

**OFFICE OF THE CMD (WEST ZONE)**  
**M.P. Paschim Kshetra Vidyut Vitaran Co. Ltd.**  
**G.P.H. Compound, Pologround, Indore.**

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Tender Specification No.CMD/WZ/06/PUR/484,

Due for opening on: - 22.02.2011 AT 3.30 PM

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**3 PHASE 4 WIRE, 10-40 AMP, ACCURACY CLASS 1.0  
ELECTRONIC ENERGY METER WITH LCD DISPLAY  
ALONG WITH TRANSPARENT POLYCARBONATE  
METER BOX**

Issued by:

**The Chief Engineer (Corp. Office - Pur)**

O/o CMD (West Zone),

M. P. Paschim Kshetra Vidyut Vitaran Co. Ltd,

G.P.H. Compound, Pologround,

Indore (M.P.)

EPABX No.: 0731-2422045, 2423263, 2422544, Extn. 144, 303 & 204 Fax No: 2421345, 2423300

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

### Basic Tender Information

Particulars	Details
<b>Name of Work</b>	Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box
<b>Tender Specification number</b>	CMD/WZ/06/PUR/484
<b>Date of Sale of Tender documents</b>	From 20.01.2011 to 22.02.2011 up to 12.00 Noon.
<b>Last Date of Bid Submission (Date &amp; Time)</b>	22.02.2011 At 3.00 PM
<b>Due Date of Opening of Technical &amp; commercial bids</b>	22.02.2011 At 3.30 PM
<b>EMD to be Deposited</b>	Rs 50,000/-
<b>Cost of Tender Documents(Tender Fee)</b>	Rs 5000/- plus Rs 300/- extra if desired by post.
<b>Downloading of tender from website</b>	The tender document downloaded from website will also be accepted, in that case the bidder will have to deposit tender fee mentioned above along with bid in separate envelop. In case of any ambiguity, the terms & condition mentioned in the tender document will be final

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

## NOTICE INVITING TENDERS



**M.P. PASCHIM KSHETRA VIDYUT VITARAN CO. LTD.**

GPH COMPOUND, POLOGROUND, INDORE

(EPABX Ph. No: 0731-2422045, 2423263, 2422544, Extn. 144, 303 & 204 Fax No: 2421345,2423300)

No. CMD/WZ/06/PUR/1034

Indore, dated: **15.01.2011**

### NOTICE INVITING TENDERS

Sealed tenders are invited for following items by the dates indicated here under: -

Sr. No.	T.S. No. CMD/WZ/06/PUR/	Name of Items	Approx. Quantity (Nos.)	EMD (Rs.)	Tender Fee (Rs.)	Last Date for submission up to 3:00 PM & opening at 3:30 PM
1.	483	Single Phase 2 Wire, 240 Volts, 5-30 Amp Static Whole Current Energy Meter with Polycarbonate Transparent Meter Cover	4,15,000	50,000/-	5,000/-	22.02.2011
2	484	3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box	25,000	50,000/-	5,000/-	22.02.2011

**Note:** - Full details of technical specifications, qualifying criteria, are available on our website- [www.mppkvvcl.org](http://www.mppkvvcl.org). The tender documents can be purchased from the Chief Engineer (Corporate Office), O/o CMD (WZ), M.P.P.K.V.V.Co.Ltd., G.P.H. Compound, Polo-ground, Indore from dated 20.01.11 on payment of non refundable tender fees as specified above between 11.00 Hrs. to 17.00 Hrs. on all working days. Further, if required by post Rs. 300/- shall be payable extra. The last date of selling of tender documents shall be 12:00 Noon on due date of opening of tender. The tender document downloaded from website will also be accepted, in that case the bidder will have to deposit tender fee mentioned above alongwith bid in separate envelop. In case of any ambiguity, the terms & condition mentioned in the tender document will be final. The payment towards EMD / Cost of Bidding Document shall be made by crossed Demand Draft in favour of M.P.P.K.V.V.Co.Ltd., Indore payable at Indore. Cheque / Cash / Postal orders will not be accepted.

[www.mppkvvcl.org](http://www.mppkvvcl.org)

//Save Electricity//

**Chief Engineer (Corporate Office)**

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

**OFFICE OF THE CMD (WEST ZONE) M.P.P.K.V.V.C.L.  
G.P.H. COMPOUND POLOGROUND INDORE**

Postal Order/Demand Draft No.....

Tender issued to M/s .....  
.....

**TENDER FORM**

The undersigned hereby tender and offer, the **M.P. Paschim Kshetra Vidyut Vitaran Company Ltd., Indore** to supply the plant, machinery and materials; and execute/do several works and things, which are described or referred to at various places in the tender document no.CMD/WZ/06/PUR/484 dated 15.01.2011, 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 which can be reasonably inferred from the said tender documents, for the sums and at the rates set out in Schedule –I annexed here to.

The information desired in the Schedules enclosed with this tender document has been fully furnished (if the desired information is not submitted, 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).

We have examined in detail and have understood and agree to abide by all the terms and conditions stipulated in the tender document and in any subsequent communication from MPPKVVCL in this regard (if any). Our technical proposal is consistent with all the requirements of submission as stated in the tender document or in any of the subsequent communication from MPPKVVCL in this regard (if any).

We hereby undertake that the information submitted in our offer is complete and correct to the best of our knowledge and belief. We would be solely responsible for any errors or omissions in our offer. We agree that, in case of any ambiguity/ incompleteness found in the information furnished by us in the offer, same shall be interpreted by MPPKVVCL to its advantage. We agree to abide by all your tender / order terms and conditions.

Date the            Day of.....

BIDDER'S SIGNATURE  
(With Seal)

Bidders Address: - .....  
.....  
.....

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## **Section I: Qualifying Criterion**

### **1. General:**

The bidding is open for **domestic manufacturer** only, who provide satisfactory evidence.

- (i) That they are manufacturer having experience of at least 2 years of manufacturing and must have designed,, manufactured, tested & already supplied at least 25000 Nos. electronic meter with LCD display counter inclusive of single phase & three phase meter to SEBs/Power utilities up to **31.03.2010** (In support copy of orders received from SEBs/ Power Utilities alongwith material receipt certificate issued by SEBs/ Power Utilities confirming meters actually supplied should be enclosed).

However, State SSI Units are exempted from the above supply capacity criteria of 25000 nos. meters with LCD counter, being supplied to SEBs / Power utilities.

- (ii) That they posses valid BIS licence for ISI certification of **IS: 13779/1999 & CBIP** report-88 with its latest amendments as on date as well as immunity to external magnetic field of offered meters.
- (iii) The ISI licence should be valid on the date of tender opening. The certified photocopy of valid ISI licence and subsequent amendments must be furnished alongwith technical and commercial bid. In absence of these the offer will be out rightly rejected. The bidder should also ensure / furnish the validity of ISI licence till the validation of tender and period of material supply.
- (iv) The successful tenderer shall have to obtain the “Safety mark Certification” (S Mark) from authorized Govt. Laboratory of Department of Information & Technology, Govt. of India before commencement of commercial production and supplies against the order.
- (v) That they do not anticipate change in the ownership during the proposed period of contract, (if such a change is anticipated, the scope and effect thereof shall be defined).
- (vi) All the bidders are requested to submit 2 sample meters, out of which, one fitted in meter box and the other without meter box prior to a day due for opening of Commercial and Technical bids conforming to this specification duly sealed along with the Type Test certificates shall be submitted with the bid. The sample meter should carry firm’s name, serial number, rating etc. & properly packed. The offer shall not be considered for opening of its commercial & technical bids on due date & time in case sample meters are not submitted within scheduled date and the offer shall stand rejected.

### **2. Financial:**

Bidder must have adequate financial stability and status to meet the financial obligations pursuant to the scope of the assignments. (The Bidders should submit copies of their profit and loss account and balance sheet for the last two financial years, duly audited wherever applicable, for ascertainment of the same).

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**3. Technical:**

- (i) The bidder must have -
  - a. Adequate plant and manufacturing capacity available to perform the assignment properly and expeditiously within the time period specified. The bidder shall have to submit adequate evidence in this regard, which 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 in adequacy 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.
  - b. Established quality assurance system and organizations designed to achieve high level of quality equipment and reliability during their manufacturing activities.
- (ii) Complete set of latest type test certificates from any one of the standard NABL accredited laboratories for particular equipment/test shall only be considered for all the tests prescribed in IS:13779/1999 with its latest amendments as on date as well as immunity to external magnetic field as per our requirement in respect of the offered meters. For this, attested photocopies of the type test reports with approved drawing of type tested meters should be enclosed with the offer. The type test reports shall not be more than 2 years old as on the date of bid opening. The type test report shall clearly indicate the S.No. Of meter, Model No., type of Body, type of registering counter, PT or PT less, CT or shunt. In case the type test report does not indicate the meter is with LCD counter, it will be treated as the type test is for the electronic meter with mechanical counter only. In the absence of any of the type test reports or type test reports found more than 2 years old, the offer shall be out rightly rejected. Similarly, type test reports of laboratories, other than NABL accredited, shall not be acceptable.
- (iii) The bidder shall submit compulsorily the detailed drawing of the offered material conforming to the tender specification. The offers received without drawing shall not be considered. The drawing of material submitted alongwith the offer shall be considered for the purpose of evaluation of offer only. However, the successful bidders on whom orders shall be placed shall have to again submit the detailed drawings of ordered materials as per purchaser's requirement/suggestion for further scrutiny and approval.
- (iv) The offers should be fully technically acceptable i.e. the sample meters should meet all the constructional features & technical requirements as specified in the technical specifications in Section-III and GTP (Schedule-II).The sample meters shall be got tested in any NABL accredited lab for relevant acceptance test /routine tests as prescribed in IS 13779,CBIP Report 88 & tender specification for evaluation & price bid of only those bidders whose sample meters have successfully passed above tests shall be opened .The cost of testing is to be borne by the supplier ,however the Company reserves the right to test sample meters in company's lab also.

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## Section II: Special Terms and Conditions of purchase

### 1. TERMS OF PAYMENT & PAYMENT PROCEDURE

- (i) Subject to completion of all contractual formalities, 100% payment will be made on assured basis within 45 days, after acceptance of material at our Stores in good condition, However, the M.P.P.K.V.V. Co. Ltd, Indore shall not be liable for any interest due to delay in payment. The term 'Acceptance' shall mean as defined in Section-III (C) Verification/Testing of Material Supplied.
- (ii) The supplier shall forward the original RR/MTR and Excise gate pass directly to consignee along with copies of following documents:-
  - a) A copy of bill
  - b) Delivery Challan
  - c) Original copy of excise duty gate pass along with a photocopy
  - d) The inspection and or T.C. approval
  - e) Detailed packing list, if required.
- (iii) The original bills should be forwarded to the paying authority (RAOs) and should be marked "ORIGINAL". The bill should indicate Tax Registration Number and date allotted to him under CST Act/ ST/ VAT Act.
- (iv) The following documents will have to be forwarded to the paying authority along with bills in triplicate:-
  - a) Bill/ Invoice.
  - b) Xerox copy of despatch documents i.e. RR/ MTR etc.
  - c) Dispatch clearance / instructions.
  - d) Photo-copy of Excise Duty gate-pass.
- (v) 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.
- (vi) For payment, the invoice in triplicate with relevant documents such as Material Receipt in good condition etc. should be submitted to the concern Regional Account Officer for the quantities supplied in respective Area stores.

### 2. DELIVERY

- (i) Delivery of the ordered material should commence within one month from the date of order & completed within further three months.
- (ii) The material should be delivered to the consignees within 21 days from the date of issue of despatch instructions/clearances. Any delay in delivery beyond this period shall attract penalty, even if the delivery period exists.
- (iii) Deferment of deliveries:- MPPKVVCL reserves the right to defer or reschedule the delivery. However no variation in price and any other statutory levies will be payable as applicable.

### 3. PERFORMANCE GAURANTEE

- (i) The meters shall be guaranteed for a period of at least 5 years from the date of commissioning or 5-1/2 years from date of supply, whichever is earlier.
- (ii) The meter found defective within the above guarantee period shall be replaced by the supplier free of cost within one month of the receipt of intimation. If the defective meters are not replaced within the above specified period, the purchaser shall at their option to

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recover an equivalent amount plus 15% supervision charges. Repaired meter shall not be accepted.

- 3.1 The said material if required to be replaced, shall be collected by the supplier/firm from Area Stores at their own cost and at their own responsibility. This material so replaced shall be supplied to the destination indicated on "Freight paid basis" at their cost in a reasonable time of 30 days from the date of intimation.  
**Testing of replaced meters-** The substantial lot so replaced shall be got tested at NABL lab in the same manner as prescribed in section-IV 'VARIFICATION/TESTING OF MATERIAL'.
- 3.2 Further, it is clarified that all the charges towards replacement 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 material.
- 3.3 All equipment/line materials reported failed within specified guarantee period may be replaced free of cost by the supplier/manufacturer concerned.
- 3.4 Actual cost of dismantling and replaced of these equipment /material with the new ones may be charged to the supplier's account.
- 3.5 To and fro transportation cost of such failed equipment may also be borne by the supplier contractor.
- 3.6 In the event of the supplier's inability to adhere to the aforesaid provisions, suitable penal action will be taken against them which may interalia black-listing of the firm for future business with the Board /MPPKVCL for a certain period.

#### **4. SAMPLE**

- (i) All the bidders are requested to submit 2 sample meters of offered meter, out of which, one fitted in meter box and the other without meter box prior to a day due for opening of Commercial and Technical bids **conforming to this specification duly sealed along with the Type Test certificates shall be submitted with the bid.** The sample meter should carry firm's name, serial number, rating etc. & properly packed. The offer shall not be considered for opening of its commercial & technical bids on due date & time in case sample meters are not submitted within scheduled date & time and the offer shall stand rejected.
- (ii) The offers should be fully technically acceptable i.e. the sample meters should meet all the constructional features & technical requirements as specified in the technical specifications in Section-III and GTP (Schedule-II).The sample meters shall be got tested in any NABL accredited lab for relevant acceptance test /routine tests as prescribed in IS 13779,CBIP Report 88 & tender specification for evaluation & price bid of only those bidders whose sample meters have successfully passed above tests shall be opened .The cost of testing is to be borne by the supplier ,however the Company reserves the right to test sample meters in company's lab also.
- (iii) **Sample before Commencement of supplies:**  
The supplier shall submit sample meter along with the meter box having all the features conforming to the prescribed specification for our approval before commencement of supply.

#### **5. TYPE TEST CERTIFICATE**

The bidder shall also submit the type test report of offered meter as per our tender specification from any NABL accredited testing Lab along with the offer.

Complete set of latest type test certificates from any one of the standard NABL accredited laboratories for particular equipment/test shall only be considered for all the tests prescribed

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in **IS:13779/1999 with its latest amendments as on date** as well as immunity to external magnetic field as per our requirement in respect of the offered meters. For this, attested photocopies of the type test reports with approved drawing of type tested meters should be enclosed with the offer. The type test reports shall not be more than 2 years old as on the date of bid opening. The type test report shall clearly indicate the S.No. of meter, Model No., type of Body, **type of registering counter**, PT or PT less, CT or shunt. In case the type test report does not indicate the meter is with LCD counter, it will be treated as the type test is for the electronic meter with mechanical counter only. **In the absence of any of the type test reports or type test reports found more than 2 years old, the offer shall be out rightly rejected. Similarly, type test reports of laboratories, other than NABL accredited, shall not be acceptable.**

**6. ISI CERTIFICATION**

The bidder should have valid BIS licence for ISI certification mark on the offered meters, on the date of opening of tender. In absence of BIS licence for offered meter, the offer shall be out rightly rejected. The ISO: 9001 accreditation shall be preferred.

**7. CHANGE IN QUANTITY**

The MPPKVVCL Indore reserves to right to change the quantity to the extent of  $\pm 25\%$  while finalizing the tender after due confirmation of quantity to be procured from SE (works) / SE (store) of the company.

**8. VERIFICATION/TESTING OF MATERIAL SUPPLIED**

The verification/ / testing of material supplied will be in accordance with Section-III (C).

- 9.** The tender document downloaded from website will also be accepted, in that case the bidder will have to deposit required tender fee (in the form of DD in favour of MPPKVVCo Ltd Indore) along with bid in separate envelop super scribing "Tender Fee". In case of any ambiguity, the terms & condition mentioned in the tender document will be final
- 10.** All the terms and conditions and technical specifications mentioned in the tender document purchased from the Superintending Engineer (Purchase) O/o CMD (WZ) MPPKVVCL, GPH Compound Pologround, Indore shall only be applicable. As such, in case if it is down loaded from Web Site, it should be invariable verified from the tender document purchased.

