As stated, the 33 KV CTs shall be oil immersed, filled with EHV Grade II transformer oil. Thus, the 33 KV CT after providing insulation between core and windings thereafter shall be housed directly in the tank containing transformer oil. Thickness of steel tank sheet shall not be less than 3mm. The contact area of the lead taken out from the primary stud should not be less than 1 sq. mm./Amp. Welded joints have to be minimized to avoid possibility of oil leakage. In any case welding in horizontal plane shall be avoided.

### **4. STANDARDS :-**

The current transformers shall comply with the latest issue of Indian Standard 2705 (Part-I, II, III & IV) or IEC-185 with latest amendment thereof.

### **5. GENERAL :-**

- 5.1 The 33 KV current transformers shall be outdoor single phase, oil filled (immersed) type, self cooled type suitable for the services indicated, complete in all respect conforming to the modern practices of design and manufacturing.
- 5.2 The core shall be of high grade, non-ageing electricals silicon laminated steel of low hysteresis loss and high permeability to ensure high accuracy at both normal and over-currents.
- 5.3 The current transformers shall be sealed properly to eliminate and prevent air, moisture from entering the tank. For gasketed joints, whenever used, nitrile butyl rubber gaskets, neoprene or any other improved material shall be used. The gasket shall be fitted in properly machined groove with adequate space for accommodating the gasket under compression. You have to submit complete details, drawings of gaskets which will be used between joints and also for mounting oil level indicator. The gaskets will be of best quality to avoid leakage of oil.
- 5.4 The CTs shall be provided with a pressure relieving device capable of releasing abnormal internal pressures. Design and arrangement of mounting of pressure release device and oil level gauge should clearly be described with the help of suitable drawings.
- 5.5 The maximum temperature attained by any part of the equipment, when in service, under continuous full load conditions and exposed to direct rays of sun, shall not exceed 45 degree centigrade above ambient.
- 5.6 The primary winding, terminals, terminal connectors clamps etc. are required to be designed considering the continuous over loading of 25 percent. For the 25 percent continuous over loading, the ratio and phase angle error shall be maintained within the specified limit applicable for normal loading conditions. Further, temperature rise for 125 percent loading shall be within the permissible limits specified in the relevant IS.

### **6. WINDINGS :-**

- 6.1 The current transformers core to be used for metering and instrumentation shall be of accuracy class specified in Clause 2.5 (xii) above. The primary winding shall be designed considering current density not exceeding 1.6 Amps/ Sq. mm. The saturation

- factor of this core shall be low enough not to cause any damage to measuring instruments in the event of maximum short circuit current.
- 6.2 Current transformer cores to be used for protective relaying purposes shall be of accuracy class specified or appropriate class suitable for over current protection. The cores shall be designed for a minimum saturation factor of 10 for the highest setting. The magnetisation curves for these cores shall be furnished alongwith the drawings of CTs.
- 6.3 The rating of the secondary windings shall be 5 Ampere. For secondary connections, threaded studs terminal shall be provided and brought out in a compartment on side of current transformer for easy access. Further, the secondary terminals shall be provided with short circuiting arrangement. The secondary taps shall be adequately re-enforced to with-stand normal handling, without damage.
- 6.4 Secondary terminal studs shall be provided with atleast three nuts and adequate plain and spring washers for fixing the leads. The studs, nuts and washers shall be brass nickel plated. The minimum outside diameter of the studs should not be less than 6 mm. The length of atleast 15 mm shall be available on the stud for inserting the leads.
- 6.5 The CT secondary terminals shall be brought out to a suitable weather proof sheet metal terminal box for termination of multi core cables. The terminal box shall be provided with two nos. cable glands suitable for 4 core 1100 Volt grade, PVC Insulated 2.5 sq.mm. Copper Cable. The dimension of terminal box and its opening shall be adequate to enable easy access and working space with use of normal tools. The outer cover of the secondary terminal box shall have proper arrangement of sealing.

## **7. INSULATION :-**

- 7.1 The insulating oil for first filling in each 33 KV CT shall be in the scope of supplier. Only best quality of new EHV Grade II Transformer Oil should be used with the equipment with minimum BDV of 70 KV. The test certificate of the transformer oil shall be produced at the time of inspection. The oil shall comply in all respect with the latest version of IS-335:1983.
- 7.2 The current transformers shall be single phase, multicore, separately mounted, free standing type for outdoor installation.
- 7.3 The insulators shall be prepared from wet process porcelain with arrangement for sealing hermetically the metallic tank containing the core and the secondary winding.
- 7.4 The primary terminals of current transformer shall be of non-ferrous corrosion-proof material and shall be provided with suitable terminals connectors to receive ACSR Dog Conductors.
- 7.5 The terminals of primary and secondary winding shall be clearly marked according to relevant standards.

## **8. INSULATION WITHSTAND CHARACTERISTICS :-**

- 8.1 Insulation withstand characteristics of 33 KV CTs shall be as per IS: 2705 as shown in the table below :-

**TABLE**

| Nominal system voltage | Highest system voltage | Power frequency withstand voltage (for 1 minute) | Lightning Impulse withstand voltage (for 1 minute) |
|------------------------|------------------------|--|--|
| 11 KV (rms)            | 12 KV (rms)            | 28 KV (rms)                                      | 75 KV (peak)                                       |
| 33 KV (rms)            | 36 KV (rms)            | 70 KV (rms)                                      | 170 KV (peak)                                      |

- 8.2 The tank of CT shall be made of steel sheet of min 3 mm thick. The exterior of the CT tank shall be thoroughly cleaned, scraped and giving a primary coat and two coats of durable oil and weather resisting enamel paint or hot dip galvanized. All steel bolts, nuts and fasteners exposed to atmosphere shall be hot dip galvanized conforming to IS: 2633.
- 8.3 Change in CT ratio will be obtained by providing tapings in the secondary windings, while the primary will have only one winding.
- 8.4 The CTs are required only of outdoor type having fitted with outdoor type porcelain bushings. Compound filled CTs are not acceptable. The CTs will be dead tank design and live tank design CTs is not acceptable.

## **9. TYPE OF MOUNTING :-**

The CTs shall be mounted on CT bracket, provided on Circuit Breaker's structure.

## **10. TERMINAL CONNECTORS :-**

The terminal connectors required for connection of the current transformer to owner's equipment/ bus shall be in supplier's scope. The terminal connector shall be suitable for DOG ACSR Conductor. The terminal connector shall be conforms to latest version of IS:5561 or equivalent International Standard.

In respect of the terminal connector following shall be ensured:-

- (i) All Current Transformers shall be provided with terminal connectors suitable to receive on Dog ACSR conductors. Clamps shall be designed adequately to take care of any bimetallic effect. Terminal connectors shall be tested for short circuit current capability, temperature rise.
- (ii) The terminal connector shall also meet the following requirements :-
- (n) Terminal connectors shall be manufactured & tested as per IS:5561.
  - (o) All castings shall be free from blow holes, surface blisters, cracks and cavities. All sharp edges and corners shall be blurred and rounded off.
  - (p) No part shall be less than 12 mm thick.
  - (q) The nuts, bolts & washers used in the current path shall be stainless steel.
  - (r) The bimetallic strips/ sleeve liner of minimum thickness of 2 mm shall be cast integral with aluminium body.
  - (s) All current carrying parts shall be designed and manufactured to have minimum contact resistance.
  - (t) The terminal connectors should be made of A6 Aluminium Alloy and manufactured by gravity die-casting process only. Sand die-casted connectors are not acceptable.
  - (u) The current ratings of terminal connectors shall be 300 amps for CT ratio 200-100/5-5 , 450 amps for CT ratio 300-150/5-5A, 600 amps for CT ratio 400-200/5-5A & 750 amps for CT ratio 500-250/5-5A .

- (v) Size of terminal connector for which the clamp is designed and also rated current under site conditions shall be embossed/ punched on each part of clamps, except hardware.
- (w) The conductor shall be tightened by atleast four bolts. Conductor hold length must not be less than 60 mm.
- (x) The surface of clamps to be tightened by the bolts should be flat in shape, so that it may be possible to open the nuts and bolts by normal spanners. Therefore, any type of groove in the clamp body for fixing of nuts should be avoided.
- (y) The portion of clamp to hold the conductor should be flat and straight and not zig-zag in construction, at both the sides, so that heating of clamp by throttling action of current may be avoided.
- (z) Space of at least 50% of diameter of nuts should be available after hole at both the sides of conductor holding portion for better mechanical strength.

Each CT shall be provided with two separate terminals for bolted connection to 50x8 mm. MS flat to be provided by the purchaser for connection to station earth mat.

### **11. STUDS :-**

The length of the primary studs available for clamping the terminals shall not be less than 60 mm. Minimum 2 nuts with a check nut and washer should be provided on upper side of stud.

The minimum size of stud diameter should be 16 mm for 200-100/5-5 Amps and 300-150/5-5 Amps CTs. Similarly 20 mm stud diameter for CT ratio 400-200/5-5A & 500-250/5-5A Further, the primary studs shall be so designed as to have current carrying capacity of atleast 1.5 times that of the primary winding.

### **12. BUSHING :-**

The basic insulation level of the bushing shall be as specified and porcelain shall be homogenous and free from cavities and other flaws. This shall be so designed as to have ample insulation and mechanical strength. All insulators of identical ratings shall be interchangeable. The type tested insulators shall be provided in the CT and test report shall be enclosed with the bid.

### **13. TESTS :-**

(I) Short time current ratings :- The out door type CTs shall comply with the following requirements in respect of short time current ratings:-

- a) Thermal Ratings :- Short time thermal current rating assigned to the CTs for the rated time of 1 second shall be 18.4 KA for 33 KV
- b) Dynamic Rating :- Peak value of the rated dynamic current which CT can withstand without being damaged electrically or mechanically with the secondary winding short circuited shall not be less than 2.5 times the rated short time thermal current.

(II) Temperature Rise :- Temperature rise of the CTs of outdoor type when carrying a primary current equal to continuous thermal current, at a rated frequency and at a rated burden, shall not exceed 45 degree centigrade above ambient temperature.

(A) TYPE TEST:- The CT offered shall be fully type tested for the following tests as per IS-2705 of 1992 with latest amendment thereof from CPRI, ERDA or any other NABL accredited lab and the type test certificates of CT with type tested drawings duly sealed and signed by the Testing Authority should be submitted invariably with the offer.

- a) Short time current tests.

- b) Temperature rise test.
- c) Lightning Impulse Voltage withstand test.
- d) High voltage Power Frequency wet withstand voltage tests
- e) Determination of errors according to the requirements of the appropriate accuracy class.

The type test certificate should not be more than 5 years old on the date of opening of tender.