-Sd-

Chief Engineer (Corp. Office - Pur)  
O/o. CMD (WZ) MPPKVVCL,  
Indore

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**Section III: Technical Specifications (A)**

**3 PHASE 4 WIRE, 10-40 AMP, ACCURACY CLASS 1.0 ELECTRONIC ENERGY METER WITH LCD DISPLAY ALONG WITH TRANSPARENT POLYCARBONATE METER BOX**

**1 SCOPE:-**

- (a) This specification covers design, engineering, manufacture, stage-inspection, testing and supply of A.C. Three Phase 4 Wire current rating 10-40 Amperes solid state (static) whole current electronic LT energy meters of accuracy class 1.0 with backlit LCD display and communication port for data downloading as per requirement given in this specification. The meters shall be supplied in a push fit type meter box made of transparent engineering plastic, which shall be weather proof having flame retardant properties conforming to relevant specification. The meter and push fit type meter box shall be supplied in suitable packing so as to withstand transit shocks during road transport.

The meters should be suitable for three phase four wire system, capable to record and display monthly average p.f., energy in KWH, and demand in “KW” including other electrical quantities. The meters shall be capable to record over full power factor range of Zero Lag-Unity- Zero Lead, as per requirement given in this specification. These LT Meters should record total energy at basic frequency & harmonics. In addition the meters shall have provision for recording time of day (TOD) energy parameters.

- (b) It is not the intent to specify completely herein all the details of the design and construction material. However, the material shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in a manner acceptable to the Purchaser, who will interpret the meanings of drawings and specification and shall have the right to reject any work or material which in his judgment is not in accordance therewith. The offered materials shall be complete with all components, accessories and required software's necessary for their effective and trouble free operation in the System for measurement of electricity supplied to the consumers. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in this specification and/ or the commercial order or not.
- (c) **It is compulsory that the offered LT meters shall bear BIS certification i.e. the meters shall be ISI marked and the bidder shall have to furnish valid ISI license along with the offer, which, if considered necessary, may be verified by the Purchaser.**

**2 STANDARDS:**

These LT meters and the associated accessories shall conform in all respects to the following relevant Standard Specifications with latest amendment there to:-

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Indian Standard No.	Title
IS:13779-1999 read with latest amendments	Specification for AC static watt hour meter for class 1 & 2
CBIP Technical report No.88 (with latest amendments)	Specification for AC static Electrical Energy Meters
IS:5133-1969 (Part II)	Specification for boxes for the enclosure of electrical accessories
IS:9000	Basic environmental and other Testing for Electronic & Electrical items.
IS:11731	Specification for engineering plastic
IS: 11000	Resistance to heat & fire
CEA Regulation	On installation of meters of. 17/03/06

### 3 **SERVICE CONDITIONS (CLIMATIC CONDITIONS):**

- (i) The LT meters to be supplied against this specification should be capable of performing and maintaining required accuracy under extreme hot, cold, tropical and dusty climate and solar radiation typically existing in State of M.P. The LT meter shall be required to operate satisfactorily and continuously under the following tropical climatic conditions:

(a)	Maximum ambient air temperature	55°C
(b)	Maximum ambient air temperature in shade	45°C
(c)	Maximum temperature attainable by the meter exposed to sun	60°C
(d)	Minimum ambient temperature	(-) 5°C
(e)	Average daily ambient air temperature	40°C
(f)	Maximum relative humidity	95%
(g)	Number of months of tropical monsoon condition	4 months
(h)	Maximum altitude above mean sea level	1000 meters
(i)	Average annual rain fall	150 cms
(j)	Maximum wind pressure	200 kg/sq.m
(k)	Isokeraunic level (days per year)	40
(l)	Seismic level (horizontal accn.)	0.30 g
(m)	Permitted noise level	45db

All the parts & surface, which are subject to corrosion shall either be made of such material or shall be provided with such protective covering and finish, which ensures total protection from any injurious effect of humidity.

### 4 **PRINCIPAL PARAMETERS:**

These LT meters shall conform to the following specific parameters:

Sl. No.	Item	Specification
1.	Type of installation	Indoor/Outdoor
2.	System voltage (phase to neutral)	3X240 V + 20% to - 40%; neutral solidly grounded.
3.	System frequency	50 Hz $\pm$ 5%

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4.	No. of phases	3 Phase 4 wire (three phase + neutral)
5.	System earthing	Solidly grounded
6.	Resistance to surge voltage of 1.2/50 Micro sec.	As per relevant IS
7.	Test voltage at 50 Hz	4 KV RMS for 1 minute including latest amendments in relevant IS.

## 5 **CONSTRUCTIONAL REQUIREMENTS:**

The meters including meter case and push fit type meter box shall be fully transparent designed and constructed in a manner to avoid any danger during use under normal working condition including personal safety against electric shock. The meter case and push fit type box should comply following parameters:-

### **Material Used for Meter case and Push Fit type Meter Box:**

- i. The meters shall have a case, which shall be ultrasonically welded to the meter base so that access to the internal parts should not be possible without breaking the meter case. The material of meter body (base and cover) shall be made of Engineering plastic.
- ii. The meter casing material should be glass reinforced, flame retardant, unbreakable engineering plastic material to ensure high reliability, long trouble free life, safety against electric shock, spread of fire and effects of excessive temperature. The material should be corrosion resistant, inert to chemicals, oxidizing agents, petro-chemical products, acids, salts and ultraviolet radiation. The meter chamber shall be dust proof and moisture proof. The supplier should indicate hardness, melting temperature and tensile yield strength of the material and necessary test certificate of the same shall be furnished. The meter base and cover should be sturdy enough to prevent damage during transportation and installation.
- iii. The engineering plastic used shall conform to IS: 11731 besides meeting the test requirement of heat deflection test and as per IS 11000(Part2 sec1) for resistance to heat and fire as per glow wire test specified in the relevant standard.
- iv. All electrically live screws shall be of heavily tinned brass/nickel or zinc plated steel. All other screws shall be electro plated.
- v. The terminal inserts shall be of heavily tinned brass/ nickel or silver plated copper or zinc plated steel.
- vi. The meter shall conform to the degree of protection IP51 of IS: 12063 for protection against ingress of dust, moisture and vermin.
- vii. The meter should be immune against jump during sudden switching of heavy loads or transient voltage spikes.

## 6 **RATINGS:**

The LT meters as specified in scope of this tender shall be rated as follows:

(a)	Voltage	3x240 V
(b)	Current	
(i)	Basic current (I <sub>b</sub> )	10 A
(ii)	Rated max. continuous current (I <sub>max</sub> )	40A
(c)	Frequency	50Hz
(d)	Accuracy	Class 1.0

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**7 POWER SUPPLY VARIATION:**

The extreme power supply variations which the LT meter should withstand without damage and without degradation of its metering characteristics, as it operates under its normal operating conditions would be as under:

Voltage	+20% to – 40% of rated voltage
Current	120% of I <sub>max</sub> .
Frequency	± 5% of rated frequency
PF range	Zero (lag) – unity – Zero (lead)

The LT meter shall work over wide PF range and the limits of errors with the variation of PF shall be as per CBIP 88 (latest amendments)/IS: 13779

**8 POWER CONSUMPTION:**

8.1 **Voltage Circuit:** The active and apparent power consumption in each voltage circuit (per phase) including power supply of LT meter at reference voltage, reference temperature and reference frequency shall not exceed 1.5 Watts and 8 VA respectively as per IS:13779.

8.2 **Current Circuit:** The apparent power taken by each current circuit (per phase) at basic current, reference frequency and reference temperature shall not exceed 4 VA as per IS:13779.

8.3 **Auxiliary Power:** The LT meter shall draw power for working of electronic circuit from phase & neutral.

**9 STARTING CURRENT:**

The LT meter should start registering energy at 0.4% of basic current at UPF as per IS: 13779.

**10 RUNNING WITH NO LOAD:**

When 115% of rated voltage is applied with no current flowing in current circuit, the test output of the LT meter shall not produce more than one output pulse count as per IS: 13779.

**11 INFLUENCE QUANTITIES:**

The three phase LT meter shall work satisfactory with guaranteed accuracy as per limit prescribed in IS:13779 under presence of the following quantities:-

- (i) External magnetic field
- (ii) Electromagnetic field
- (iii) Radio frequency interference
- (iv) Vibration
- (v) Harmonic wave form
- (vi) Voltage fluctuation
- (vii) Electromagnetic high frequency field

**12 TEMPERATURE RISE:**

(a) Under normal conditions of use at I<sub>max</sub> current, winding and insulation shall not reach a temperature, which might adversely affect the operation of these LT meters.

(b) With each current circuit of the meter carrying rated maximum current and with each voltage circuit (and those auxiliary voltage circuits which are energized for

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periods of longer duration than their thermal time constant) carrying 1.20 times the rated voltage, the temperature rise of the external surface shall not exceed by more than 20°C, with the ambient temperature between 25°C to 45°C.

**13 LIMITS OF ERRORS:**

When the LT meter is under reference conditions, the percentage errors shall not exceed the limits as specified in IS:13779.

**14 DISPLAY:**

14.1 The LT meters shall have bright LCD Electronic display with backlit & with minimum 6 digits to read up to one tenth of KWh with another digit for legend. The decimal digits shall be clearly distinguished from integer digits. The backlit should not glow during power off condition. The LCD shall be of STN (Super Twist Nematic) type designed suitably to withstand temperature of 80°C (storage) & 65°C (operation).

- (i) When the LT meter remains at a constant temperature of 65°C for a period of 30 minutes, the character of LCD should not deform.
- (ii) After keeping the LT meter at a constant temperature of 80°C for a period of 30 minutes and when restores at normal temperature, LCD display should work as in normal conditions.

The LCD display should have a wide viewing angle of 45° to 60° up to one-meter distance, for clear visibility of the display of the meter reading. Large viewing area with large display icons is desired. However, the display size area shall be approx 60x20 mm (1200 sq.mm.). The registered parameters shall not be affected by loss of power. The display shall not be affected by electrical and magnetic disturbances. The meter shall make use of non-volatile memory capable of storing and retaining all the data required to be stored, without the help of any power source or battery back up and shall have a minimum retention time of 12 years under un-powered condition. The minimum character height X width shall be 8.5 X 5 mm. for whole digits of kWh Display. **Dot-Matrix type LCD display is not acceptable.** The accuracy of display for all parameters shall be matching with the accuracy class of meter as per IS.

14.2 The display of various parameters in push button mode shall be scrolling one after another. The display shall have ON time of at least 10 seconds for each measured value.

14.3 The meter shall be capable to measure and display continuously “Active Energy KWh” at all loads and in full power factor range of zero lag- unity- zero lead. The LT meter should also have provision for automatic recording and storing of required parameters meter at 24.00 Hrs on the last day of the month for each calendar month and the same should go to memory.

**15 DISPLAY SEQUENCE:**

The Liquid Crystal Display register for three phase LT meter should display the measured value(s). The height of the display character should be minimum 8.5 mm and which should be clearly visible from distance. In addition display of the required parameters should be in two different modes as stated hereunder:-

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**15.1 Auto scroll Display Mode:**

The LT meters shall have following parameters in auto scroll display

- i) Date: DD: MM: YY            Real Time: HH:MM
- ii) Cumulative Active Energy KWH
- iii) Instantaneous load in KW by default and programmable to KVA.

**15.2 Display parameter (Push Button) Mode:**

The display of the following parameters shall be scrolling one after the other through push button. The display shall have 'ON' time of minimum 10 seconds of each measured value, except LCD segment check. The LCD segment check shall be on meter display for minimum 2 seconds. Display parameters shall move forward if button is pressed prior to the programmed time for display of each parameter.

- (i) LCD segment check
- (ii) Meter serial number
- (iii) Real date and time (Date DD-MM-YY, Time HH-MM)
- (iv) Cumulative active energy (KWH) register.
- (v) Maximum demand of the month in KW by default up to two decimal (since last auto reset) with date & time. The MD shall be programmable from KW to KVA with 15 minutes integration on sliding window principle with sub integration period of not greater than 5 minutes.
- (vi) Cumulative active energy KWH for each calendar month for previous six months with programmed billing date.
- (vii) Maximum Demand in KW by default up to two decimal (programmable for KVA when ever desired by the purchaser.) each calendar month for previous six months with date and time of such demand.
- (viii) Average P.F. for each calendar month and for previous six months.
- (ix) Tamper information- This shall be displayed when tampered with following.
  - (a) Date of last tamper occurrence.
  - (b) Time of last tamper occurrence.
  - (c) Number of time meter tampered.
- (x) Instantaneous phase voltage
- (xi) Instantaneous line current
- (xii) Instantaneous p.f. (With sign of lead/lag)
- (xiii) Instantaneous load in KW by default and programmable to KVA
- (xiv) High resolution Energy value (resolution will be sufficient to enable conduction of the starting current and accuracy test in less time.)

Since meters are required duly fitted with push fit type meter box, hence for reading purpose, an arrangement should be made on top cover of push fit type meter box with its mechanical connection to the meter's body as described in the Specification of meter box to activate the display push button of meter.

The display with push button shall be auto off type after completion of the display cycle it should revert back to normal auto scroll mode approximately after 10 seconds. Fresh button press will be required after resumption of auto scroll cycle to display the above parameters again.

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### 15.3 VIEW PARAMETERS

(Information required through meter reading instrument to be viewed on BCS )

1. All parameters available on auto display and push button display
2. KW / KVA MD recorded for last 12 resets
3. KWH and KVAH consumed for last 12 resets
4. Average power factor for last 12 resets.
5. Complete tamper information with date / time of occurrence / restoration of each tamper event as per Clause 5.11.
6. Daily mid night readings of KW / KVA demand and KWH and KVAH readings.
7. Load survey for last 35 days with 15 min. interval.

The display sequence is tentative & exact display sequence shall be intimated at the time of order.

#### **Meter Data Display:**

The software shall show electrical condition existing at the time of reading the meter in tabular forms as well as graphical format. (Phase diagram)

All the information above energy, maximum demand and their respective TOD register reading, billing register readings shall be shown in a manner which user can easily understand.

All the load survey data shall be available in numerical as well as graphical format. It shall be possible to view this data daily, weekly, and monthly format. The load survey graph will show values where the cursor is placed for the selected or for all parameter.

All the information above abnormality events shall be accompanied with date and time stamping. This information shall be displayed in the sequence in which it happened in cumulative format as well as summary format.

The software shall be capable of preparing CMRI to read the meter information or time setting of the meter.

### 15.4 Meter Reading during Power Outage:

The meter shall have provision to read the meter in no-power condition. The same push button shall be used for display of parameters of auto scroll mode during power outage. In any case, RTC Battery Power shall not be used for display under no-power condition.

### 15.5 LCD Least Count:-

The kWh display shall be with one decimal digit in push button mode and in auto scroll mode. The internal least count of the energy recording shall not be more than 0.01 kWh. and every 0.01 kWh, consumption shall be internally stored.

## 16 **COMMUNICATION CAPABILITY**

The meter shall have optical communication port. The meter shall have facility for communicating with a hand held terminal (HHT) i.e. Meter Reading Instrument (MRI) through this port to facilitate for auto-reading and downloading the data for billing and historical data to base computer. Arrangement shall be

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made to get such a reading even at the time of power failure. The interface for communication between MRI & Base computer shall be supplied free of cost. The software required for MRI and Base Computer System to use the remote reading feature with necessary security provisions shall also be supplied free of cost with the following features:

- a. In case the meter is fitted with optical port, the port shall be extended up to the surface of the meter box with the help of suitable interface cable and with suitable sealing arrangement.
- b. It should not be possible to reset the energy reading in the meter or make any change in the data stored in the meters either current or historical, with the MRI.
- c. The compatibility of transferring data from the meter to MRI and then to the base computer system (BC) should be easily established; any change in language or any other reasons, the supplier shall modify it at his own cost within the guarantee period.
- d. For the purpose of data security, the data transfer from the meter to CMRI and further to Base computer should be fully secured and any unauthorized attempt/change in data should be indicated on computer system. There should be multi level password on the base computer system and in the meter to prevent any unauthorized change of billing parameters, resetting of demand and tamper in formation.

**17 BILLING POINT REQUIREMENTS:**

The predefined date and time for registering the billing parameters of energy, PF and MD as well as Tamper Count and Power-On hours details shall be programmable and all the billing parameters shall be transferred to billing registers.

The above billing data, TOD register's data, tamper information and instantaneous parameters data shall all be retrievable through the meter's communication port through a common meter reading instrument (CMRI) and shall be transferred (downloaded) to a PC with Windows based software to get complete details in numerical and/or graphic form. The necessary base computer software (BCS) for this purpose shall be provided by the supplier with complete details.

**18 TOD TARIFF/DEMAND**

The meter should be capable of registering the time-of-day energy (TOD) and maximum demand. The time registers shall be programmable by the purchaser. The meter should have in-built capacity to define up to six registers. The meter should also have capacity to define multiple time zones within the registers. The change of the TOD time-period(s) or defining TOD registers should be possible through CMRI with special authenticated command from the BCS so that only authorized person(s) can make such changes. The main control of this system along with proper security password/code should be available on one or more computers located at the authorized location(s) as per the directions to be given by the Purchaser.

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Provision should be made for automatic reset of maximum demand at the end of pre-defined period (e.g. end of the month). The billing parameter at the time of automatic reset of the maximum demand shall be programmed such that it will transfer from rate registers to their respective billing register. The main control of this system along with proper security password/code should be made available on one or more identified computers located at the authorized location(s) as per the directions to be given by the Purchaser

Necessary compatible meter application software for various programmable features as discussed above in the meter and also necessary software for the IBM compatible computer to obtain various details as discussed above shall be provided by the supplier. No separate cost will be borne by the purchaser on this account.

**19 TEST OUTPUT DEVICE:**

The LT meters shall have a test out put device in the form of calibrating LED of red colour having minimum intensity 10 M (Milli-candela) accessible from the meter front and shall be capable of being monitored conveniently with suitable testing equipment while operating at site. The location of the calibrating LED should be such that the calibrating pulses can be sensed easily through sensor for site testing of the LT meter's accuracy.

The LT meters shall also give high-resolution energy values on the display. The resolution will be sufficient to enable conduction of the starting current and accuracy test in less time.

**20 BASE COMPUTER APPLICATION SOFTWARE**

For efficient and speedy recovery of data read through CMRI/HHU, Base computer software shall be supplied having the following specifications stated as under:

The BCS software shall be user friendly Windows based. The Base Computer software shall give all details adequate for analysis. The software shall have the facility to convert all the consolidated information / data of selectable parameters into ASCII format. It should be possible for the Purchaser to generate its own DBF (data base files) to download all the required information into it.

**Platform:** The BCS shall be executable on all WINDOWS system. The BCS shall be suitable to run on IBM compatible PC hardware platform.

**Meter Data Display:** The software shall show electrical condition existing at the time of reading the meter in tabular forms as well as graphical format (Phase diagram)

All the information about energy, maximum demand and their respective TOD register reading, billing register readings shall be shown in a manner which user can easily understand.

The software shall be capable of preparing CMRI to read the meter information or time setting of the meter.

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**Support Display:** There shall be "user friendly" approach for viewing meter data for the reading collected now or for the reading collected in the past. All information about a particular consumer will be sorted out and available at one place so that locating any consumer's past data is easy. It shall be possible to retrieve/locate data on the basis of either one of the following particulars:

Consumer's ID/Numbers.

Meter Sr. No.

Date of meter reading.

Location.

The Data Transfer :It shall be possible to transfer data to and fro from CMRI through serial interface.

**Configurability:** It shall be possible to have selective printing of all available data of the meter. Print out shall not include anything and everything available with the BCS. The software shall support "print wizard" whereby user can decide what to print out. The use of the software need not revert back to the supplier of the software for modifying the software just to print what he desires.

BCS shall have facility to export data to ASCII or spreadsheet format for integrating with the purchaser's billing system. Here again an "Export wizard" or similar utility shall be available whereby user can select file format, what data to export, the field width selection etc.

**Security:** The BCS shall have multilevel password for data protection and security. The first level shall allow the user to enter the system. The different software features shall be protecting by different passwords. The configurable of passwords shall be user definable. The software installed on one PC shall not be copy able on another PC.

**Help:** The exhaustive online help shall be available with the software so that user can use all the features of the software by just reading the help contents.

**21 Common Meter Reading Instrument (CMRI)**

The Bidder should carefully note that

- a. The MRI shall be supplied in the ratio of **one** for *each 500 nos.* of meters free of cost along with battery charger.
- b. The MRI shall have facility to store minimum **1000 nos.** of meter's data. Further, there should be a facility in MRI to provide the transfer of meter data to computer through RS 232 or USB port.
- c. The MRI shall be capable for down loading readings of other makes of meters. The bidder shall give an undertaking to this effect.
- d. The MRI shall have facility to read all the optical port meters purchased by MPPKVVCL. MPPKVVCL shall exchange the communication protocols of successful bidders.
- e. In case of optical port, pre-programming the meter serial numbers in advance shall not be required.
- f. For optical port data downloading time shall not exceed 5 Minute.

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- g. In case of wireless port after successful downloading, indication shall be available on both meter and MRI and repeated downloading from the same meter shall be disabled for a minimum period of 5 min.
- h. The communication software shall be capable to transfer the billing data and meter serial number required for automatic **Spot Billing Machine to automatically generate the energy consumption bills at consumer premises without any human intervention after the data is collected by the MRI. The MRI shall continuously transmit the data until an acknowledgement is received from the SBM (Spot Billing Machine).** The manufacturer shall provide the protocol and other information to interpret the transmitted billing data. The data storage inside the MRI and communication of MRI with the meter shall be encrypted so that there is no possibility of tampering with the downloaded data.

It shall be responsibility of the meter manufacturer to provide the required software and all the facilities and support required by the purchaser, to use the CMRI for reading and retrieving the data from the meter and to download the data to Base Computer on free of cost basis till the expiry of guarantee period.

22 **Readings to be downloaded with CMRI:**

The CMRI should support in down loading all-important data stored in meter whether specified or not required essentially for deriving billing parameters including MD parameters that shall be by default in KW programmable to KVA respectively. The following minimum parameters should be downloaded by CMRI.

- i. Sr. No. of meter
- ii. Date & Time
- iii. Instantaneous current
- iv. Instantaneous voltage
- v. Cumulative Active energy (KWh)
- vi. MD during the month
- vii. Instantaneous load in KW
- viii. Instantaneous Power factor (sign of lag or lead)
- ix. Cumulative active energy in KWh for the last 6 months
- x. Maximum demand in KW for the last 6 months upto two decimal (It shall support MD in KVA if programmed)
- xi. Average PF of the last 6 months
- xii. TOD 1,2,---,8 Cum. KWh register(Programmable)
- xiii. TOD 1,2,---,8 MD register. in KW up to two decimal (Programmable)
- xiv. TOD 1,2,---,8 Billing MD registers
- xv. TOD 1,2,---,8 Billing KWh registers
- xvi. Phase wise power ON time in HH:MM in a calendar month for last 6 months
- xvii. Tamper information including cover open tamper

Any other information whether specified or not, which is in the opinion of manufacturer is necessary for satisfactory performance of the meter, the

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manufacturer shall indicate such features in their offer without demanding additional cost.

The LT meter shall possess a optical communication port for automatic transfer of data from Meter to CMRI. Arrangement in the meter should be such that, in case of failure of power supply, it should be possible to download the data.

The CMRI shall possess easily replaceable battery and shall be capable of storing data for at least 1000 nos. meters at one time. In case of optical communication port the data transfer rate (from meter to CMRI) should not be less than 9.6 kbps. However, the total downloading time (from meter to CMRI) shall be approx. 5 Minute.

The CMRI shall possess a specific serial number, which cannot be changed/ altered.

The downloaded data along with date and time stamp of such reading shall remain on CMRI with suitable encryption and it should not be possible to pre-program or manipulate the recorded data on the CMRI before downloading the same with the serial number of CMRI on computer. The Supplier shall supply Software (compatible with Windows 98 system and/or higher) and training, free of cost for the use of software at multiple data collection and billing premises of the utility.

After successful downloading of meter data to CMRI, an indication on MRI or meter or both for confirmation of successful data transfer shall be provided. During this period the energy recording should not be affected.

Necessary upgrades shall be possible in CMRI software and shall be supplied free of cost for downloading simultaneously the existing parameters and any parameters added in future specifications of meters. A copy of operation manual shall be supplied along with each CMRI.

The Supplier shall provide meter-reading protocols free of cost, which shall not be complicated and shall be easily understandable by utility officials to ensure compatibility between meters and CMRIs of different makes.

**23 MAXIMUM DEMAND REGISTRATION AND MD RESETS:**

The Meter shall continuously monitor and calculate the maximum demand at the point of supply, during any consecutive 15 minutes during the calendar month as per sliding window principle with sub integration period not greater than 5 minutes. It shall store the maximum demand with date and time, when it occurred. The maximum demand shall automatically reset at 24.00 Hrs of the last date of each calendar month for which minimum 30 years calendar shall be programmed by the manufacturer.

Maximum demand of the month shall be in KW by default & up to two decimal digits. The MD shall be programmable from KW to KVA

**24 MD RESET :-** The meter shall have any of the following MD resetting options :-

- a) Automatic reset at the end of certain predefined period. (Say, end of the month - default).

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- b) Resetting through a hand held terminal capable of communicating with the meter (with proper security)
- c) Manual resetting arrangement (MD reset button) with sealing facility

**25 REAL TIME CLOCK AND BATTERY:**

The MD integration cycle shall be on the basis of Real time clock of the meter. The maximum drift in real time clock of the meter shall not exceed  $\pm 3$  minutes per year and crystal should be temperature compensated for temperature range of 0°C to 50°C. A lithium battery of adequate storage energy shall be used for energy supply to real time clock during no voltage or power off condition. The metering data stated above including integration etc shall be independent of battery. The minimum life of battery should be ten years.

**26 CALIBRATION:**

The meters should be software based factory calibrated and there shall not be any mechanical adjustment in calibration after freezing the parameters at works. This is to ensure that the meter cannot be calibrated at site.

**27 CONSTRUCTION:**

Meter shall be designed and constructed to be capable of withstanding all severe stresses and vibration and dust environments likely to be encountered in actual field conditions. All parts that are likely to develop corrosion shall be effectively protected against corrosion by providing suitable protective coating.

**28 TERMINALS AND TERMINAL BLOCK:**

- 28.1 The terminals may be grouped in a terminal block having adequate insulating properties and mechanical strength. The terminal block should be made from best quality non-hygroscopic, flame retardant material (capable of passing the flammability tests given in IS:11731) with nickel plated brass for connecting terminals. It shall be an integral part of the meter body.
- 28.2 Terminal holes shall be of minimum 9.5mm to accommodate the insulation of conductor and shall be of adequate length in order to have proper grip of conductor/crimping pins with the help of two screws such that there is no risk of loosening or undue heating. Electrical connection shall be so designed that contact pressure is not transmitted through insulating material. Required number of pins along with one additional pair shall be supplied with each meter.
- 28.3 Sufficient clearance shall be allowed between terminals. Further, the supporting webs between the two terminals of the terminal block should be sufficiently high to ensure that the two neighbouring terminals do not get bridged by dust or it is not possible to have flashed over between adjacent terminals of terminal block.
- 28.4 The terminals shall be of suitable rating to carry 200% of I<sub>max</sub> and shall be made of electro-plated (or tinned) brass.
- 28.5 All connection screws and washers should be tinned/ nickel-plated brass. The terminal screws shall not have pointed end at the bottom. All terminals shall have

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two screws. The terminals shall be properly bound in the insulating material of terminal block.

- 28.6 The terminal block shall have provision with single/two screws for fixing to the meter board. It shall not be possible to remove the meter from the hanging screw without removing the screws from the terminal block.
- 28.7 The voltage circuit and current circuit shall be solidly connected inside the meter body without any link. A firm connection shall be established within the meter case to energize the voltage/current circuit. The connections shall be as per the recommended methods given in IS-13779.

**29 CURRENT AND VOLTAGE CIRCUITS:**

The current and voltage circuits shall be made of appropriate material such as enamelled copper wire of EC grade. The current circuit shall be appropriately insulated and potential circuit shall be appropriately encapsulated. The cross section of current circuit shall be designed to withstand the temperature rise of 50°C over the ambient temperature at maximum current. PT less design shall be used for power supply to PCB. The meter design shall be based on CT or CT and shunt combination or shunts. It is necessary to ensure accurate recording by the meters during the condition when DC component exists in the load, EM CT/Shunt currents should be compared and higher of the two should be used for measurement. Specific confirmation shall be submitted by the bidders that accuracy of measurement will not suffer due to utilization of shunt on account of thermal variation and temperature coefficient up to an operational temperature of 80°C.

- 30 CT/Shunt Fixing arrangement:-** The CTs/Shunts & other measurement devices when provided in the meter shall be mounted through proper fixing arrangement so that it should have a firm support and should not move from its position in any case.

**31 METER FIXING ARRANGEMENT:**

Every meter shall have at least three fixing holes one at the top and two at the bottom. The top hole shall be provided with a special clip at the back of the meter so that holding screw is not accessible after the fixing of the meters. The lower fixing screws shall be provided under the terminal block. The requisite fixing screws shall be supplied with each meter.

**32 CONNECTION DIAGRAM & TERMINAL MARKINGS:**

The connection diagram of the meter shall be clearly shown on the nameplate of meter and shall be of permanent nature. The meter terminals shall also be marked and this marking should appear in the above diagram.

**33 TERMINAL ARRANGEMENT:**

Connecting terminals of meter shall be in the following sequence:

**R(in) R(out), Y(in) Y(out), B(in) B(out), N(in) N(out),**

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**34**     **NON FLAMMABILITY:**

The terminal block, and the meter case shall be such as to ensure reasonable safety against spread of fire. It shall not be ignited by thermic over load of live parts in contact with them. To comply with this requirement, all the parts shall fulfill the conditions of the glow wire test as per relevant standard.

**35**     **SEALING ARRANGEMENT:**

35.1     The meters should be software calibrated at factory and sealed suitably before dispatch.

The meter cover shall be ultrasonically welded with the base so that the cover could not be opened without breaking. Proper sealing arrangements shall be provided on the meter to make it tamper proof and avoid mishandling by unauthorised person. Atleast two (2) seals on the body, two (2) seals on the terminals block and one seal each on maximum demand device and communication port shall be provided.

In addition to above following sealing arrangement shall have to be provided :-

- (i)     All meters shall be sealed by the manufacturer at its works.
- (ii)    A tracking and recording software for all new seals shall be provided by the manufacturer of the meter so as to track total movement of seals starting from manufacturing, procurement, storage, record keeping, installation, series of inspections, removal and disposal
- (iii)   Seal shall be unique for each utility and name or logo of the utility shall be clearly visible on the seals
- (iv)    Only the patented seals (seals from the manufacturer who has official right to manufacture the seal) shall be used.
- (v)     Polycarbonate or acrylic seals or plastic seals or holographic seals or any other superior seals duly marked “MPWZ” shall be used.
- (vi)    Lead seals shall not be used in the new meters.

35.2     The meter shall be provided with 2 nos. polycarbonate tamper evident seals which shall be marked with “MPWZ”, company logo and shall be additionally laser marked with serial no. matching with that of meter. The serial number of meter is to be laser –etched on the base as well as the cover of the meter box, and can be easily viewed to check duplication attempts for the purpose of keeping track of meter seals. All the seals should be provided on front side only. Access to the working part should not be possible without breaking the seals. Provision shall also be made to seal the extended optical port on the side of the meter box. The provision shall also be made to provide additional lash wire seals on the meter by the MPPKVVCL

**36**     **TAMPER AND FRAUD PROTECTION:**

Logics for design of various tampers, the value of voltage, current, time etc. to be selected for design of tamper shall be done in consultation with the purchaser. It may be noted that the approved logics used in designing tampers are explained to our field officers, and based on their input the bidder have to modify logic if necessary (The last tamper date and time of occurrence and tamper counts must appear in the DISPLAY and rest of the details in VIEW PARAMETERS).

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The meter shall record and store last 200 events of tampers (occurrence + restoration) along with date and time of occurrence and restoration of each and every event. The event recording shall be roll over type i.e. it shall always maintain record of last 200 events occurred of selected tamper for logging.

The tamper information shall be available along with date & time of occurrence and restoration of the event and phase indication on which tamper was attempted.

The meter shall to continue to register active energy accurately even under following conditions:

36.1 The meter should register energy consumption correctly in forward direction irrespective of the direction of current in the current circuit (i.e. main and load wire interchange).

36.2 The meter should continue to record energy even when

- (a) Any two phases are disconnected i.e. in presence of any one phase and neutral. Under this condition the meter should record correctly.
- (b) One phase and neutral are disconnected i.e. in presence of any two phases and the load is drawn through local earth. Under this condition, earth load LED indication shall appear on meter and the maximum limit of error allowed is  $\pm 3\%$  from the reference condition.
- (c) When incoming neutral is disconnected, outgoing neutral is connected to earth through resistance and load is connected to earth, the arrangement should be provided such that power LED starts blinking when incoming voltage is below 200 Volts. The energy register shall advance for low voltage up to 120 Volts in each phase.

**i) Missing Potential detection** :- The meter shall detect PT miss and record this information along with date & time of occurrence and restoration of the event and phase indication.

**ii) CT Reversal Detection** – The meter shall detect and indicate the occurrence of CT reversal on meters display along with phase indication and shall also store the date and time of occurrence and restoration in the non volatile memory. Even if meter detect such a condition, but recording of energy and demand of the meter shall be done in positive direction only

**iii) Neutral Missing** :- The meters shall work properly even if neutral is not available and shall work satisfactorily even if any two of potential wires are extended to it. The meter shall work properly in the absence of both incoming and outgoing neutral. The meter should able to detect / protect and display the recording of the tamper

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- iv) The meter shall not get influenced by injection of AC voltages chopped signals/ DC signal and harmonics on the outgoing leads of the meter. The meter should be able to detect / protect and display the recording of the tamper.
- v) **Power ON/OFF:-** Meter shall be capable of detecting & recording power off if all voltages are not present. The event shall be recorded on the next power up. At the same time, power on event shall be recorded.
- vi) **Neutral Disturbance-** The meter shall be capable of detecting / recording and displaying of Neutral Disturbance when spurious signal applied through the neutral.
- vii) Along with the information, the meter shall also record the instantaneous values of all three phase voltages, three currents, three phase power factors and phase angles to elaborate the existing condition during all the type of tamper events.
- viii) The meter shall record 200 events of PT Miss CT reversal/current imbalance (Occurrence + restoration) along with date and time of occurrence and restoration of each and every event. The event recording shall be compartment wise roll over type i.e., it shall always maintain record of last 200 events occurred. Logics for design of above indicated tamper, the value of voltage current time etc. to be selected for design of tamper logics shall be in consultation with the purchaser. (The last tamper event as per above tamper is to be included in the DISPLAY and rest of the details in VIEW PARAMETERS).