(B) **ROUTINE TESTS:-** Each CT shall be subjected to following routine tests as per Indian Standard 2705 at the manufacturer works and test reports in duplicate giving results of these tests shall be submitted for purchaser approval before despatch of the equipment. Further, above test results shall be witnessed at the manufacturer works, if so desired by the purchaser, prior to despatch of the CTs :-

- a) Verification of terminal markings and polarity
- b) Power frequency dry withstand tests on primary windings
- c) Power frequency dry withstand tests on sec. windings
- d) Over-Voltage inter-turn test
- e) Determination of errors according to the requirements of the appropriate accuracy class

15. In case of any change in design/ type of CT already type tested and are offered against this specification, the purchaser reserves the right to demand repetition of some or all the tests without any extra-cost at Independent Govt. Laboratory or any recognized standard lab.

**16. RATING PLATE :-**

The CT shall be provided with a rating plate with dimensions and marking as per the latest version of IS:2705/IEC-185. The marking shall be punched/ engraved and not painted. This rating plate shall also contain purchaser's order no. & date, month, year of despatch & guarantee period.

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**SCHEDULE – III (A)**  
**GUARANTEED TECHNICAL PARTICULARS FOR 11 KV**  
**CURRENT TRANSFORMERS (Minimum Requirement)**

| Sl. No. | Particulars                                    | Ratio of CT                    |              |              |
|---------|--|--------------------------------|--------------|--------------|
|         |  | 200-100/5-5A                   | 300-150/5-5A | 500-250/5-5A |
| 1       | Manufacturer's name & place of manufacturing   |                                |              |              |
| 2       | Manufacturer's type designation of CT          |                                |              |              |
| 3       | Rated Voltage (KV)                             | 11 KV                          |              |              |
| 4       | Rated Primary Current (Amps)                   | 200-100A                       | 300-150A     | 500-250A     |
| 5       | Rated Secondary Current (Amps)                 | 5 A                            |              |              |
| 6       | Short time thermal current for 1 sec. (KA)     | 13.1 KA/second                 |              |              |
| 7       | Rated Dynamic Current (KAp)                    | 2.5 times of short Ckt current |              |              |
| 8       | Frequency (Hz)                                 | 50 Hz                          |              |              |
| 9       | Insulation level (KV/KVp)                      | 12/28KV rms/75 KVp             |              |              |
| 10      | Number of cores                                | 2                              |              |              |
| 11      | Insulation                                     | Kraft paper/Polyster           |              |              |
| 13      | <b>(A) Metering Core:-</b>                     |                                |              |              |
|         | (i) Rated Burden                               | 10 VA                          |              |              |
|         | (ii) Class of accuracy                         | 0.5                            |              |              |
|         | (iii) ISF                                      | ≤ 5 at lowest ratio            |              |              |
|         | <b>(B) Protection Core :-</b>                  |                                |              |              |
|         | (i) Rated Burden                               | 15 VA                          |              |              |
|         | (ii) Class of accuracy                         | 10P                            |              |              |
|         | (iii) ALF                                      | 10                             |              |              |
|         | (iv) Knee point voltage(Min) KV                | N.A.                           |              |              |
|         | (v) Secondary limiting EMF:-                   |                                |              |              |
|         | (a) Lower Ratio                                | As per ISS                     |              |              |
|         | (b) Higher Ratio                               |                                |              |              |
|         | (vi) Composite error:-                         |                                |              |              |
|         | (a) Lower Ratio                                | As per ISS                     |              |              |
|         | (b) Higher Ratio                               |                                |              |              |
|         | (vii) Exciting current (A):-                   |                                |              |              |
|         | (a) Lower Ratio                                | As per ISS                     |              |              |
|         | (b) Higher Ratio                               |                                |              |              |
|         | (viii) Secondary Winding resistance at 75 °C:- |                                |              |              |
|         | (a) Lower Ratio                                | As per ISS                     |              |              |
|         | (b) Higher Ratio                               |                                |              |              |
| 14      | <b>Winding material:-</b>                      |                                |              |              |
|         | (i) Primary                                    | Copper                         |              |              |
|         | (ii) Secondary                                 | SE Copper                      |              |              |
| 15      | Rated continuous current                       | 1.25 times of rated primary    |              |              |
| 16      | Class of insulation                            | 'E'                            |              |              |
| 17      | Thickness of sheet steel enclosure of CT       | 3 mm (min)                     |              |              |
| 18      | <b>Dimensions of CTs:-</b>                     |                                |              |              |
|         | (a) Length                                     | As per drawing                 |              |              |
|         | (b) Width                                      |                                |              |              |

| Sl. No. | Particulars  | Ratio of CT  |              |              |
|---------|--|--|--------------|--------------|
|         |  | 200-100/5-5A   | 300-150/5-5A | 500-250/5-5A |
|         | (c) Height   |  |              |              |
| 19      | Size of base channel   | 50x50x5mm MS Angle   |              |              |
| 20      | Vertical height between bottom of the terminal to the base of the mounting plate   | As per drawing   |              |              |
| 21      | Provision of 2 nos. Bimetallic Terminal connector suitable for ACSR Dog type conductor with 2 nuts + check nut with washers. | Terminal connectors shall be brass diecasted provided with bimetallic strip having current capacities:-<br>(a) 300 Amps for 200-100/5-5A<br>(b) 450 Amps for 300-150/5-5A<br>(c) 750 Amps for 500-250/5-5A<br>The terminal connector for ratio 500-250/5-5 Amps shall be suitable for holding double Dog ACSR Conductor. |              |              |
| 22      | Size of Primary and Secondary studs  | 16 mm M-6  | 16 mm M-6    | 20 mm M-6    |
| 23      | Type of primary joints in side the CT  | Only crimped joints shall be provided using copper lug of appropriate size.  |              |              |
| 24      | Make of HV bushing& its creepage distance  | 300 mm<br>CJI Porcelain Khurja or any reputed make   |              |              |
| 25      | Confirm whether Magnetisation chart of CTs core attached   | To be furnished  |              |              |