**37 TOD TARIFF/DEMAND :**

The provision shall be there to programme TODs for energy and demand, through meter reading instrument. Minimum 8 times zones provision shall be there. The TOD registers shall be made available on display.

- 37.1 Provision should be made for automatic of maximum demand at the end of pre-defined period (as for eg. end of the month). The billing parameter at the time of automatic reset of the maximum demand shall be stored for atleast 12 months and display shall be possible on demand at the BCS end to be downloaded through MRI. Period as to when automatic reset of maximum demand is required shall be programmable. In addition reset of maximum demand shall be possible through push button or through a hand held terminal capable of communicating with the meter.

In every case the design shall include provision of updation of cumulative demand register with updation of reset counter.

- 37.2 Necessary compatible meter application software for various programmable features as discussed above in the meter and also necessary software for the IBM compatible computer to obtain various details as discussed above shall be provided by the supplier. No separate cost will be borne by the purchaser on this account.

**38 Current Imbalance (CT shorting/by-passing) :-**

In case of CT open or shorting, which may result in the current imbalance between the phases, the tamper indication should appear by means of measuring neutral current. Meter shall store the date & time of occurrence and restoration in the non-volatile memory.

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**39** **Power ON Time:** -The meter shall have provision to record the phase wise power ON time in HH:MM in a calendar month for last 6 months

39.1 The meter should record energy as per IS for balanced and unbalanced load.

39.2 Meter should continue to record in unbalance load condition when neutral is removed. In this condition maximum limit of the error allowed is  $\pm 3\%$  from the reference condition.

39.3 The meter should record energy accurately irrespective of the phase sequence of supply.

39.4 The three phase LT meter should continue to function when DC signals through Diodes from any or all three phases are injected on the neutral of the meter.

**40** **Cover opening** :-

If attempt is made to open the meter body, the meter shall **detect /log** with date and time of meter body opening tamper, even in absence of supply. **This tamper shall also be displayed on the meter LCD with tamper information.**

**41** **DC Immunity:**

The meter should not saturate on passing of direct current which can cause the meter either to stop recording or record inaccurately as per IS: 13779 (latest version).

**42** **External Magnetic Influence:-**

**The meter shall not get influenced by any external magnetic fields (AC Electromagnet or DC Magnet) as per value(s) specified in CBIP technical reports no 88 with its latest amendments for AC magnetic field.**

For three phase meters, on application of external DC magnetic field of higher intensity against which meter is not immune, the meter should log the events of abnormal magnetic induction with date and time the positive induction may be beyond the limit of 4% but not exceeding power value equivalent to the product of rated voltage and maximum current.

**43** **Application of abnormal voltage /frequency:-**

A) The accuracy of the meter, Real time clock disturb, Memory data corruption, meter functioning hang up etc. should not occur with the application of abnormal voltage/ frequency such as spark discharge of approximately 35KV with 0.01-10 mm spark gap in any of the following manner when applied for 10 minutes:

- a) On any of the phases or neutral terminals
- b) On any connecting wires of the meter
- c) At any place in load circuit
- d) Spark on meter body.

B) Meter should also be immune for tamper by application of remote loop induction device (jammer).

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**When meter is subjected to 35 KV high frequency and voltage burst and remote loop induction device (jammer), it should not hang and in case if it hang once it should remain hanged permanently.**

**44 EMC/EMI Test:**

The meter shall also pass all EMC/EMI tests as per IS:13779 with latest amendments.

**45 Further the bidder shall carefully note and confirm that:**

- (i).The measurement of meter shall not be influenced by injection of AC voltages/ chopped signal/DC signal and harmonics on the outgoing leads of the meter.
- (ii).The meter shall not get affected by any remote device.
- (iii)The bidder should furnish detailed explanation as to how the meter is able to detect/Protect recording the above tamper and fraud features with sketches and phaser Diagram. Additional features, if any, in the meter may also be clearly indicated.

Along with the tamper information, the meter shall also record the phase wise instantaneous values of voltages, currents and phase power factors to simulate and elaborate the existing condition during all type of tamper events.

**46 LED INDICATIONS :**

The following indications must be provided on the meter:

- (i) KWh indicator for Meter calibration - Red (Calibration LED- Imp/KWh)
- (ii) Input and output reversal - Yellow LED indicator or ICON on Indication / current reversal LCD
- (iii) Earth Tamper indication - Green LED indicator or Icon on LCD
- (iv) Power supply ON and Phase indication - LED or ICON on LCD for line1, 2 & 3.

All the LEDs shall be of low power consumption and distinctly visible from distance. Except KWh indicator, all the other indications may be provided as Icon on backlit LCD. The earth LED should glow only when measurement is through neutral circuit.

**47 SALIENT FEATURES:**

The meter shall have the following additional features.

- 47.1 The meter shall be compact in design. The entire design and construction shall be capable of withstanding stresses likely to occur in actual service and rough handling during transportation/loading/unloading etc. The meter shall be convenient to transport and immune to shock and vibration during transportation and handling.
- 47.2 The short time over current rating shall be 30 I<sub>max</sub> for one half cycle at rated frequency as per clause No.9.2.3 of IS:13779.
- 47.3 The meters shall remain within  $\pm 1\%$  accuracy when tested at basic current at rated voltage at 0.3lag and 0.5 lead power factor.

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- 47.4 Meter shall work within accuracy up to max. loading up to  $120\%I_{max}$ .
- 47.5 Even if phase to phase voltage (i.e. 440 Volts) is applied for 5 minutes between phase and neutral of the meter, the meter should not get damaged and continue to record correctly within class 1.0 accuracy after restoration of normal supply.
- 47.6 The meter shall also withstand impulse Voltage without any damage in accordance with the clause 12.7.6.2 of IS: 13779:1999.
- 47.7 The meter shall make use of Non Volatile Memory capable of storing & retaining all the data required to be stored, without the help of any power source or battery back up.
- 47.8 Computation of demand shall be on the basis of Real Time Clock of the meter itself.
- 47.9 Provision shall be there to do the billing operation automatically at a predefined date by programming the meter.
- 47.10 Meters covered under this specification shall be fully static type with non-volatile memory to register various billing parameters and complete with other features as detailed out in this specification. Any other design meeting technical specification or features/accuracy etc., better than this specification and manufactured as per relevant IEC/IS/CBIP report shall also be acceptable.
- 47.11 Meter shall be suitable for accurate measurement and display of energy and other billing parameters within the specified limits of errors under balance and unbalanced load conditions in a poly phase network.
- 47.12 Indication shall be provided on display to show the healthiness of phase voltage.
- 47.13 The meter shall be fully programmable by the user for TOD timing and billing dates etc. For security reasons the meter operating software should have at least “two level write protection” against any modification/editing of the parameters, data, settings etc. except those required for billing data, TOD metering.
- 47.14 The meter shall conform to the degree of protection IP 51 of IS: 12063/IEC: 529 for protection against ingress of dust, moisture and vermin’s.
- 47.15 The meter base & meter cover shall be made of high grade, fire-resistant, non-inflammable high-grade and good quality engineering plastic.
- 47.16 The entire design and construction shall be capable of withstanding stresses likely to occur in actual service and rough handling transportation. The meter shall be convenient to transport and immune to shock and vibrations during transportation and handling.
- 47.17 The voltage circuit and current circuit shall be solidly connected inside the meter body without any link. A firm connection shall be established within the meter

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case to energize the voltage/current circuit. The connections shall be as per the recommended methods given in IS-13779

**48 SELF DIAGNOSTIC FEATURE**

The meter shall be capable of performing complete self-diagnostic check and continuously monitor all the circuits for any malfunctioning and ensure integrity of data memory location at all time. The meter shall have display indication for unsatisfactory / non-functioning / malfunctioning of the following:

- a) Time and date on meter display
- b) All display segments on meter display
- c) Real Time Clock (RTC) status in meter reading print out at BCS end
- d) Non-volatile Memory (NVM) status in meter reading prints out at BCS end.

**49 ELECTROMAGNETIC COMPATIBILITY AND INTERFERENCE REQUIREMENT:**

49.1 The meter shall meet EMI/EMC requirements as specified in the relevant standards and shall also be protected against radiated interference from either magnetic or radio frequency sources.

49.2 The offered whole current meter shall also withstand DC Immunity test for main and neutral circuit at  $I_{ref} = I_{max} / \sqrt{2}$  as per IS:13779 so as to ensure that the meter current circuits do not saturate on passing of direct current.

49.3 The meter shall be designed in such a way that the conducted or radiated electromagnetic disturbances as well as electrostatic discharge do not damage or influence the meter.

49.4 The disturbance(s) to be considered are:

- (i) Harmonics
- (ii) Voltage dips and short interruptions
- (iii) Fast transient burst test
- (iv) External D.C. and A.C. magnetic fields
- (v) Electromagnetic H.F. fields
- (vi) Electrostatic discharges
- (vii) Radio frequency interference suppression.

**50 GUARANTEED TECHNICAL PARTICULARS:**

The bidder shall furnish all the necessary information as desired in the Schedule of Guaranteed Technical Particulars and data, appended with this specification. If the bidder desires to furnish any other information(s) in addition to the details as asked for, the same may be furnished against the last item of that Annexure.

**51 NAME PLATE AND MARKING:**

Every meter shall have a name plate clearly visible and indelible and distinctly marked in accordance with IS:13779 (latest version). The following information should appear on the name plate affixed on to the meter:-

- (i) Manufacturer's name or trade-mark and place of manufacture.
- (ii) Designation of type

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- (iii) Number of phases and number of wires for which the meter is suitable.
- (iv) Guarantee period – 5 years from the date of commissioning or 5-1/2 years from the date of supply , whichever occurs first.
- (v) Purchase Order No. & Date.
- (vi) Property of MPPKVVCL.
- (vii) Bar coding of SN, Month & Year of manufacture
- (viii) Sign of Insulation Class
- (ix) Connection diagram
- (x) Serial number, year and month of manufacture
- (xi) Principal unit in which the meter records Reference voltage
- (xii) Basic current and rated maximum current
- (xiii) Reference frequency in Hz
- (xiv) Meter constant (Imp/KWh)
- (xv) Accuracy class
- (xvi) Reference temperature
- (xvii) ISI mark and license number

**52 TESTS:**

**(A) Type Test:**

The type test certificate for all tests as indicated in IS:13779-1999 (with latest amendments) shall be furnished along with the bid. Type test certificates from any one of the standard laboratories NABL accredited for particular equipment/test shall only be considered. Type test report, amongst other details, should contain the following information clearly:

- (i) Type of meter and display
- (ii) Class of Accuracy.

Type test certificate from educational institute(s) will not be accepted. The type test certificate shall not be more than 24 months old as on the date of opening of bid.

**(B) Additional Type Test:**

In addition to the tests mentioned at (A) above, bidder shall have to furnish the type test reports of compliance of anti-tamper features as per tender specification.

**(C) Acceptance tests:**

All Acceptance tests as laid down in this tender specification ,including as per IS 13779 to be read along with CBIP report 88 with latest amendments .shall be carried out.

**(D) Verification during Inspection:**

Inspecting officer shall verify that no DC supply/ signal is given to reference meter during the DC injection test. The accuracy of display parameters shall be verified at the time of inspection in line with class of accuracy of meter.

- i. Voltage variation test
- ii. Accuracy tests under all anti tamper conditions.
- iii. Permanent magnet test

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- iv. Special accuracy test – the meters shall remain within  $\pm 1\%$  accuracy when tested at basic current at rated voltage at 0.3lag and 0.5 lead power factor.
- v. The accuracy of the meter, Real time clock disturb, Memory data corruption, meter functioning hang up etc. should not occur with the application of abnormal voltage/ frequency such as spark discharge of approximately 35KV with 0.01-10 mm spark gap in any of the following manner when applied for 10 minutes:
  - a) On any of the phases or neutral terminals
  - b) On any connecting wires of the meter
  - c) At any place in load circuit
  - d) Spark on meter body.
- vi. Immunity from remote loop induction device (jammer)

**The accuracy and above indicated parameters of meter shall be checked before and after the application of above device(s) with site conditions. It is desired that when meter is subjected to 35 KV high frequency and voltage burst and remote loop induction device(jammer) it should not hang and in case if it hangs once it should remain hanged permanently.**

**(E) Routine Tests:**

All the routine tests as stipulated in IS:13779 to be read along with CBIP report 88 with latest amendments . and in addition tamper and fraud protection tests as per TS shall be carried out and test certificates shall be furnished for approval of the Purchaser.

**53 TEST FACILITIES AVAILABLE WITH THE MANUFACTURER:**

The tests shall be carried out as per relevant Standards and test certificates shall be furnished for approval. The Supplier shall indicate the details of the equipment available with him for carrying out the various tests as per relevant Standards. The bidder shall indicate the sources of all materials.

Bidders should carefully note that the standard meters used for conducting tests shall be calibrated periodically at NABL Accredited Test Laboratories and test certificates shall be available at Works for verification by Purchaser's representative.

The Supplier/Manufacturer shall have at least the following testing facilities to ensure accurate calibration:

- (i) Insulation resistance measurement
- (ii) Running at no load
- (iii) Starting current test
- (iv) Limits of error
- (v) Power loss in voltage and current circuit
- (vi) Repeatability of error
- (vii) Transportation test
- (viii) Low load run test
- (ix) Heating test

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**54 INSPECTION:**

- 54.1 The Purchaser's authorized representative may carry out the inspection at any stage of manufacture. The Supplier/Manufacturer shall grant free access to the Purchaser's representative at a reasonable time when the work is in progress. Inspection and acceptance of any equipment under this specification by the Purchaser shall not absolve the Supplier of his obligation of furnishing the equipment in accordance with the specification and shall not prevent subsequent rejection if the equipment is found to be defective.
- 54.2 All acceptance tests and inspection shall be made at the place of Supplier/Manufacturer. The Supplier shall provide all reasonable facilities without demanding any charge to the inspector representing the Purchaser to satisfy him that the equipment is being furnished in accordance with this specification.
- 54.3 The Supplier/Manufacturer shall keep the Purchaser informed in advance, about the manufacturing/readiness activities so that arrangement can be made for inspection.
- 54.4 The Purchaser reserves the right to insist for witnessing the acceptance/routine testing of the bought out items. The Supplier shall give 15 days advance intimation to enable the Purchaser to depute his representative for witnessing the acceptance and routine tests.
- 54.5 The Purchaser reserves the right to get type tests done in respect of any meter, or Box from any of the lots received at any Destination Stores at Supplier's expenses.

**55 SAMPLE:**

**Sample before Commencement of supplies:**

The Supplier shall submit sample of offered meter along with the meter box having all the features conforming to the prescribed specification for our approval before commencement of supply.

**56 RANDOM SAMPLE TESTING AFTER RECEIPT OF METERS AT STORES:**

The consignment of meters received at Area Store shall be accepted only after testing of sample meters at CPRI Bhopal as stated in the Schedule-III (C), "Verification/Testing of material supplied".

**57 QUALITY ASSURANCE PLAN:**

- 57.1 The designed life of the meter shall be minimum of 20 years and to prove the designed life, the firm shall have to follow at least the following Quality Assurance Plan:-
- (i) The factory shall be completely dust proof.
  - (ii) The testing rooms shall be temperature and humidity controlled as per relevant standards.  
The testing and calibrating equipments should be automatic and all test equipment shall have their valid calibration certificates.

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- (iii) Power supplies used in testing equipment shall be distortion free with sinusoidal, wave forms and maintaining constant voltage, current and frequency as per the relevant standards.
- (iv) During the manufacturing of the meters the following checks shall be carried out.
  - (i) Meter frame dimensions.
  - (ii) The assembly of parts shall be done with the help of jigs and fixtures so that human errors are eliminated.
  - (iii) The meters shall be batch tested on automatic, computerized test bench and the results shall be printed directly without any possibility of human errors.

57.2 The Supplier/Manufacturer shall furnish the following information. Information shall be separately given for individual type of meters offered.

- (i) Statement giving list of important raw materials, names of sub-suppliers for the raw materials, list of standards according to which the raw materials are tested, list of tests normally carried out on raw material in presence of Supplier's representative and copies of test certificates.
- (ii) Information and copies of test certificates as in (i) above in respect of bought out accessories.
- (iii) List of manufacturing facilities available.
- (iv) Level of automation achieved and list of areas where manual processing exists.
- (v) List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.
- (vi) List of testing equipments available with the Supplier for final testing of equipment specified and test-plant limitations, if any, vis-à-vis type, special acceptance and routine tests specified in the relevant standards and this specification. These limitations shall be very clearly brought out in schedule of deviations.

57.3 The Supplier/Manufacturer's laboratory must be well equipped for testing of the meters. They must have computerized standard power source and standard equipment calibrated not later than a year (or as per standard practice). The details of testing facilities available for conducting (a) The routine tests and (b) Acceptance tests shall be furnished in Schedule annexed with tender document.

**58 MANUFACTURING ACTIVITIES:**

- (i) All the materials, electronics and electrical components, ICs used in the manufacture of the meter shall be of highest quality and reputed make to ensure higher reliability, longer life and sustained accuracy.
- (ii) The Manufacturer should use Application Specific Integrated Circuit ASIC or Micro controller for metering functions.

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- (iii) The electronic components shall be mounted on the printed circuit board using latest Surface Mounted Technology (SMT) except power components by deploying automatic SMT pick and place machine and re-flow solder process. The electronic components used in the meter shall be of high quality. Further, the Supplier should own or have assured access (through hire, lease or sub-contract) of the above mentioned facilities. The PCB material should be of glass epoxy FR-4 grade conforming to relevant standards.
- (iv) All insulating materials used in the construction of meters shall be non-hygroscopic, non-aging and of tested quality. All parts that are likely to develop corrosion shall be effectively protected against corrosion by providing suitable protective coating.
- (v) Quality should be ensured at the following stages :
  - (a) At PCB manufacturing stage, each board shall be subjected to bare board testing.
  - (b) At insertion stage, all components should undergo testing for conforming to design parameters and orientation.
  - (c) Complete assembled and soldered PCB should undergo functional testing using test equipments (testing jig).
  - (d) Prior to final testing and calibration, all meters shall be subjected to accelerated ageing test to eliminate infant mortality.
    - 1. The calibration of meters shall be done in-house.
    - 2. The Supplier/Manufacturer should submit the list of all components used in the meter along with the offer.
    - 3. A detailed list of bought-out items which are used in the manufacture of the meter should be furnished indicating the name of firms from whom these items are procured. The Supplier shall also give the details of quality assurance procedures followed by him in respect of the bought-out items.
    - 4. The details of testing facilities available for conducting the routine and acceptance tests and other special tests on the meter shall be furnished with the bid. The facility available if any for conducting type test may also be furnished.

**59 DOCUMENTATION:**

- 59.1 All drawings shall conform to International Standards Organization (ISO "A" series of drawing sheet/India Standards Specifications IS: 656. All drawings shall be in ink and suitable for micro filming. All dimensions and data shall be in S.I. Units.
- 59.2 List of drawings and documents:

The Supplier/Manufacturer shall furnish the following:

  - (i) Two sets of drawing clearly indicating the general arrangements, fitting details, electrical connections etc.
  - (ii) Technical leaflets (user's manual) giving operating instructions.
  - (iii) Three copies of dimensional drawings of the quoted item.

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- 59.3 The manufacturing of the equipment shall be strictly in accordance with the approved drawings and no deviation shall be permitted without the written approval of the Purchaser. All manufacturing and fabrication works in connection with the equipment prior to the approval of the drawing shall be at the Supplier's risk.
- 59.4 Approval of drawings by Purchaser shall not absolve the Supplier of his responsibility and liability for ensuring correctness and correct interpretation of the drawings for meeting the requirements of the latest revision of application standards, rules and codes of practices. The equipment shall conform in all respect to high standards of engineering, design, workmanship and latest revisions of relevant standards at the time of ordering and Purchaser shall have the power to reject the materials which, in his judgment, is not fully in accordance therewith.
- 59.5 The successful Supplier shall, within 2 weeks of notification of award of contract, submit three sets of final versions of all the drawings as stipulated in the contract for Purchaser's approval. The Purchaser shall communicate his comments/ approval on the drawings to the Supplier within two weeks. The Supplier shall, if necessary, modify the drawings and resubmit three copies of the modified drawings for approval. The Supplier shall within two weeks, submit 10 prints and two good quality report copies of the approved drawings for Purchaser's use.
- 59.6 Sets of operating manuals/technical leaflets per 100 meters shall be supplied to each consignee in the first instance of supply. Additional copies of sets of operating manuals/technical leaflets in the numbers as may be desired by the purchaser shall have to be supplied to the consignee or field officers.
- 59.7 One set of routine test certificates shall accompany each dispatched consignment.
- 59.8 The acceptance test certificates in case of pre-despatch inspection or routine test certificates in cases where inspection is waived shall be got approved by the Purchaser

**60 GUARANTEE:**

- (i) The meters shall be guaranteed for a period of **5 years from the date of commissioning or 5-1/2 years from the date of supply, whichever occurs first.**
- (ii) The meter found defective within the above guarantee period shall be replaced by the supplier free of cost within one month of the receipt of intimation. If the defective meters are not replaced within the above specified period, the same shall be treated as breach of performance of the contract and shall be liable for consequential penal action.

**61 PACKING & FORWARDING:**

- 61.1 The equipment shall be packed in crates suitable for vertical/horizontal transport as the case may be, and suitable to withstand handling during transport and outdoor storage during transit. The Supplier shall be responsible for any damage to the equipment during transit, due to improper and inadequate packing. The

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easily damageable material shall be carefully packed and marked with the appropriate caution symbol. Wherever necessary, proper arrangement for lifting, such as lifting hooks etc., shall be provided. Any material found short inside the packing cases shall be supplied immediately by Supplier without any extra cost.

- 61.2 Each consignment shall be accompanied with a detailed list containing the following information.
- a) Name of the consignee
  - b) Details of consignment
  - c) Destination
  - d) Total Weight of Consignment
  - e) Handling and packing instruction
  - f) Bill of material indicating contents of each package
- 61.3 The packing shall be done as per the Manufacturer's standard practice. However, he should ensure the packing is such that the material should not get damaged during transit by Rail/Road.

**62 GENERAL :**

- 62.1 Principle of operation of the meter, outlining the methods and stages of computation of various parameters starting from input voltage and current signals including the sampling rate, if applicable, shall be furnished by the bidder.
- 62.2 The Supplier shall indicate the method adopted to transform the voltage and current to the desired low values with explanation on devices used such as CT, VT or potential divider as to how they can be considered superior in maintaining ratio and phase angle for variation of influencing quantities during its service period.
- 62.3 The Supplier shall furnish details of memory used in the meter.
- 62.4 The Technical Specification of Push Fit Type Meter Box Made Of Engineering plastic has been described in Section -III (B)
- 62.5 The procedure for Verification/Testing of Material Supplied described in Section-III (C) shall be followed
- 62.6 It is mandatory to conform compliance of guaranteed technical particular of ac three phase electronic KWH meter with LCD display as per Schedule-II

-Sd-  
Chief Engineer (Corp. Office - Pur)  
O/o. CMD (WZ) MPPKVVCL,  
Indore

**TS NO. CMD/WZ/06/PUR/484 DUE ON 22.02.2011**

**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

**SECTOIN -III-'B'**

**TECHNICAL SPECIFICATION OF PUSH FIT TYPE METER BOX  
MADE OF POLYCARBONATE**

1. The meter box shall be weather proof, tamper proof and made of transparent polycarbonate UV stabilised Gr.143R or equivalent. Type test of material is required to be furnished along with the sample.
2. The meter box should be unbreakable un-deformable and should withstand the temperature up to 140 deg. cent.
3. Thickness of the base should be at least 2 mm and cover should be of not less than 0.8 mm.
4. Clearance of 30 mm shall be maintained from top and both sides of the meter. However, the clearance at bottom should be of 75 mm. from the meter and 45mm from the terminal block. Besides, there should be clearance of 15 mm in the front from the face of meter.
5. The top cover of the meter box should be of push fit type having at least 4 self locks so that once the top cover of the box is fitted with the base it cannot be removed without breaking the top cover. The cover and base shall have groove all along with the fitting edge, so that after fixing the top cover, no wire or any device can be, temporary or permanently, inserted in the box. The top cover of the box, provided with self-lock, should have arrangement/barrier so that after getting locked, it cannot be detached from latches even by applying external pressure through any means.
6. Meter shall be fitted with the base of box through unidirectional type screw or by some other better means in such a way so that once the meter is fitted with the base; it cannot be removed from the base and become an integral part with base. The meters shall be supplied duly mounted on the base of meter box and the cover shall be placed separately in the cartoon.
7. Suitable circular holes with adjustable cable glands shall be provided at the bottom of the meter box for inlet and outlet cables.
8. The meter box cover or base shall have a barrier so positioned that any possibility of fiddling the meter terminal from outside of the meter box through cable entry holes is not possible. The barrier shall have reinforce/locked at both sides to restrict its movement up and down even by applying external pressure through any tools.
9. The top cover of meter Box should have spring loaded push button with spindle in moulded barrel on top cover of Box perfectly in alignment to operate push button of the meter to read display parameter on push button mode.
10. The boxes shall be specific to the meter mounted in it. Thus, the Serial Number of the meter should be indelibly engraved /marked on the base of meter box as well as on the cover of meter box.

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11. The box should have proper mounting arrangement so that it could be mounted on the wall or the pole, as the case may be.
12. The meter box comprises of base and cover shall pass the following tests;
  - i) **Unbreakability test**:- Shall not get damage or deform while dropping from a height of 10 ft. and hammered with 2 kg. hammer to test its unbreakability.
  - ii) **Boiling water test** :- It should pass the boiling water test as prescribed in IS:13010.
13. The overall dimensions of the meter box shall vary according to the different make of meters. However, it shall comply with the minimum requirements as described above.
14. The individual meter manufacturers shall submit the specific drawing and sample accordingly to accommodate their make meter only.

-Sd-  
Chief Engineer (Corp. Office - Pur)  
O/o. CMD (WZ) MPPKVCL,  
Indore

### SECTION-III (C)

#### **VERIFICATION/TESTING OF MATERIAL SUPPLIED**

- i) Three (3) samples meters shall be selected for conducting type tested from the first lot of meters received in Areas Stores, by a committee constituted by Chief Engineer (Corporate Office). The samples so selected shall be sealed by at least 3-4 seals / stickers by the committee members. The selected samples shall be sent with complete details for type test and additional test / special tests as per specification at CPRI Bhopal / ERDA Vadodra / Any NABL accredited Test house. The type test charges shall be borne by the supplier. The purchaser however in first instance may pay testing charges to the testing agency, which shall be recovered by RAO / Director (F) from the bill of the supplier.
- ii) In case of successful type test results, supplier shall be continued. However, in case the meter (s) do not meet the requirement as per ISS/CBIP/ Specification in type test (s), three more samples shall be selected from the supplier already received to get them type tested at supplier's cost. In case of repeat failure in type test (s) the order of balance quantity including the quantity lying unused in the stores / filed shall be cancelled.
- iii) On receipt of consignment of individual DI in area stores from the lot of 1000 meters or more received, 32 meters would be selected randomly and sent to CPRI Bhopal for conducting necessary test as per relevant ISS & as per the prescribed procedure laid down by MPERC order passed on dated 13.05.2005 and conveyed vide letter No. 1257 dated 25.05.2005. The cost of which is to be borne by the supplier.

S.No	Particulars of tests	No. of samples to be tested
(i)	Starting Current test and No load test	32 Nos.
(ii)	AC high Voltage test, Insulation test, Limits of error, Test of meter constant / registration, Power consumption test.	8 nos. out of above 32 Nos.
(iii)	Repeatability of error	3 nos. out of above 8 Nos.
(iv)	Voltage variation, Tamper & fraud protection, D.C. Immunity Test, Magnetic Immunity test (as per tender specifications), Accuracy test after application of 440 Volts for 5 minutes, I <sub>max</sub> for 30 minutes test, D.C. Injection test and 35 KV high frequency high voltage test.	3 nos. out of above 8 Nos.
(v)	<b>Shock</b> Test and Fast Transient Burst Test	3 nos. out of above 8 Nos.

Following procedure shall be adopted to clear the tested lot:

1. Failure of any 2 nos. tests shall be allowed out of 32 nos. of meters tested at sr. no. (i) of above table. Failure of more than 2 nos. tests, the further testing shall be suspended and lot shall be declared as fail.
2. Failure of any one test shall be allowed out of 8 nos. of meters tested at sr. no. (ii) of above table. In case of failure in more than one test, the further testing shall be suspended and lot shall be declared as fail.
3. No failure shall be allowed out of 3 nos. of meters tested at sr. no. (iii) of above table. In case of failure of any meter, the further testing shall be suspended and lot shall be declared as fail.

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

4. 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box Failure of any one test shall be allowed out of 8 nos. of meters tested at sr. no. (iv) of above table. In case of failure in more than 1 no. test, the further testing shall be suspended and lot shall be declared as fail.
- iv) In case of failure of samples of lot/ sub-lot in the test(s) detailed above, **the similar testing procedure as described shall be repeated on another lot and if the lot fails consecutive second time the entire quantity of respective lot/sub-lot shall be rejected and shall have to be replaced by the supplier** at his own cost. Repeated failure/poor results in the testing may render cancellation of order.
- v) The supplies, at the option of purchaser, may be utilized in the field during the period of testing. In case of repeat failure in acceptance test(s), the order of balance quantity including the quantity lying unused in the stores/ field shall be cancelled. The guarantee period of quantity already supplied & used shall be doubled and payment for used meters shall be arranged after deducting 10% cost.
- vi) The purchaser also reserves the right to get additional samples for all or any of the selected tests at purchaser's cost at any independent test house at any stage of supply, if so considered necessary to ensure that the quality of meters being offered for inspection is same as already got type tested. In case of failure, the guarantee period of the quantity already supplied by the supplier shall be doubled and purchaser reserves the right to cancel the balance quantity.
- vii) However, purchaser may allow the supplier to re-offer the material after change/ modification in the design of meters. The balance material shall be accepted only after successful Type Testing. The Type Testing charges shall be borne by the supplier.
- viii) In case of successful test results, supplies shall be continued.

-Sd-  
Chief Engineer (Corp. Office - Pur)  
O/o. CMD (WZ) MPPKVVCL,  
Indore

**Schedule I : Price and Quantity**

(TO BE KEPT IN ENVELOPE PART-III PRICE BID)

**(PRICE & QUANTITY)**

Sr. No.	Particulars	Tendered Quantity (In No.)	Quantity offered (In No.)	Total unit FOR destination FIRM price including ED, CST / VAT, ET, other charges & freight charges etc, in various area store of (WZ) Co. (Price in figure & words both)
1	3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box.	25000		

Discount if any	
Conditions to avail above discount if any	

**NOTE:-**

- Discount, if any, must be clearly mentioned above. However, it may be noted that for evaluation purpose, only unconditional discount shall be taken into consideration. Conditional discount of any type, will not be taken into account for evaluation purpose. However, in the event of such an offer, without considering discount, is found to be lowest, the purchaser may avail such discount at the time of award.
- Rates in various tapering steps shall not be considered.
- The offers, with the rates given in any form/Proforma, other than that mentioned above, shall be summarily rejected and shall not be considered, in any case.
- Payment of any type of Govt. statutory levies/ taxes will be responsibility of the bidder.
- The quoted price should be "FIRM" and on F.O.R. destination basis inclusive of all taxes and duties etc.
- The price quoted by bidder must be inclusive of cost of Entry Tax (even if the entry tax is payable by the purchaser).** It may be noted that unless **Entry-Tax-Paid** goods are supplied by the vendor, the amount of Entry Tax at the applicable rates will be deducted by the purchaser from the supply bill of the vendor, and remitted to the tax department under TIN number of the purchaser.
- The price shall be quoted for meter duly fitted in meter box i.e. separate price for meter and meter box shall not be accepted
- 1 no. CMRI shall have to be supplied free of cost per lot of 500 meters or part thereof.

PLACE:

SIGNATURE OF TENDERER

DATE :

NAME IN FULL

DESIGNATION/ STATUS IN THE FIRM

COMPANY SEAL.