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**SCHEDULE – III (B)**  
**GUARANTEED TECHNICAL PARTICULARS FOR 33 KV**  
**CURRENT TRANSFORMERS (Minimum Requirement)**

| Sl. No. | Particulars   | Ratio of CT                      |                  |                       |
|---------|---|----------------------------------|------------------|-----------------------|
|         |   | 200-100/<br>5-5A                 | 300-150/<br>5-5A | 400-200/<br>5-5A/1-1A |
| 1       | Manufacturer's name & place of manufacturing        |                                  |                  |                       |
| 2       | Manufacturer's type designation of CT               |                                  |                  |                       |
| 3       | Rated Voltage (KV)                                  | 33 KV                            |                  |                       |
| 4       | Rated Primary Current (Amps)                        | 200-100 A                        | 300-150 A        | 400-200A              |
| 5       | Rated Secondary Current (Amps)                      | 5-5 A                            |                  |                       |
| 6       | Short time thermal current for 1 sec. (KA)          | 18.4 KA                          |                  |                       |
| 7       | Rated Dynamic Current (KAp)                         | 2.5 times of short Ckt current   |                  |                       |
| 8       | Frequency (Hz)                                      | 50 Hz                            |                  |                       |
| 9       | Insulation level (KV/KVp)                           | 36/70/170 KVp                    |                  |                       |
| 10      | Number of cores                                     | 2                                |                  |                       |
| 11      | Insulation  | Kraft Paper/Polyster             |                  |                       |
| 12      | <b>(A) Metering Core:-</b>                          |                                  |                  |                       |
|         | (i) Rated Burden                                    | 10 VA                            |                  |                       |
|         | (ii) Class of accuracy                              | 0.5                              |                  |                       |
|         | (iii) ISF   | ≤ 5 at lowest ratio              |                  |                       |
|         | <b>(B) Protection Core :-</b>                       |                                  |                  |                       |
|         | (i) Rated Burden                                    | 15 VA                            |                  |                       |
|         | (ii) Class of accuracy                              | 5P                               |                  |                       |
|         | (iii) ALF   | 10                               |                  |                       |
|         | (iv) Knee point voltage(Min) KV                     | N.A.                             |                  |                       |
|         | <b>(v) Secondary limiting EMF:-</b>                 |                                  |                  |                       |
|         | (a) Lower Ratio                                     | As per ISS                       |                  |                       |
|         | (b) Higher Ratio                                    |                                  |                  |                       |
|         | (vi) Composite error                                | As per ISS                       |                  |                       |
|         | (a) Lower Ratio                                     |                                  |                  |                       |
|         | (b) Higher Ratio                                    |                                  |                  |                       |
|         | (vii) Exciting current (A)                          | As per ISS                       |                  |                       |
|         | (a) Lower Ratio                                     |                                  |                  |                       |
|         | (b) Higher Ratio                                    |                                  |                  |                       |
|         | <b>(viii) Secondary Winding resistance at 75 °C</b> |                                  |                  |                       |
|         | (a) Lower Ratio                                     | As per ISS                       |                  |                       |
|         | (b) Higher Ratio                                    |                                  |                  |                       |
| 13      | <b>Winding material:-</b>                           |                                  |                  |                       |
|         | (i) Primary   | Copper                           |                  |                       |
|         | (ii) Secondary                                      | Copper                           |                  |                       |
| 14      | Rated continuous current                            | 1.25 times rated primary current |                  |                       |
| 15      | Class of insulation                                 | 'A'                              |                  |                       |

| Sl. No. | Particulars   | Ratio of CT   |                  |                       |
|---------|---|---|------------------|-----------------------|
|         |   | 200-100/<br>5-5A  | 300-150/<br>5-5A | 400-200/<br>5-5A/1-1A |
| 16      | Thickness of sheet steel enclosure of CT  | >3 mm   |                  |                       |
| 17      | <b>Dimensions of CT:-</b>   |   |                  |                       |
|         | (a) Length  | As per drawing  |                  |                       |
|         | (b) Width   |   |                  |                       |
|         | (c) Height  |   |                  |                       |
| 18      | Size of base channel  | As per drawing  |                  |                       |
| 19      | Vertical height between bottom of the terminal to the base of the mounting plate  | As per drawing  |                  |                       |
| 20      | Provision of 2 nos. Bimetallic Terminal connector suitable for ACSR Dog type conductor with 2 nuts + check nut with washer. | Terminal connectors shall be brass diecasted provided with bimetallic strip having current capacities:-<br>(a) 450 Amps for 300-150/5-5A<br>(b) 600 Amps for 400-200/5-5A<br>The terminal connector for ratio 500-250/5-5 Amps shall be suitable for holding double Dog ACSR Conductor. |                  |                       |
| 21      | Size of Primary and Secondary studs   | 16 mm M-6   | 16 mm M-6        | 20 mm M-6             |
| 22      | Type of primary joints in side the CT   | Only cramped joints shall be provided using copper lug of appropriate size.   |                  |                       |
| 23      | Make of HV bushing& its creepage distance   | CJI / JSI/ Tayal/ Equivalent Creepage distance : [900 mm (min)]   |                  |                       |
| 24      | Confirm whether Magnetisation chart of CTs core attached  | To be furnished   |                  |                       |

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**SCHEDULE-III(C)****GUARANTEED TECHNICAL PARTICULARS OF 11 KV RAISEN CAST EPOXY  
MOULDED DRY TYPE & 33 KV OIL IMMERSED OUT DOOR CTs**

(To be filled-in by tenderer and kept in the envelope containing Part-II ,Commercial &amp; Technical Bid)

| SR.NO. | PARTICULARS  | 11 KV CTs | 33 KV CTs |
|--------|--|-----------|-----------|
| 1.     | Name of Manufacturer                                       |           |           |
| 2.     | Place and country of manufacturing                         |           |           |
| 3.     | Type & Designation   |           |           |
| 4.     | Rated Voltage (KV)   |           |           |
| 5.     | Highest rated Voltage (KV)                                 |           |           |
| 6.     | Frequency (Hz)   |           |           |
| 7.     | (a) Current Transformer:                                   |           |           |
|        | (i) Type   |           |           |
|        | (ii) Standard reference                                    |           |           |
|        | (iii) Transformation ratio                                 |           |           |
|        | (iv) Class of accuracy                                     |           |           |
|        | (v) Rated output   |           |           |
|        | (vi) Short time thermal current for 1 sec.                 |           |           |
|        | (vii) Saturation factor                                    |           |           |
|        | (viii) Insulation level                                    |           |           |
| 8.     | Dimensions of MS tank:-                                    |           |           |
|        | (i) Height (mm)  |           |           |
|        | (ii) Breadth (mm)  |           |           |
|        | (iii) Length (mm)  |           |           |
| 9.     | Weight of core & winding of :-                             |           |           |
|        | Current transformer:-                                      |           |           |
|        | (i) Core   |           |           |
|        | (ii) Primary winding                                       |           |           |
|        | (iii) Secondary winding                                    |           |           |
| 10.    | Weight of oil  |           |           |
| 11.    | Total weight of complete CT unit including all accessories |           |           |
| 12.    | Resistance of primary/secondary winding at 75° per phase:- |           |           |
|        | (a) Primary Wedge  |           |           |
|        | (b) Secondary Wedge  |           |           |

13. Maximum temperature rise in the winding
14. (a) Minimum phase to phase distance  
(b) Shortest distance between Metal part and earth
15. Weight of cooper in winding:-  
(a) Current Transformer
16. Minimum creepage distance of HV bushings
17. Make and type of bushing
18. Thickness of the tank sheet
19. Terminal connector with two check nuts suitable for Dog ACSR conductor
20. Type of Core material
21. Thickness of the gasket and its material:-  
(a) Top cover and tank  
(b) Secondary terminal box  
(c) HV & LV bushing
22. Size of conservator and its capacity
23. Type & thickness of explosion vent diaphragm
24. Method of identification of:-  
(a) Primary terminals  
(b) Secondary terminals:-
25. Size and material of:-  
(i) Primary studs  
(ii) Secondary studs
26. Method of jumpering/connection of:-  
(i) Primary winding of CT with primary terminals  
(ii) Secondary windings of CT with secondary terminals.
27. Winding details:-  
(a) 11 KV CTs:-

| Sl. No | Particulars                               | Primary/Secondary of CT | Ratio       |             |             |
|--------|---|-------------------------|-------------|-------------|-------------|
|        |   |                         | 200-100/5/5 | 300-150/5/5 | 500-250/5-5 |
| (i)    | Nos. of turns                             | CT Primary              |             |             |             |
|        |   | CT Secondary            |             |             |             |
| (ii)   | Cross Section area of each turn in sq.mm. | CT Primary              |             |             |             |
|        |   | CT Secondary            |             |             |             |
| (iii)  | Winding material                          | CT Primary              |             |             |             |
|        |   | CT Secondary            |             |             |             |

(b) 33 KV CTs:-

| Sl. No | Particulars                               | Primary/Secondary of CT/PT | Ratio       |             |             |
|--------|---|----------------------------|-------------|-------------|-------------|
|        |   |                            | 200-100/5-5 | 300-150/5-5 | 400-200/5-5 |
| (i)    | Nos. of turns                             | CT Primary                 |             |             |             |
|        |   | CT Secondary               |             |             |             |
| (ii)   | Cross Section area of each turn in sq.mm. | CT Primary                 |             |             |             |
|        |   | CT Secondary               |             |             |             |
| (iii)  | Winding material                          | CT Primary                 |             |             |             |
|        |   | CT Secondary               |             |             |             |

PLACE:

DATE:

SIGNATURE OF TENDERER

NAME IN FULL

DESIGNATION/STATUS IN THE FIRM

COMPANY SEAL

**SCHEDULE-IV****PRICE VARIATION CLAUSE FOR INSTRUMENT TRANSFORMERS  
BELOW 72.5 KV**

(Applicable for Current and Potential Transformers designed for operation on system voltage below 72.5 KV)

The price quoted/confirmed is based on the input cost of raw materials/components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw materials, index number for instrument transformers and all India average consumer price index number for industrial workers as specified in the price variation clause given below. In case of any variation in these prices and Index numbers, the price payable shall be subject to adjustment up or down in accordance with the following formula:-

$$P = \frac{P_o}{100} \left( 18 + 18 \frac{C}{C_o} + 20 \frac{ES}{ES_o} + 10 \frac{IS}{IS_o} + 12 \frac{ER}{ER_o} + 09 \frac{TB}{TB_o} + 13 \frac{W}{W_o} \right)$$

Wherein,

P = Price payable as adjusted in accordance with the above formula.

P<sub>o</sub> = Price quoted/confirmed.

C<sub>o</sub> = Average LME settlement price of copper wire bars (refer notes)

This price is as applicable for the month, two months prior to the date of tendering.