**TS NO. CMD/WZ/06/PUR/484 DUE ON 22.02.2011****Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

**Schedule II (A): Guaranteed Technical Particulars**  
**GUARANTEED TECHNICAL PARTICULAR OF AC THREE PHASE**  
**ELECTRONIC KWH METER WITH LCD DISPLAY**

Sl. No.	Particular	Min. Requirement	As offered
1.	Name of manufacturer	To be mentioned	
2.	Type, name & number (model)	To be mentioned	
3.	Standard Applicable	IS:13779/1999, CBIP-88 with its latest amendment as on date.	
4.	Rating		
(i)	Accuracy Class	1.0	
(ii)	Rated Voltage	3x240V (+ 20% -40%)	
(iii)	Rated current	Ib-10 Amp., Imax 40 Amp	
(iv)	Rated frequency	50 Hz $\pm$ 5%	
(v)	Power factor	Zero lag - Unity -Zero lead	
(vii)	Shall work within accuracy up to max. loading	120% of Imax	
5.	Continuous current rating	40 Amps.	
(i)			
(ii)	Running with no load and 115 % of rated voltage	No creeping	
6.	Short time over current for one half cycle at rated frequency.	30 Imax	
7.	Starting current at which meter shall run & continue to run	0.4% of Ib at rated voltage and unity power factor	
8.	Power loss at rated frequency & reference temperature		
(a)	Current circuit at rated current	Less than 4 VA per phase as per IS 13779	
(b)	Voltage circuit at rated current	Less than 1.5W/8VA per phase as per IS 13779	
9	Momentary over voltage	As per IS	
10	Dielectric voltage withstand	As per IS	
11	Communication Port	Optical Port / RS 232 Port	
12	Communication protocol	The communication protocol should be either open protocol duly certified by CPRI of in case manufacturer is using proprietary protocol, the manufacture shall have to hand over complete details of the protocol to the purchaser.	
13	Type of material used		
(a)	Base Material and thickness	High Impact strength, non-hygroscopic, flame retardant,	

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

Sl. No.	Particular	Min. Requirement	As offered
		Engineering plastic of min. 2.0 mm thick	
(b)	Meter cover material	---As above---	
(c)	Terminal Block material	High Impact strength non hygroscopic, flame retardant material. Barrier of adequate size shall be provided between neighbouring terminals.	
(d)	Colour	The meter cover shall be fully transparent.	
(e)	Screw		
(i)	Material	Nickle Plated - Brass	
(ii)	Size	5-6 mm dia	
14.	Internal diameter of Terminal Hole	Min. 9.5 mm	
15.	Centre to Centre clearances between adjacent terminals	More than 13 mm	
16.	Transducers		
(i)	Input	CT or shunt or combination and potential divider (PT less)	
(ii)	Output	Digital	
17.	Type of display	LCD with backlit	
(i)	Operation suitability	LCD suitable for operation up to 65° & 80°C as per TS	
(ii)	No. of Digits	7 including decimal digit (6+1)	
(iii)	Size of Numerals (min.)	8.5 x 5 mm	
18	Display Sequence	( display should be self explanatory)	
18.1	Auto Scroll Mode	As per Specification	
18.2	Push button mode	(As per specification)	
19	Type of push button arrangement	Spring loaded push button to be provided on top cover of meter box to activate the push button of meter to read parameters	
20 (i)	Reading in power off condition	Meter shall be able to display reading.	
(ii)	Type of arrangement made to display in power off condition	Please provide	
21.	Battery of Real time clock	(i) It shall be long life having at least 10 years of life (ii) The drift in time shall not exceed +/- 5 minutes per year	

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

Sl. No.	Particular	Min. Requirement	As offered
22.	Type of communication provided for data downloading shall be as per TS	Please indicate the type	
23.	Fixing/sealing arrangement		
(i)	Fixing of meter	Minimum 3 fixing holes (one at top & two at bottom under terminal block). The top fixing screw shall not be accessible after meter is fixed to meter box base.	
(ii)	Sealing of Meter Cover	As per specification	
(iii)	Ultrasonic Welding	Meter cover should be ultrasonically welded with base as per specification.	
24.	Performance of meter in tamper conditions		
(i)	Main & load wire are interchanged	Should work within specified accuracy	
(ii)	(a) When any two phases are disconnected i.e. in presence of any one phase & neutral	Should record correctly	
	(b) When one phase and neutral are disconnected i.e. in presence of any two phases and load is drawn through local earth.	Meter Should continue to record energy and earth LED indication shall appear on meter. The maximum limit of the error allowed is +/-3% from the reference condition.	
	(c) Incoming neutral disconnected, outgoing neutral connected to earth through resistance and load is connected to earth.	LED start blinking when incoming voltage is below 200V and Energy register shall advance for low voltage up to 120V in each phase.	
(iii)	Indication in tamper condition (LED or ICON)	“Reverse” indication for (i) “Earthed” indication for (ii)b&c above	
(iv)	If attempt is made to open the meter body,	the meter shall detect /log with date and time of meter body opening tamper, even in absence of supply. This tamper shall also be displayed on the meter LCD	
(v)	Application of abnormal frequency and voltage of the order of 35 KV voltage burst with the help of external device	Should work normal and the accuracy should not be affected after removal of such device. The meter should not hang during any desired method of test. The meter	

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

Sl. No.	Particular	Min. Requirement	As offered
	Meter should also be immune for tamper by application of remote loop induction device (jammer	should not exhibit intermittent recording operation and if it hangs during any desired testing method, it should permanently remain hanged.	
(vi)	Current Imbalance between the phases (CT shorting /by-passing)	Should log the event with date and time of occurrence and restoration	
(vii)	Power ON time (phase wise)	Provision to log in HH:MM in calendar month for last 6 months.	
(viii)	(a) Balanced & unbalanced load	Recording shall be as per IS.	
	(b) In the unbalanced load condition when neutral is removed	. Meter Should continue to record in this condition maximum limit of the error allowed is +/-3% from the reference condition.	
(ix)	Phase sequence reversal	Should record accurately irrespective of the phase sequence.	
(x)	DC signal through diode from any one phase or all three phases are injected on the neutral	Should continue to function	
(x)	Along with tamper information the meter shall also record the phase wise instantaneous values of voltage, current and power factor at the time of occurrence and restoration.	Please provide.	
(xi)	No. of events	Meter shall record 200 events of tamper (occurrence + restoration) with date and time.	
25.	Suitability of meter to sustain over voltage i.e. phase to phase voltage injected between phase & neutral	Should sustain	
26.	Size of calibration & other LEDs & colour	Low Power 3mm or 5mm. calibration LED of Red colour is essential. Other indication like Power ON (phase wise), load earthed, reverse indication etc. may be LEDs or Icon on LCD.	
27.	Electromagnetic compatibility (EMI/ EME severity level)	Should withstand severity level 4	

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

Sl. No.	Particular	Min. Requirement	As offered
28.	Effect on accuracy of external electromagnetic interference of electrical discharge, external magnetic field & DC current in AC supply or in neutral	Should work within accuracy Complying with standards with its latest amendment as on date.  The meter shall not get influenced by any external magnetic fields (AC Electromagnet or DC Magnet) as per value(s) specified in CBIP technical reports no 88 with its latest amendments for AC magnetic field. <ul style="list-style-type: none"> <li>Under the influence of abnormal magnetic field (above prescribed limits) the meter shall record power value not exceeding the product of rated voltage and maximum current (<math>I_{max}</math>).</li> <li>Meter shall have provision to record the tamper of abnormal magnetic induction with date and time of occurrence and restoration.</li> </ul>	
29.	Effect of accuracy in tamper conditions	Should work within accuracy specified in IS: 13779/1999	
30.	Cut off voltage (at which meter stop working)	Please specify.	
31.	Ref. Temperature	27°C	
32.	Temperature range of operation	-5°C + 60°C	
33.	Drift in accuracy of measurement with time	No Drift in accuracy in measurement with time	
34.	Fixing arrangement of name plate	Plastic name plate fixed through screw in side the meter.	
35.	Type of body	Projection type	
36.	Calibration	Meter shall be software calibrated at factory	
37.	CT/Shunt fixing arrangement	To be indicated	
38.	Manufacturing activity		
(i)	Mounting of components on PCB shall be SMT type	SMT type and ASIC technology	
(ii)	Compliance to quality assurance	Please confirm	
39.	Testing facility		
(i)	Fully automatic computerised meter bench	Must be available	

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Sl. No.	Particular	Min. Requirement	As offered
	with print out facility shall be available		
(ii)	Make and S.No. of Test bench	To be indicated	
(iii)	Accuracy of ESS duly calibrated	---do---	
(iv)	Type of technology	Digital/Analog	
(v)	Following in house testing facility shall be available;		
a.	Insulation resistance	Must be available	
b.	Running on no load	--do--	
c.	Starting current	--do--	
d.	Limits of error	--do--	
e.	Range of Adjustment	--do--	
f.	Power loss in voltage and current circuit.	--do--	
g.	Repeatability of error	--do--	
h.	Transportation test	--do--	
i.	Low load run test	--do--	
j.	Heating test	--do--	
40.(i)	Whether offered meter are Type Tested as per IS:13779 at NABL accredited Lab	YES/NO	
(ii)	Name of the Lab	Please provide	
41.	Guarantee period of meter printed on nameplate	5-1/2 years from the date of supply	
42.	BIS licence No. & dt. with its validity for ISI certification mark on offered meter	Please provide.	
43.	Details of meter design for which above BIS certification has been obtained :-		
(i)	Ratio of Ib to I <sub>max</sub>	Please provide	
(ii)	Material of meter body	Please provide	
(iii)	Type of energy registering counter	Please provide	
(iv)	Type of technology (Digital/Analog)	Please provide	
(v)	Grade of printed circuit Board material	Please provide	
(vi)	Type of assembly of component used (SMT)	Please provide	
(vii)	Meter constant (Imp/KWh)	Please provide	
(viii)	Auxiliary power circuit (with PT or PT less)	Please provide	

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Sl. No.	Particular	Min. Requirement	As offered
(ix)	Current circuit (CT/Shunt combination or only shunt)	Please provide	
(x)	Accuracy class	Please provide	
44.	ISO accreditation no. & dt. with its validity	Please provide	
45.	Past Experience:-		
(i)	Whether the details of orders of received and quantity supplied is indicated in the schedule of past experience.	YES/NO	
(ii)	Confirm whether copy of the orders along with technical specification is enclosed with the tender.	YES/NO	
46.	Whether meter has six programmable time of use facility	YES/NO	
47..	Other parameters/features not covered in the above GTP.	Conform to specification and IS-13779/1999 (with its latest amendment).	

**NOTE:-**

- (1) All the information/parameters indicated above shall exist in the meter offered & shall withstand all the tests specified above within the variation of current/voltage frequency and climatic conditions specified therein.
- (2) Even though if any features or parameters are not specifically covered in this GTP, but are essential for the satisfactory performance of the meter as per the specification, are deemed to have been covered in the GTP.

PLACE:

SIGNATURE OF TENDERER

DATE :

NAME IN FULL

DESIGNATION/ STATUS IN THE FIRM

COMPANY SEAL.

**TS NO. CMD/WZ/06/PUR/484 DUE ON 22.02.2011**

**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

**SCHEDULE – II (B)**

**DECLARATION BY THE TENDERER**

**(To be submitted on non-judicial stamp paper worth Rs.100/-)**

I ..... Sole proprietor / partner of M/s  
..... undertake that I am not interested as a  
proprietor and/or partner in any other firm, participated in the Discom WZ tender  
No. ----- due for opening on ----- for  
procurement of -----.

SIGNATURE OF TENDERER

NAME IN FULL

DESIGNATION/ STATUS IN THE FIRM

COMPANY SEAL

**TS NO. CMD/WZ/06/PUR/484 DUE ON 22.02.2011**

**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with  
LCD Display along with Transparent polycarbonate meter box**

**OFFICE OF THE CMD (WEST ZONE)**  
**M.P. Paschim Kshetra Vidyut Vitaran Co. Ltd.**  
**G.P.H. Compound, Pologround, Indore.**

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**Volume II**

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**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**

## **Section IV: General Instructions to Bidders**

Chief Engineer (Corp. Office - Pur), O/o CMD (West Zone), M.P.P,K.V.V.C.L., Indore on behalf of “**The Madhya Pradesh Paschim Kshetra Vidyut Vitaran Co. Ltd., Indore**” here-in-after referred to as “**Company**”, will receive sealed tenders/ bids for **supply of materials/ equipments** as per the specifications, at various places of M P Paschim Kshetra Vidut Vitran Co Ltd, Indore.

### **1. GENERAL :-**

- (i) The bidders are requested to ensure that they furnish the offer in duplicate and each page of the tender should be signed and duly stamped by the bidder. Any over corrections / overwriting should be signed by the bidder. An offer with corrections / overwriting without signature of the bidder is likely to be rejected
- (ii) The Bidders are requested to ensure that all required schedules duly filled-in, are submitted with the offer. The bidders should also note that in absence of any of the schedules, their offer is likely to be rejected.
- (iii) Transfer of the documents purchased by one bidder to any other bidder is not permissible.
- (iv) The submission of a tender by the bidder implies that he has read and accepted the instructions, conditions of the contract and made himself aware of the scope and specifications of the work to be done/ supplies to be made. The company will not, after acceptance of contract rate, pay extra charges for any reason whatsoever, in case the bidder is found later to have misjudged any condition(s).
- (v) It is necessary to purchase the tender documents from the office of Tender issuing authority. Tender documents downloaded from web-site will not be accepted, as the same are for information / guidance only.

### **2. EARNEST MONEY:-**

- (i) Unless EMD amount has been specified in the Notice Inviting Tender (NIT), the Bidder shall deposit the Earnest Money amount vis-à-vis the value of the material offered as shown hereunder. However, in case EMD amount has been specified in NIT, same shall be applicable:-

	<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 Lakh and upto Rs. 3.0 Lakhs	Rs. 2,500/-
d)	Above Rs. 3.0 Lakh and upto Rs. 7.0 Lakhs	Rs. 5,000/-
e)	Above Rs. 7.0 Lakh 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)	<b>Above Rs. 100.0 Lakhs</b>	<b>Rs. 50,000/-</b>

- (ii) The bidders 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 deemed to be limited to that quantity only. Amount of EMD and method of deposit must be mentioned on the Main Envelope of the bid.

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- (iii) **No offer will be accepted without Earnest Money Deposit, unless exempted by the Company.** If on opening of tender any discrepancy in EMD amount is noticed, the tender shall be rejected and returned to the bidder. The Earnest Money can be deposited in one of the following forms only:-
- In cash, to be deposited with the Senior Accounts Officer, MPPKVVCL, Indore.
  - By Bank Draft in favour of Senior Accounts Officer, MPPKVVCL, Indore.
- (iv) **The following are exempted from payment of Earnest Money Deposit:-**
- SSI Units of State of Madhya Pradesh permanently registered with DIC/Ancillary Units of MPPKVVCL. **The registration should be permanent and should be specifically for the items quoted in the tender and valid on the date of opening of tender.**
  - 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).
  - The Medium/Large Scale Manufacturing Units, located in Madhya Pradesh (other than SSI/ Ancillary units to MPPKVVCL 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.
  - 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.
  - The photo copy of the NSIC/ SSI Registration Certificate for the tendered items duly attested by GM/Manager of DIC of the area, or an officer of MPPKVVCL not below the rank of EE, or any Gazetted officer not below the rank of Dy. Collector, 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.
  - All the SSI/ NSIC units should quote/offer the material only to the extent they are registered for respective items with SSI/NSIC organization. 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) No interest shall be paid on EMD amounts
- (viii) **Return of earnest money to bidders.**
- EMD shall be returned to the unsuccessful bidders, as soon as possible, after the tender is decided.
  - EMD of bidders on whom the orders have been placed, shall be returned on acceptance of security deposit.

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**3. TAXES AND DUTIES**

Bidders are requested to refer **Section V - General Terms and Conditions of Purchase**, regarding applicable taxes and statutory levies, and quote the prices accordingly.

**4. DISCOUNT**

Discount, if any, must be clearly mentioned in the **Schedule I – Price Bid**. However, it may be noted that for evaluation purpose, only unconditional discount shall be taken into consideration. Conditional discount of any type, will not be taken into account for evaluation purpose. However, in the event of such an offer, without considering discount, is found to be lowest, the purchaser may avail such discount at the time of award.

**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. Member (Distribution) west zone G.P.H. Compound Pologround, Indore on any working day, between 10-30 hours to 15 hours only. **Nobody is authorized to receive or issue receipt for tender delivered by hand.**

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

Telex/Telegraphic/Fax offers will not be considered 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 Company. **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**

If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and total price shall be corrected. In case of ambiguity between rates in figures and words, the amount quoted in words would prevail. However, company may, in its sole discretion, take any other interpretation, or reject such offers.

**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.

**13. ALTERATION/ CORRECTION IN BIDS**

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

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**14. INCOMPLETE BIDS**

Tender who 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. The Company in this regard shall not entertain any correspondence.

**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. Bidders 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. VAT CLEARANCE CERTIFICATE**

The bidder shall furnish VAT 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 clearance certificate or the reasons for the bidder's inability to furnish such a certificate are not furnished.

**20. INFORMATION & QUESTIONNAIRE SUBMISSION**

Questionnaires for various information to be furnished by bidders are enclosed with the "Tender" as Schedule III Part A, B and C (for general, commercial & technical details). It is compulsory on the part of the bidder to furnish all details as per the Schedules. In case, the same are not filled up and enclosed with the tender, the bid is likely to be rejected.

In addition, a check list is attached (Schedule VI) with the tender document. Bidders are requested to fill it carefully to ensure that there are no shortcomings in the documents being submitted. Duly filled-up checklist may please be submitted with the Part II - Technical & Commercial bid.

**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 outright.

Should the bidder desire to depart from other conditions and/or technical specifications in any respect, he shall draw attention to such deviations as per Schedule V part "A" and "B" stating fully the reasons thereof. Unless this is done, these conditions and specifications will hold good, as acceptable to the bidder.