ES<sub>o</sub> = C&F price of CRGO Electrical Steel Sheets (refer notes)

This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

IS<sub>o</sub> = Wholesale price index number for 'Iron & Steel (base:1993-94=100)' (refer notes)

This index number is as applicable for the week ending 1st Saturday of the month, three months prior to the date of tendering.

ER<sub>o</sub> = Price of Epoxy Resin (refer notes)

This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

TB<sub>o</sub> = Price of Transformer Oil base stock (refer notes)

This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

W<sub>o</sub> = All India average consumer price index number for industrial workers, as published by the labour bureau, Ministry of Labour, Govt. of India (Base 1983=100)

This index number is as applicable for the first working day of the month, three months prior to the date of tendering.

For example, if date of tendering falls in October-2005, the applicable prices of Copper Wire Bars( $C_o$ ) and Transformer Oil Base Stock ( $TB_o$ ) should be for the month August-2005, where as the applicable price of CRGO Electrical Steel Sheets ( $ES_o$ )and Epoxy Resin ( $ER_o$ ) should be as on 1st September-2005 and wholesale price index number for 'Iron & Steel' ( $IS_o$ ) should be for the week ending first Saturday of July-2005 and all India average consumer price index number ( $W_o$ ) should be for the month of July-2005.

The above prices and indices are as published by IEEMA vide circular reference number IEEMA(PVC)CTPT/\_\_\_/\_\_\_ prevailing as on first working day of the month .... i.e. one month prior to the date of delivery:-

C = Average LME settlement price of copper wire bars (refer notes)

This price is as applicable for the month, two months prior to the date of delivery.

ES = C&F price of CRGO Electrical Steel Sheets (refer notes)

This price is as applicable on the 1st working day of the month, one month prior to the date of delivery.

IS = Wholesale price index number for 'Iron & Steel (base:1993-94=100)' (refer notes)

This index number is as applicable for the week ending 1st Saturday of the month, three months prior to the date of delivery.

ER = Price of Epoxy Resin (refer notes)

This price is as applicable on the 1st working day of the month, one month prior to the date of delivery.

TB = Price of Transformer Oil base stock (refer notes)

This price is as applicable on the 1st working day of the month, one month prior to the date of delivery.

W = All India average consumer price index number for industrial workers, as published by the labour bureau, Ministry of Labour, Govt. of India (Base 1982=100)

This index number is as applicable for the first working day of the month, three months prior to the date of delivery.

For example, if date of delivery in terms of clause given below falls in December-2005, the applicable prices of Copper Wire Bars(C) and Transformer Oil Base Stock (TB) should be for the month October-2005, where as the applicable price of CRGO Electrical Steel Sheets (ES)and Epoxy Resin (ER) should be as on 1st November-2005 and wholesale price index number for 'Iron & Steel' (IS) should be for the week ending first Saturday of September-2005 and all India average consumer price index number (W) should be for the month of September-2005.

The date of delivery is the date on which the instrument transformer is notified as being ready for inspection/despatch (in the absence of such notification, the date of manufacturer's despatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

Notes:-

- (a) All prices of raw materials are exclusive of modvatable excise/CV duty amount and exclusive of any other central, state or local taxes; octroi etc. Instrument transformers manufacturers import major raw materials like Copper, CRGO Electrical Steel Sheets and TOBS etc. The landed cost of these imported raw materials includes applicable custom duty but exclusive of modvatable CVD.
- (b) All prices are as on first working day of the month.
- (c) The details of prices are as under:-
1. The LME price of Copper Wire Bars (in Rs./MT) is the LME average settlement price of Copper Wire Bars for one month prior to the month of the circular converted into Indian Rupees with applicable exchange rates prevailing as on 1st working day of the subsequent month. This price is the landed cost, inclusive of applicable customs duty only but exclusive of countervailing duty.
  2. The price of CRGO Electrical Steel Sheets (in Rs./MT) is the average CIF price in US \$ per MT converted into Indian Rupees with applicable exchange rate prevailing as on 1st working day of the month, as quoted by primary producers. This price is the landed cost, inclusive of applicable customs duty only but exclusive of countervailing duty.
  3. The wholesale price index number for 'Iron & Steel' is as published by the Office of Economic Advisor, Ministry of Industry, Govt. of India, New Delhi with base 1993-94=100. This wholesale price index number is being published weekly on provisional basis. However, the same gets finalized after eight weeks and is normally available after two months. Therefore, we are considering in our calculations this final index for the first Saturday of the months two months prior to the date of which the prices of other raw materials such as AI, IM are published for the corresponding month.
  4. The price of Epoxy resin is price quoted by resin manufacturer for their grade CT 5900 or its nearest equivalent.
  5. The price of TOBS is C&F price (in Rs./K.Ltr) for Group-II grade 70 Base Oil as published in ICIS-LOR bulletin for the 1st week of the previous month. This price is normally published in US \$ per US Gallon, which is converted in Rs./K.Ltr with applicable exchange rate prevailing on 1st working day of the subsequent month. This price is the landed cost, inclusive of applicable customs duty only but exclusive of countervailing duty.

(Sanjeev P. Puranik)

**CHIEF GENERAL MANAGER (PUR),  
O/O CMD, MPMKVV CO.LTD. BHOPAL**

**SCHEDULE-V**

**(To be kept in the envelope Part-II, Commercial/Technical Bid)**

**TYPE TESTS ON THE EQUIPMENTS**

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| S.No | Date of test | Place and Institution<br>where tested | Test Certificate<br>no. & date | Remark |
|------|--------------|---------------------------------------|--------------------------------|--------|
|------|--------------|---------------------------------------|--------------------------------|--------|

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DATE:  
PLACE:

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME:  
DESIGNATION:

**SCHEDULE- VI**  
**SCHEDULE OF QUESTIONNAIRE**  
**PART "A"**  
**GENERAL INFORMATION**  
**(TO BE KEPT IN THE ENVELOPE PART-II**  
**"(COMMERCIAL/TECHNICAL BID)"**

- (i) Strike off, whichever is not applicable.  
(ii) Separate sheets should be used, wherever necessary.

1. Name & Address of the Bidder :
2. Name & Address of the firm/  
Company etc. :
- a) Registered office :
- b) Factory/works address :
- c) Telegraphic address :
- d) Telex/fax Nos. :
- e) Telephone Nos. :
3. Confirm whether tenderer is a  
Manufacturer :
4. Manufacturer to give the  
following particulars :
- a) Address of factory :
- b) Year of starting manufacture :
- c) Whether same/similar  
materials manufactured earlier,  
(if yes, give reference) :
- d) Yearly/monthly production capacity :
- e) Maximum yearly production  
achieved so far. :
5. Whether the firm is an  
MP SSI Unit : Yes/No
- a) If yes, write registration No. :
- b) Whether documentary evidence  
regarding registration enclosed. :
- c) Items of registration :
- d) Period of Registration :
- e) Furnish latest copy of : Yes/No

Competency/certificate

6. a) Whether the bidder has supplied the tendered items to MPSEB in the past. : Yes/No
- b) If yes, whether documentary evidence with details of orders received & executed during last five years, enclosed. :
7. Whether the tendered items supplied to other SEB / Union Territory. Give details of orders received & executed during last five years. :
8. Whether the tendered items under the Enquiry have been manufactured in the past. Give name of SEB to which supplied enclosing order copy in support. :
9. Any other information that bidder may like to give in order to highlight his bid. :

PLACE :

DATE :

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME IN FULL  
DESIGNATION/STATUS

**SCHEDULE-VI**  
**PART “B”: COMMERCIAL INFORMATION**  
**(TO BE KEPT IN THE ENVELOPE PART-II,**  
**“COMMERCIAL/TECHNICAL BID”)**

- (i) Strike off, whichever is not applicable.  
(ii) Separate sheets should be used, wherever necessary.
1. i) Earnest Money details : Bank draft/Bankers cheque/  
Cash with Sr.AO,MPSEB,  
Bhopal.
- ii) Amount of EMD & full details : Rs.
- iii) If exempted, state : SSI Unit of M.P./Small  
whether the bidder is : Scale unit registered  
with NSIC/Fully owned  
State/Central Govt.Unit.
- iv) Whether reference of documentary : Yes/No  
evidence regarding exemption  
enclosed.
2. Whether the offer is valid : Yes/No  
for 180 days from the date  
of opening of commercial/  
technical bid.
3. State whether the quoted : Yes/No  
prices are VARIABLE.
4. MODE OF DESPATCH : By Rail/By Road  
NOTE: Despatch by Road is acceptable  
to the Company only when the tenderer agrees:-  
i) to supply the material on door delivery basis  
and through bank approval road Transporter, and  
ii) for payment after receipt of material in good  
condition.
5. DISCOUNT:-
- i) Whether any rebate/discount :  
is offered
- ii) If yes, whether the rebate is :  
unconditional /conditional
- iii) Rate/amount of rebate/discount :
- iv) If conditional state condition :
6. PAYMENT TERMS:- :  
Whether Company's terms of payment : Yes/No  
is acceptable to the tenderer.
7. DELIVERY PERIOD:-
- a) Whether agreeable to company's delivery schedule:

8. PENALTY CLAUSE:-  
Whether agreeable to Company's penalty clause. : Yes/No
9. GUARANTEE PERIOD:  
Whether agreeable to Company's Guarantee Period clause : Yes/No
10. SECURITY DEPOSIT:-  
Whether agreeable to furnish Company's Standard security deposit @ 10% of value of order, for faithful execution of the order & to cover performance guarantee period. : Yes/No
11. Indicate State, Central Sales Tax Registration Number (Please note that in case of non-registration with Sales Tax Central Department Purchase Tax as admissible shall be deducted by the Purchaser from the bills of the supplier. : State
12. Whether photocopy of the clearance from the Sales Tax Dept. ,Income Tax return & and profit & loss Account and Turn over for last 5 years up to the last financial year have been enclosed. : Yes/No
13. EXTENSION ORDER:-  
Whether you are agreeable to accept extension order for 50% quantity on the same rates, terms & condition, if any extension order is placed within 6 months from the date of placement of detailed order. : Yes/No
14. Whether rates offered are applicable for part quantities also. : Yes/No

PLACE :

DATE :

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME IN FULL  
DESIGNATION/STATUS

**SCHEDULE- VI**  
**PART "C" TECHNICAL INFORMATION**  
**(TO BE KEPT IN THE ENVELOPE PART-II**  
**"COMMERCIAL/ TECHNICAL BID")**

- (i) Strike off, whichever is not applicable.  
(ii) Separate sheets should be used, wherever necessary.