It may clearly understood that, even if deviations have been mentioned anywhere in the offer, the same shall not be taken in to cognizance unless the same are specifically mentioned in the deviation schedule(s). Deviation Schedules must be duly stamped & signed (even when all terms and condition acceptable).

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## **22. PAST EXPERIENCE**

Bidders having past experience in manufacture and supply of material should furnish the list of supplies made (along with order copies) during the last 3 years for the materials supplied by them, as per enclosed "Schedule IV". A certificate in this regard from the organization to which supply is made in the past shall have to be furnished along with the offer, failing which the tender may not get any preference for his past experience.

## **23. PROCEDURE FOR SUBMISSION OF BIDS:-**

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

**Part-I** shall contain **"EARNEST MONEY DEPOSIT or DOCUMENTS WHICH ENTITLE FOR EXEMPTION FROM EMD"**.

**Note-** In case tender document has been downloaded from website, the bidder will have to deposit tender fee of Rs 5000.00(in the form of DD in favour of MPPKVCo Ltd Indore) along with the bid in separate envelop super scribing **"Tender Fee"**.

**Part-II** shall contain **"COMMERCIAL BID AND THE TECHNICAL BID"**

The details about Part I and Part II are discussed in Sections II to VII and Schedules II to VII of the tender documents. Relevant information that the bidders are liable to submit, comprises duly filled-in Questionnaire, all schedules and any other the 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**

- (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 authorized to submit the Tender on behalf of the Company and shall be accompanied by 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. 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"**, in addition to tender specification No., name of item and bidder. 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:-

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**Tender Specification No. CMD/WZ/06/Pur/  
Due For Opening On-  
For Procurement Of-  
This Envelope Contains 3 Separate Envelopes For  
Part I ..... “Earnest Money Deposit”  
Part II ..... “Commercial And Technical Bid”  
Part III ..... “Price Bid”**

**TO,**

**The Chief Engineer (Corp. Office - Pur)  
O/O CMD (West Zone), M.P.P.K.V.V. Co. Ltd,  
Industrial Area, GPH Compound,  
Polo Ground, Indore (M.P.) 452 003**

**It Is Certified That We Unconditionally Agreed The Following Clauses Of  
Tender Specification:-**

- |              |                              |                  |
|--------------|------------------------------|------------------|
| <b>(i)</b>   | <b>PAYMENT TERMS</b>         | <b>: AGREED.</b> |
| <b>(ii)</b>  | <b>SECURITY DEPOSIT</b>      | <b>: AGREED.</b> |
| <b>(iii)</b> | <b>PENALTY</b>               | <b>: AGREED.</b> |
| <b>(iv)</b>  | <b>PERFORMANCE GUARANTEE</b> | <b>: AGREED.</b> |

**EMD has been deposited in the form of -**

**Signature Of Bidder  
Status And Company's Seal**

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

**(vii) 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**

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

**26. OPENING OF PRICE BID**

**The price bid shall be opened only after evaluation of technical and commercial bid either on the same date or subsequent date to be notified separately:-**

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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 and exactly as per our technical specification, shall be eligible for opening of their Price Bid.

**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 bidders or their authorized 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.

The company desires to deal directly with the manufacturer/bidder, to avoid delay in decision making. It will be in the interest of bidder to avoid liaison agent / commission agent.

**28. DESTINATIONS WHERE MATERIALS ARE REQUIRED**

The materials as per the specifications are required for various Area Stores/ places situated as mentioned in **Section VI**. The prices quoted should be on **Firm & FOR Destination** basis to any of these Area Stores/ places.

**29. VALIDITY OF BIDS**

- (i) The offers shall be **valid for 180 days**. Validity of the offer shall be counted from the date of opening of bids.
- (ii) 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.
- (iii) However if due to circumstances, beyond control, bidders are advised to extend the validity, but they shall not be permitted to revise their rate, offer any rebate or concession while extending the validity which may materially result in any reduction or increase in the computed price of their original offer.

**30. AUTHORISATION/ LOCAL REPRESENTATIVE**

Only authorized 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 bidders.
- (iii) **UNSATISFACTORY PERFORMANCE**  
Even on fulfillment of all the criteria it may please be noted that:-
  - (a) Offers of those bidders who have been debarred/black listed for future business with our company/MPSEB/other Discoms, may be summarily rejected.
  - (b) In case of those bidders whose past performance has not been satisfactory against previous tenders / work contract on turn key basis of MPSEB / Companies formed on restructuring of MPSEB, they may not be considered for order. Following shall attribute to poor performance of a bidder:-
    - \* Non-execution of previous order(s)/ work contract /inordinate delay in supply of material.
    - \* Failures of material in testing & non-replacement of the same by the supplier.
    - \* Failures of material enmasse as reported by the field officers.

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**32. CHANGE OF QUANTITY**

The quantity indicated in the tender are indicative only. The Purchaser reserves the right to vary the quantities of any or all items as specified in the technical specification/schedules as may be necessary. No correspondence shall be entered into, neither discussed regarding quantity variation, nor any reason will be assigned thereof.

**33. PRICE CONSIDERATION ZONE**

Subject to fulfilling the financial, experience and techno-commercial criteria, the MPPKVVCL reserves the right to distribute the quantities amongst the bidders other than lowest also. While in the normal course 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 on merit basis; the Company also reserves the right to examine and accept the offers beyond above price band on counter offer price basis in case of urgency.

**34. 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 bidder may be one of the main criteria for quantity to be ordered on each successful bidders.”

**35. PRECEDENCE IN INTERPRETATION OF TERMS AND CONDITIONS**

In case of any conflict between **General Terms and Conditions of Purchase** and **Special Terms and Conditions of Purchase**, the Special Terms and Conditions of Purchase would prevail.

**36. INTERESTED CONCERNS**

No two or more concerns in which an individual is interested as a proprietor and/ or partner shall tender for execution of same work/ supply. If they do so, all such tenders shall be liable to be rejected.

**37. SAMPLE**

If requisitioned / specified in the *Volume I of the tender document*, the Bidders shall have to submit sample of equipments/ goods being supplied.

-Sd-  
Chief Engineer (Corp. Office - Pur)  
O/o. CMD (WZ) MPPKVVCL,  
Indore

\* \* \*

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## **Section V: General Terms and Conditions of Purchase**

### **1. PRICES AND STATUTORY LEVIES**

- (i) It is obligatory that FIRM and FOR destination prices are quoted by the bidders for supply of materials/ equipments as per specifications to any of the consignees as listed in Section-VI, inclusive of all taxes, duties levies, VAT, packing, freight, forwarding, insurance etc.
- (ii) The prices shall be quoted exactly as per the price schedule enclosed with the tender specification, including all elements. In absence of this, the offer shall be liable for rejection.
- (iii) All taxes, duties and charge as may be applicable as per law in force, must be included in the quoted price. Any silent charges, even if statutory in nature, shall not be payable extra, in the event of an order.
- (iv) Excise duty, CST/ VAT and any other levy shall not be payable extra, even if it under goes any upward revision during contractual delivery period.
- (v) In case any new tax is made applicable after submission of bids by the bidders, additional payment on account of such new taxes would be considered by the company. However, decision of the company would be final in this regard.
- (vi) In case of non-registration with Sales Tax Department, Purchase Tax as admissible shall be deducted by the purchaser from the bills of the supplier.
- (vii) M.P. Paschim Kshetra Vidyut Vitaran Company Limited, Indore is a registered dealer under MP General Sales Tax Act 1994 and Central Sales Tax Act 1956. The registration nos. is Tin No. 233 80203311. Necessary declaration form for availing concessional CST, (wherever applicable and if so mentioned in Special Terms & Conditions of Purchase), shall be furnished after receipt of material at destination and verification of the legal position at our end.

(viii) **Entry Tax:**

Entry tax is payable in the state of MP, in accordance with the provisions of Entry Tax Act. Following provisions shall apply regarding Entry Tax.

**The price quoted by bidder must be inclusive of cost of Entry Tax (even if the entry tax is payable by the purchaser).** It may be noted that unless **Entry-Tax-Paid** goods are supplied by the vendor, the amount of Entry Tax at the applicable rates will be deducted by the purchaser from the supply bill of the vendor, and remitted to the tax department under TIN number of the purchaser.

In case, **entry-tax-paid goods** are supplied, the vendor would be required to affix a duly authenticated rubber stamp on the supply-bill as **ENTRY TAX PAID GOODS**, and attach proof of payment of ET with the bill. In such case, purchaser would not deduct / make any additional payment towards Entry Tax.

It is specifically clarified that if any liability is raised on the purchaser, by the concerned tax department, on account of Entry Tax at a later date, the amount of liability will be recovered from the vendor's pending bills/ security deposit, or recovered in any other manner as may deem fit.

### **2. PRICE VARIATION**

As mentioned earlier the prices are FIRM and no price variation is admissible. In case of any deviation observed in above price term, the offer will be liable for rejection.

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### **3. TRANSIT RISK**

- (i) Responsibility regarding covering of risk during transit of material shall entirely be on the supplier. The Company shall, in no case, bear the transit risks/ transit insurance charges.
- (ii) 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 supplier / manufacturer, 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.
- (iii) While 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.
- (iv) In the case of transport damages/ shortage, the payment shall be made only for the quantity received in good and working condition.

### **4. INSURANCE:-**

The bidder will be responsible for taking out any appropriate insurance coverage, as may be required for successful completion of the work/ supply, at their own cost.

### **5. PACKING AND FORWARDING**

- (i) 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.
- (ii) Each package shall be prominently and distinctly marked on at-least two faces, indicating full address of the consignee, destination station, name of equipment, purchaser's order number, weight and volume of the package etc.
- (iii) 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.
- (iv) The packaging shall confirm 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.

### **6. MODE OF DISPATCH**

The bidder 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 transporters on door delivery basis only.

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**7. SUBMISSION OF DRAWING AND LITERATURE**

All the relevant literature / drawings shall be submitted along with the offer.

**8. INSPECTION AND TEST CERTIFICATE**

- (i) Each lot of offered material shall be inspected by the Company's inspecting officer before despatch. The supplier shall extend all reasonable and necessary testing help to the inspecting officer of the Company to carry out testing of material at his works.
- (ii) An intimation about the date, by which material shall be ready for inspection, indicating quantity be given to the order placing authority by the supplier / manufacturer, so as to reach him sufficiently in advance, failing which, the suppliers shall be responsible for delay in delivery on account of inspection. 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 order placing authority or any other authorised officer of the Company.
- (iv) In case the inspector 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 9 below.

**9. RIGHT TO CARRY OUT THE INSPECTION DURING MANUFACTURING**

In case of Manufacturer Vendors, 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 subjected 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 measures are taken and the process cleared.

**10. FACTORY INSPECTION**

- (i) The factory inspection of the Manufacturer Bidder, who has not executed any order of MPPKVCL, shall be carried out before placing detail order.
- (ii) During pendency of the order, the factory inspection may be conducted by Company's authorized officer 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.

**11. FAKE INSPECTION CALL**

All such firms, who after giving inspection call, do not offer materials to Inspecting Officer for inspection due to one or the other reasons, shall be required to remit a sum of Rs. 5000/- per officer.

**12. DELIVERY**

Delivery schedule shall be as mentioned in Section II - Special Terms and Conditions of Purchase.

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### **13. FORCE MAJEURE**

Force majeure condition is herein defined as:-

- (i) Natural phenomena, such as floods, draught, earth-quakes and epidemics.
- (ii) Act of any Government Authority, domestic or foreign, such as war, quarantines, embargoes, licensing control or production or distribution restrictions.
- (iii) 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.
- (iv) Strikes, slow down, lockout containing for more than three (3) weeks.
- (v) Failure or delay in the supplier's source of supply, due to force majeure causes enumerated at (i) to (iv) 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.
- (vi) Any cause which is beyond the reasonable control of the supplier or purchaser as the case may be.
- (vii) All the provisions of this clause shall apply whether the disruption caused is total or partial in its effect upon the ability of the supplier to perform.
- (viii) The cause of force majeure condition will be taken into consideration only if the supplier, within 15 days from the occurrence of such delay gives a proper notice to the purchaser. The MPPKVVCL shall verify the facts and may grant such extension in delivery period as the facts justify. For delivery time extension due to force majeure conditions, the supplier shall submit his representation with documentary evidence for scrutiny by the purchaser and decision of the MPPKVVCL shall be binding on the firm.

### **14. TERMS OF PAYMENT**

Payment Terms & Procedure shall be as mentioned in Section II - Special Terms and Conditions of Purchase.

### **15. PENALTY FOR DELAY**

The time for delivery of the material shall be deemed to be the essence of the contract. In case of delay in execution of the order, the Company, at its discretion, shall recover from the vendor as penalty, a sum equal to ½ % of the price of any stores not delivered, for every week of delay. For the purpose of this clause, part of a week shall be considered as full week. However, maximum penalty under this clause shall be restricted to 10 % of the order value. This will be without prejudice to other remedies available to the Company as per the laws of India, or terms of this Tender.

For this purpose, the date of offer for supply of material in the office of the Order Placing Authority shall be considered as the date of delivery, subject to the condition that offer has been received 15 days in advance of terminal date of scheduled delivery, and material is delivered at stores within 21 days of clearance. For early inspection, offer may be sent telegraphically or by fax. The Company will not be responsible for delay in inspection, if inspection offer is not received timely. Please note, in case material is not received within 21 days from the date of issuance of despatch instructions, even though the delivery period exists, penalty shall be applicable on delay of despatch.

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**16. PENALTY FOR BREACH OF CONTRACT:-**

Breach of any terms and conditions which are included in the any section of the tender documents, or various schedules, annexure, enclosures, appendix etc. which are referred in these sections, shall be deemed as breach of this Contract.

- (i) In case of breach this contract by the bidder/ vendor, the Company shall be entitled to forfeit the available security deposit and to realise and retain the same as damages and compensation for the said breach. This will be without prejudice to the right of the Company to recover any further sums as damages, from any sums which are due or which may become due to the contractor by the company; or otherwise howsoever.
- (ii) The MPPKVVCL, Indore may black list / debar the firm for further business for declared period i.e. one to three years on breach of contract.

**17. SECURITY DEPOSIT:-**

- (i) On acceptance of offer, the successful bidder will have to pay the Security Deposit as per the applicability, as discussed below.

**(A) ALTERNATE I (Normal SD) :**

On acceptance of offer, the successful bidder shall have to pay the security deposit @ 10% of the total value of the order, in any of the following forms-

- (a) Cash to be deposited with Sr. Accounts Officer, MPPKVVCL Indore. After deposition of SD, original receipt shall have to be produced to this office, which shall be returned after conveying the acceptance of Security Deposit.

**OR**

- (b) Demand Draft to be drawn in favour of Sr. Accounts Officer, MPPKVVCL Indore of respective consignee drawn on any nationalized / scheduled Bank and payable at respective destination.

**OR**

- (c) Bank Guarantee on any Nationalized Bank, or any other bank mentioned in Section VII, strictly as per Company's Proforma (to be supplied along with the order) valid sufficiently to cover the guarantee period, in the office of the order placing authority.

**(B) ALTERNATE II (Concessional SD for SSI units of MP) :**

- (a) SSI Units registered with Industries Department of MP are 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 with the WZ-Discom.
- (b) SSI units having annual business of above Rs. 50.00 lacs, with the Company, shall be required to pay the security deposit as per ALTERNATE I only.
- (ii) The Security Deposit shall be deposited strictly in aforesaid manner only. Deduction of security deposit from the supply bills shall not be allowed in any case.

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- (iii) The Security Deposit shall have to be deposited within 30 days of issue of order and prior to offering supply of material against the order.
- (iv) The Company shall forfeit the Security Deposit in the event of non execution / part execution of the orders / poor performance of vendor, besides invoking the penalty clauses.
- (v) The Security Deposit shall be returned to the successful bidder 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 bidders / suppliers.
- (vi) No interest shall be paid by the Company on security deposit furnished by the manufacturer / suppliers.

#### **18. EXTENSION ORDER**

- (i) The purchaser reserves right to place an extension order for any additional quantity, to the extent of 50% quantity of the original order, within six months from the date of completion of original order, on same rates terms & conditions of the original order.
- (ii) The suppliers shall have to accept extension order if placed within a period of 6 months from the date of order by Rural Electric Co-operative Societies in Indore /Ujjain Region of MPPKVVCL, for supply of material against the order, on the same rates, terms and conditions. The suppliers shall furnish necessary security deposit to the concerned Rural Electric Co-operative Societies. Payment for supplies shall be made directly by the concerned society.
- (iii) The suppliers shall have to accept order for additional quantity if placed within 6 months from the date of order by other two DISCOMs (i.e. MP Madhya Kshetra Vidut Vitran Co Ltd, Bhopal and MP Poorva Kshetra Vidut Vitran Co Ltd, Jabalpur).

#### **19. TESTING FACILITY AND TESTS TO BE CONDUCTED**

The bidder must give their production capacity, all about testing lab and line testing facilities available with them in details for the tendered material. The bidder 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.

#### **20. 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 Member (Distribution) West Zone, GPH Compound , Industrial Area, Polo Ground, Indore, for approval along with 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 IS.

#### **21. TYPE TEST CERTIFICATES**

If prescribed under **Section II (Special Terms and Conditions of Purchase) or Section III (Technical Specifications)**, duly authenticated photo copies of appropriate **Type Test Certificates** would have to be furnished by the bidders, otherwise their offers shall be liable to

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be rejected. Type test reports/certificates for the test conducted on the tendered item/material shall not be older than 2 years on the date of opening of technical/commercial bid.

## **22. RECOVERIES FOR LIABILITIES AGAINST OTHER CONTRACTS**

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

## **23. 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 the offered price and the supplier shall product 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.

## **24. 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.

## **25. SUBMISSION OF DESPATCH DETAILS**

On completion of supplies, a statement showing details of offer and supplies made shall be furnished to this office promptly i.e. in first week of following months in following Proforma:-

Page 1

Sl. No.	Particular	Qty offered	Date of offer	Date of D.I.

Page 2

Qty. for which D.I. is given	Bill no. & Date	Qty supplied	Name of consignee

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Liability intimated By consignee	Details of remittance of liability	Addl. Information	Remarks if any

Similar information for supplies made during each month shall be submitted by the first week of subsequent month.

## **26. CANCELLATION OF ORDER**

- (i) The Company may, upon written notice of default, terminate contract in the circumstances detailed hereunder:-
- a) If in the opinion of the Company, 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 opinion of the Company, the supplier fails to comply with any of the other provisions of this contract or material is found to be 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 Company to the supplier to suspend further activities and to take urgent steps towards corrective measures, failing which the entire order would be cancelled.
- (ii) In the event of such termination, the Company shall exercise the discretionary powers as:-
- a) To recover from the supplier, penalty as mentioned in the clause no.15 above.

AND / OR

- b) To purchase from elsewhere, on account and at the risk of the vendor, goods of similar description to the consignment which is not delivered, after giving due notices to the vendor.

AND / OR

- c) To cancel the contract reserving Company's rights to recover damages.
- (iii) Powers under sub-clause (ii) referred to above, are in addition to the rights and remedies available to the Company under the law of India relating to contract.
- (iv) 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 sub-clauses (ii) (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 claim any savings on all such purchases made against the default.

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- (v) The decision of the Company shall be final regarding the acceptability of the stores supplied by supplier, and the Company shall not be required to give any reason for the rejection of the stores/material.
- (vi) In the event, Company does not terminate the Contract as provided above, the supplier shall continue execution of this order, in which case he shall be liable to the Company for liquidated damages for the delay as per clause 15 until suppliers are accepted.

## **27. ARBITRATION**

If, at any time, any question, dispute 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 Arbitrators not agreeing, the matter shall be referred to the adjudication of an Umpire, to be appointed by the Arbitrators, whose, decision shall be final and binding on the parties.

The arbitration shall be conducted as per provision of The Madhya Pradesh Madhyastha Adhikaran Adhiniyam 1983, as amended from time to time, and of the rules made there under. The Arbitrators or the Umpire as the case may be, are bound to give a detailed speaking award assigning reasons for the findings.

Supplies 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.

## **28. 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 Indore only.

## **29. CORRESPONDENCE**

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

- (i) Concerned consignee
- (ii) Concerned Sr. AO /Regional AO
- (iii) C.E. (Pur) O/o, CMD (WZ) MPPKVVCL, G.P.H. Compound Pologround Indore.
- (iv) S.E. (Stores) O/o. G.P.H. Compound Pologround Indore.

## **30. CLIMATIC CONDITONS**

The climatic conditions where equipment are intended for installation could be taken as under:-

1	Maximum temperature of air in shed	45° C
2	Minimum temperature of air in shed	4°C

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3	Maximum relative humidity	95%(The humidity sometime approaches saturation point)
4	Minimum relative humidity	10%
5	Average no. of dust-storm days per Annum	40 days
6	Average no. of rainy days per Annum	90 days
7	No. of months of tropical monsoon conditions per annum	3 months
8	Average annual rain fall	1250 mm
9	Maximum wind pressure	150 kg/sq.mm
10	Altitude not exceeding	1000 meters.

(The limit of ambient temperature shall be 45° C peak and 35°C average over a period of 24 hrs)

-Sd-  
Chief Engineer (Corp. Office - Pur)  
O/o. CMD (WZ) MPPKVVCL,  
Indore

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**Section VI: List of Consignee Area Stores & Senior/ Regional Account Officers**

S.No.	Name of Consignee	Name of Station to which Materials are to be dispatched if by Railway	Concerned Sr. AO/ R.A.O. MPPKVVCL
1	Addl. S.E. /E.E. (Stores) Area Store, MPPKVVCL, Indore	Indore (W.R.)	Indore
2	-do- Barwaha	Indore (W.R.)	Khandwa
3	-do- Ujjain	Ujjain (W.R.)	Ujjain
4	-do- Ratlam	Ratlam (W.R.)	Ratlam

**Section VII: List of Schedule Banks**

Sr. No.	Name of R.A.O./ Sr. A.O.		Name of Bank
1	Indore	1	Bank Of Baroda
		2	Central Bank Of India
		3	State Bank Of India
2	Khandwa	1	Bank Of India
		2	State Bank Of India
3	Ujjain	1	State Bank Of India
		2	Dena Bank
4	Ratlam	1	State Bank Of India
		2	Central Bank Of India
		3	Dena Bank
<b>List banks other than nationalised banks, which are approved to furnish Bank Guarantee</b>			
1	ICICI Bank		
2	IDBI bank		
3	UTI Bank		

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**Schedule III : Schedule of Information****Part A : General Information**

(TO BE KEPT IN THE ENVELOPE PART –II, “COMMERCIAL/TECHNICAL BID”)

Please furnish desired details. Strike off, whichever is not applicable. Use separate sheets wherever necessary and enclose the same as Annexure (as specified in the “Table of Contents” Schedule VII).

S. No.	Particulars	Details
1	Name & Address of the Bidder	
a)	Registered office	
b)	Factory/ works address	
c)	Telegraphic address	
d)	Telex/fax Nos.	
e)	Telephone Nos.	
2	Confirm whether bidder is a <b>Manufacturer</b>	Yes/No
4	If bidder is the manufacturer, fill following details	
a)	Address of factory	
b)	Year of starting manufacture	
c)	Whether the same /similar material manufactured earlier	Yes/No
d)	Yearly/monthly production capacity	
e)	Maximum yearly production achieved so far	
5	Whether the firm is an MP SSI Unit	Yes/No (if yes, fill following details)
a)	Registration No.	
b)	Items of registration	
c)	Period of registration	
6	Whether the bidder is old participant with MPPKVCL.	Yes/No (if yes, furnish the details in Schedule IV)
7	Any other information that bidder may like to	
8	BIS licence No.	
(i)	Validity	
(ii)	Whether offered meter is covered	
9	Indicate model no. of meter offered	

Signature of Bidder with Seal of Firm :

Place-

Name (in full) :

Date-

Designation :

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### **Schedule III : Schedule of Information**

#### **Part B : Commercial Information**

(TO BE KEPT IN THE ENVELOPE PART –II, “COMMERCIAL/TECHNICAL BID”)

Please furnish desired details. Strike off, whichever is not applicable. Use separate sheets wherever necessary. Please enclose the extra sheets as Annexure (as specified in the “Table of Contents” Schedule VII).

S No.	Particulars	Details
1	Earnest Money details	
a)	Bank draft/Bankers cheque/ Cash with Sr. AO, MPPKVVCL, Indore.	
b)	Amount of EMD (in Rs.)	
c)	Any exemption from EMD (if yes, please mention under which category exemption is sought i.e. SSI Unit of M.P./small Scale unit registered with NSIC/Fully owned Stated/Central Govt. Unit etc.)	
2	Whether the offer is valid for 180 days from the date of opening of commercial/ Technical bid.	Yes/No (If no, state validity period)
4	Mode of Despatch	
5	<b>Security Deposit.</b> Please indicate details of <b>Security Deposit</b> , as would be applicable to the bidder.	(Please refer to <b>Section V General Conditions &amp; section-II special terms and condition of Purchase</b> for details, and fill in the response accordingly)
a)	Normal SD @ 10 % shall be deposited, OR	
b)	Concessional SD as applicable to SSI units of MP shall be deposited (Please attach proof).	
6	Please furnish ST/ VAT Registration Number of your firm.	
a)	State Sales Tax/ VAT Registration Number	
b)	Central Sales Tax Registration Number	

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7	<p>Please indicate whether you are participating in the tender as <b>“registered dealers situated within the state of MP”</b> or you shall raise invoice as a <b>registered dealer of any other state?</b></p> <p>(This information is specifically required for ascertainment of liability towards Entry Tax and CST/ VAT)</p>	<p>Registered Dealer within State of MP.</p> <p>Or</p> <p>Registered dealer outside the state.</p> <p>(Please strike out whichever is not applicable)</p>
8	<p>In case of <b>“registered dealers situated within the state of MP”</b> please indicate whether the transaction would be of <b>“Sale in Transit nature (viz E1-C Transaction etc.)”</b> or not?</p> <p>(This information is specifically required for ascertainment of liability towards Entry Tax and CST / VAT)</p>	<p>Transaction would be of <b>“<u>Sale in Transit nature (viz E1- C etc.)</u>”</b>.</p> <p>Or</p> <p>Transaction would <b>NOT</b> be in the nature of <b><u>Sale in Transit.</u></b></p> <p>(Please strike out whichever is not applicable)</p>

Place- Signature of Bidder with Seal of Firm :

Date- Name (in full) :

Designation :

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**Schedule IV : Schedule of Past Experience**

**(TO BE KEPT IN THE ENVELOPE PART-II, “COMMERCIAL/TECHNICAL BID”)**

Please furnish desired details. Use separate sheets wherever necessary. Please enclose the extra sheets as Annexure (as specified in the “Table of Contents” Schedule VII).

**Bidder’s Name & Address:** .....

To,  
 The Chief Engineer (Corp. Office - Pur)  
 O/o CMD (West Zone)  
 MPPKVV Co. Ltd.,  
 G.P.H. Compound, Pologround Indore.

**Sub: - Performance /past experience**

Dear Sir,

We furnished herewith the record of our performance and experience of quoted items as follows:-

S. No.	Purchaser’s Name and Address	Order No. and Date placed during last 5 years	Ordered Quantity	Quantity supplied	Value of Order	Size wise quantity pending for execution within delivery schedule	Reasons for non Completion of order, if any
1	2	3	4	5	6	7	8

Place- Signature of Bidder with Seal of Firm :

Date- Name (in full) :

Designation :

Note: - Photocopy of the order & performance report received from other State Electricity Companies/Govt. undertaking etc. should be enclosed.

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**Schedule VI: Check List**  
(TO BE KEPT IN THE ENVELOPE PART-II, “COMMERCIAL/TECHNICAL BID”)

Check List Item	Options	Answer
<b>Technical Information</b>		
Whether confirmation certificate proving party is a Manufacturer or Authorised Dealer is attached	Manufacturer/ Authorised Dealer	
In case of Manufacturer, whether details of the installed manufacturing capabilities & present commitments are attached	Yes/No/NA	
Whether list of supplies made during last 3 years & certificates from those organizations are attached	Yes/No	
Whether all Literature & Drawings related to the material are attached	Yes/No	
Whether Test Certificates from inspector of the Company is attached	Yes/No	
Whether appropriate type test certificate (if required in Section V Technical Specifications) is attached	Yes/No	
Whether Quality assurance certificate is attached	Yes/No	
Whether NSIC/SSI /DIC Registration Certificate is attached	Yes/No	
Whether details of old supplies to MPPKVVCL are attached	Yes/No	
Whether Certified true copies of the resolutions/ Extracts of Articles of Association/ Special or general Power of Attorney is attached	Yes/No	
<b>Financial Information</b>		
Whether two copies of two years P&L Accounts are enclosed	Yes/No	
Whether two copies of two years Balance Sheets are enclosed	Yes/No	
Whether Sales Tax Clearance Certificate is enclosed	Yes/No	
<b>Documentation</b>		
Whether each page of the tender is signed and duly stamped and submitted by the bidder.	Yes/No	
Whether duly signed “Tender Form” is attached with the bid	Yes/No	
In financial bid, whether rates are quoted in both figures and words	Yes/No	
<b>Schedule I:</b> Price bid is filled in and duly stamped and signed by the signatory authority	Yes/No	
Price bid is kept in separate sealed envelop super-scribed as “ <b>Part III Price Bid</b> ”, Name of Work, TS number, Bidder name and Date of opening	Yes/No	

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Whether “Earnest Money Deposit” of specified amount is kept in a sealed envelope super-scribed as “ <b>Part-I Earnest Money Deposit</b> ”, <b>Name of Work, TS number, Bidder name and Date of opening</b>	Yes/No	
Whether all the information mentioned in <b>Schedule III</b> is filled and duly signed and stamped with the legally authorised signatory	Yes/No	
Whether all the information related to <b>Past Experience (Schedule IV)</b> is filled and duly signed and stamped with the legally signatory authority	Yes/No	
Whether all the information related to <b>Technical &amp; Commercial Deviations (Schedule V)</b> is filled and duly signed and stamped with the legally signatory authority	Yes/No	
Whether “Commercial & Technical Bid” is kept in a envelop super-scribed as “ <b>Part-II Commercial &amp; Technical Bid</b> ”, <b>Name of Work, TS number, Bidder name and Date of opening</b>	Yes/No	
Seal the envelop after keeping complete “ <b>Commercial and Technical Bid Document</b> ” along with the “ <b>Check List</b> ”	Yes/No	
All the three envelops carrying <b>Part-I Earnest Money Deposit, Part-II Commercial &amp; Technical Bid and Part-III Price Bid</b> shall be kept in one sealed envelop super-scribed stating that this envelope contains three separate envelopes for <b>Part I “EARNEST MONEY DEPOSIT”, Part – II “COMMERCIAL AND TECHNICAL BID” and Part – III “PRICE BID”,</b> in addition to <b>tender specification No., name of work and bidder. Details of Earnest Money Deposit, and due date of opening.</b>	Yes/No	
Whether Certification of Agreement with the <b>MPPKVVCL, Indore’s Payment Terms, Penalty and Security Deposit Clauses</b> as per the format mention in the document is pasted on the main envelop	Yes/No	

**Note:** Bidder has to attach this “**Check List**” with the “**Commercial & Technical Bid**” answering all the questions and mention page numbers.

\* \* \*

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## Schedule VII: Table of Contents

**(TO BE KEPT IN PART – II TECHNICAL & COMMERCIAL BID ENVELOP)**

**Bidders are requested to submit the document exactly in this sequence.**

S. No	Particular	Document Page No.
<b>1</b>	<b>Duly Signed Complete Tender Document in Vol I &amp; II (except ‘Schedule I-Price Bid, which is to be kept separately in Part III - price bid envelop)</b>	As printed
<b>2</b>	<b>Documents/ Certificates/ Reports</b>	<b>XXXX</b>
2.1	Past two years P&L Account and Balance Sheet	1 to __
2.2	Certified true copies of the resolutions/ Extracts of Articles of Association/ Special or general Power of Attorney and any other documents establishing authority of the person signing the tender document.	__ to __
2.3	Confirmation certificate proving party is a Manufacturer/ Authorised Dealer	__ to __
<b>3</b>	<b>Annexure if any, to Schedule II (Guaranteed Technical Particulars)</b>	__ to __
<b>4</b>	<b>Annexure to Schedule III (General, Commercial, Technical Information)</b>	<b>XXXX</b>
4.1	VAT Clearance Certificate	__ to __
4.2	NSIC/SSI Registration Certificate	__ to __
4.3	Quality assurance certificate	__ to __
4.4	Details of the installed manufacturing capabilities, manufacturing process & present commitments	__ to __
4.5	Technical Literature / Drawings	__ to __
4.6	Test Certificates from inspector of the Company	__ to __
4.7	Type Test Certificate if prescribed	__ to __
4.8	Details of Testing Facilities available with bidder	__ to __
4.9	Details of samples submitted (only if required as per tender conditions)	__ to __
4.10	BIS licence of offered material	__ to __
4.11	Other if any	__ to __
<b>5</b>	<b>Annexure to Schedule IV ( Past Experience )</b>	<b>XXXX</b>
5.1	Order copies of supplies made to MPPKVCL and similar organisations during last 3 years & certificates from those organizations	__ to __
5.2	Other if any	__ to __
<b>6</b>	<b>Annexure if any, to Schedule V (Technical / Commercial Deviations)</b>	__ to __

**Instructions:** Bidders shall have to give each documents page numbers and clearly specify the same in the table.

**TS NO. CMD/WZ/06/PUR/484 DUE ON 22.02.2011**

**Supply of 3 Phase 4 Wire, 10-40 Amp, Accuracy class 1.0 Electronic Energy Meter with LCD Display along with Transparent polycarbonate meter box**