1. a) Whether material offered is exactly as per the technical specification : Yes/No.
- b) If not, give details of technical deviation (information may be given in deviation schedule given with documents for this purpose) :
2. Whether the copies of orders received during last 5 years from other State Electricity Boards/ NTPC and from other organisation for the item under Enquiry. : Yes/No give details.
3. Whether performance certificate from such organisation regarding supplies enclosed. : Yes/No give details.
4. Whether pamphlets/technical details literatures alongwith drawing etc. furnished with the offer. : Yes/No give details.
5. Whether the tenderer agrees to furnish material test certificates in respect of chemical composition and physical properties from Govt./ Govt. Lab. with each batch of supplies. : Yes/No.
6. Whether the tenderer has furnished details of manufacturing process and short history of plant. : Yes/No.
7. a) Whether all testing facilities for conducting Routine & Acceptance tests are available, if so, give details of facilities. :

b) Whether agreeable for inspection by Company's representative prior to despatch and bear the testing charges for all tests as per relevant standards.

: Yes/No  
(give full details if test to be conducted and reference of relevant Standard specification).

PLACE :

DATE :

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME IN FULL  
DESIGNATION/STATUS

**UNDERTAKING**

I \_\_\_\_\_ Sole proprietor/partner of M/s \_\_\_\_\_  
\_\_\_\_\_ is giving undertaking that detail given are  
correct to the best of my knowledge and I agree to abide by all your tender/order  
terms and conditions.

PLACE:

DATE:

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME IN FULL  
DESIGNATION/STATUS

**SCHEDULE-VII**  
**PART "A": SCHEDULE OF PAST EXPERIENCE**  
**(TO BE KEPT IN THE ENVELOPE PART-II,**  
**"COMMERCIAL/TECHNICAL BID")"**

Bidder's Name & Address:

To,

The Chief General Manager (Pur),  
M.P. Madhya Kshetra Vidyut Vitaran Co.Ltd.,  
Nishtha Parisar, Bijlingar, Govindpura,  
BHOPAL-462023

Dear Sir,

Sub: - Performance/past experience.

We furnish herewith the record of our performance and experience as follows:-

| S. No. | Purchaser's Name & Address | Order No. & Date | Ordered Qty. (Rating-wise) (Nos.) | Qty.supplied (Rating-wise) (Nos.) | Value of Order |
|--------|----------------------------|------------------|-----------------------------------|-----------------------------------|----------------|
| 1.     | 2.                         | 3.               | 4.                                | 5.                                | 6.             |

PLACE:

DATE:

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME IN FULL  
DESIGNATION/STATUS

*Note:- Photocopy of the orders & performance reports received from other State Electricity Boards/Govt.undertakings etc. should be enclosed.*

**SCHEDULE-VII**  
**PART “B”: SCHEDULE OF COMMERCIAL DEVIATIONS**  
**(TO BE KEPT IN THE ENVELOPE PART-II,**  
**“COMMERCIAL/TECHNICAL BID)”**

Bidder’s Name & Address:

To,

The Chief General Manager (Pur),  
M.P. Madhya Kshetra Vidyut Vitaran Co.Ltd.,  
Nishtha Parisar, Bijlingar, Govindpura,  
BHOPAL-462023

Dear Sir,

Sub: - Commercial Deviation.

The commercial Deviations & variations to the specifications stipulated in the tender, for the item quoted are, as under:-

| S. No. | Condition | Clause No. of Enquiry document | Page No. of Enquiry document | Statement of deviations and variations. |
|--------|-----------|--------------------------------|------------------------------|---|
| 1.     | 2.        | 3.                             | 4.                           | 5.                                      |

2. Except aforesaid deviations, the entire order, if placed, on us shall be executed in accordance with your specifications and any other conditions, variations/deviations etc. if found, elsewhere in our offer should not be given any considerations while finalizing the tender.

PLACE:

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME IN FULL  
DESIGNATION/STATUS

DATE:

*Note:- Continuation sheet of like size & format may be used as per bidder’s requirements and shall be annexed to this schedule.*

**SCHEDULE-VII**  
**PART “C”: SCHEDULE OF TECHNICAL DEVIATIONS**  
**(TO BE KEPT IN THE ENVELOPE PART-II,**  
**“COMMERCIAL/TECHNICAL BID)”**

Bidder's Name & Address:

To,  
The Chief General Manager (Pur),  
M.P. Madhya Kshetra Vidyut Vitaran Co.Ltd.,  
Nishtha Parisar, Bijlingar, Govindpura,  
BHOPAL-462023

Dear Sir,

Sub: - Technical Deviations.

The Technical Deviations & variations to the specifications stipulated in the tender, for the item quoted are as under:-

| S. No. | Condition | Clause No. of Enquiry document | Page No. of Enquiry document | Statement of deviations and variations. |
|--------|-----------|--------------------------------|------------------------------|---|
| 1.     | 2.        | 3.                             | 4.                           | 5.                                      |

2. Except aforesaid deviations, the entire order, if placed, on us shall be executed in accordance with your specifications and any other conditions, variations/deviations etc. if found, elsewhere in our offer should not be given any considerations while finalising the tender.

PLACE:

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM

DATE:

NAME IN FULL

DESIGNATION/STATUS

*Note:- Continuation sheet like size & format may be used as per bidder's requirements and shall be annexed to this schedule.*

**SCHEDULE-VIII**

**(To be kept in the envelope Part-II, Commercial/Technical Bid)**

**SOURCE OF PROCUREMENT OF MATERIALS**

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| S.No. | Source of procurement of raw material | Place of manufacture | Place of testing & inspection |
|-------|---------------------------------------|----------------------|-------------------------------|
|-------|---------------------------------------|----------------------|-------------------------------|

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DATE:  
PLACE:

SIGNATURE OF TENDERER  
WITH SEAL OF FIRM  
NAME:  
DESIGNATION: