

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



Tender Specification No.CMD/WZ/06/PUR/T. Enq-482,

Due for opening on: 04.02.2011 AT 3.30 PM

3 PHASE, 4/3 WIRE HT METERS, 63.5 VOLT/110 VOLTS, 1 AMP, 0.2S ACCURACY CLASS ALONG WITH GSM /GPRS ENABLED MODEM SUITABLE FOR METER END WITH SOFTWARE AND ACCESSORIES

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.: 0731-2423577, 2422544, 2423263, 2422045 Extn. 144 & 303 Fax No. 0731 2423300.

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Basic Tender Information

Particulars	Details
Name of Work	3 PHASE, 4/3 WIRE HT METERS, 63.5 VOLT/110 VOLTS, 1 AMP, 0.2S ACCURACY CLASS ALONG WITH GSM /GPRS ENABLED MODEM SUITABLE FOR METER END WITH SOFTWARE AND ACCESSORIES
Tender Specification number	CMD/WZ/06/PUR/T. Enq-482/861
Date of Sale of Tender documents	From 13.01.2011 to 04.01.2011 up to 12.00 Noon.
Last Date of Bid Submission (Date & Time)	04.01.2011 At 3.00 PM
Due Date of Opening of Technical & commercial bids	04.01.2011 At 3.30 PM
EMD to be Deposited	Rs 5,000/-
Cost of Tender Documents	Rs 500/- plus Rs 100/- extra if desired by post.
Bank Guarantee against testing charges of meter or DD of Rs. 80,000/- against testing charges	Rs 80,000/-

TS No. CMD/WZ/06/PUR/T. Enq-482 Due on 04.02.2011

Supply of 3 phase, 4/3 wire HT Meters, 63.5 volt/110 volts, 1 Amp, 0.2S accuracy class along with GSM /GPRS enabled modem suitable for meter end with software and accessories

SPEED POST

OFFICE OF THE CMD (WZ)
M.P. PASCHIM KSHETRA VIDYUT VITARAN CO. LTD.,
GPH COMPOUND, POLOGROUND, INDORE

(EPABX Phone No: 0731-2422045, 2423263, 2422544, 2423577 Extn. 144 & 303 Fax No: 2423300)

No. CMD/WZ/06/PUR/T. Enq-482/861

Indore, date: 13.01.2011

TENDER ENQUIRY NOTIC

To,

M/s -----

Sub:- Supply of 3 phase, 4/3 wire HT Meters, 63.5 volt/110 volts, 1 Amp, 0.2S accuracy class along with GSM /GPRS enabled modem suitable for meter end with software and accessories.

Sealed Tender for following HT Meters are invited from the domestic manufacturer by the date shown hereunder:-

Sr. No.	Name of Item / work (T. Enq. No. 482)	Approx. quantity (no)	Required EMD (Rs.)	Tender Fee (Rs.)	Date of opening of tender enquiry
1	ISI marked, class- 0.2S, three phase four wire, 63.5 volts phase to neutral, 1 Amp static (Electronic) trivector energy meter with RS 232 port confirming to IS: 14697/1999, IEC: 62056 and CBIP report no 88, with latest amendment.	15	5,000/-	500/-	04.02.2011 3.30 PM
2	ISI marked, class- 0.2S, three phase three wire, 110 Volts phase to phase, 1 Amp static (Electronic) trivector energy meter with RS 232 port confirming to IS: 14697/1999, IEC: 62056 and CBIP report no 88, with latest amendment.	15			
3	GSM/GPRS Enabled Modem suitable for meter end with software and accessories. Suitable & compatible with meter offered under Sr. No. 1 & 2 above.	30			

(a) Last date for selling tender document 04.02.2011 (Up to 12.00 Noon).

(b) Last date for submission of tender 04.02.2011 (Up to 3.00 PM).

1. Purchase of tender documents:- The terms & conditions and detailed specification of the material alongwith tender form can be obtained from the Superintending Engineer (Pur), O/o. CMD (WZ) MPPKVVCL, Indore on payment of tender fee (non-refundable) as shown above by pay order / DD only drawn in the name of the M.P. Paschim Kshetra Vidyut Vitaran Co. Ltd., Indore. Postal Charges of Rs. 100.00 (Rs. One Hundred Only) shall be charged extra, if tender documents are required by post.

Thanking You,

Yours faithfully,

Superintending Engineer (Pur)
O/o CMD (WZ), MPPKVVCL,
Indore

TS No. CMD/WZ/06/PUR/T. Enq-482 Due on 04.02.2011

Supply of 3 phase, 4/3 wire HT Meters, 63.5 volt/110 volts, 1 Amp, 0.2S accuracy class along with GSM /GPRS enabled modem suitable for meter end with software and accessories

Tender Form

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/T. Enq-482/861 dated 13.01.2011, 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 3 years of manufacturing and has designed, tested & already supplied at least 1000 Nos. HT Meter in past 3 years to SEBs, power utilities of rating 3 Phase, 4/3 Wire HT meters, 63.5 Volts / 110 Volts, 5 Amp / 1 Amp, 0.5S/0.2S accuracy class.
- (ii) That they possess valid BIS licence for ISI certification of IS: 14697 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 along with technical and commercial bid. In absence of these the offer will be outrightly rejected. The bidder should also ensure / furnish the validity of ISI licence till the validation of tender and period of material supply.
- (iv) 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).
- (v) All the bidders are requested to submit **one (1) sample meter**, of each rating of offered meter 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 meter is not submitted within scheduled date and the offer shall stand rejected

2. Financial:

- (i) 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).

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:14697/1999** with its latest amendments as on date as well as immunity to external magnetic field as per our requirement in respect of the offered

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meters for KWH element & as per CBIP 88/Tender Specification for RkVAH element. For this, notarised copy of 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. 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 meter should meet all the constructional features & technical requirements as specified in the technical specifications in Section-III and GTP (Schedule-II). The sample meter shall be got tested in any NABL accredited lab for relevant acceptance test as per IS: 14697 with test of accuracy up to I_{max} 2Amp & Test of MD requirement as per sliding window principal as per tender specification for evaluation & price bid of only those bidders whose sample meter has successfully passed above tests shall be opened. **The cost of testing is to be borne by the MPPKVVCL**, however in case the sample meter do not successfully pass the above tests at NABL accredited lab, the testing charges of such sample meters so incurred shall have to be born by the respective bidder for which every bidder will have to submit the irrevocable Bank Guarantee of Rs. 80,000/- from Nationalized Bank in favour of Chief Engineer (Corp. Office – Pur), MPPKVVCL, Indore / or DD of Rs. 80,000/- in favour of Sr. AO, MPPKVVCL, Indore. No offer will be accepted without such BG / DD & the BG / DD will have to be submitted along with the EMD in the same envelop. The Company reserves the right to test sample meter in company's lab also.

SECTION II: SPECIAL TERMS AND CONDITIONS OF PURCHASE

1. TERMS OF PAYMENT & PAYMENT PROCEDURE

- (i) Subject to completion of all contractual formalities, 100% payment would ordinarily be made within 45 days or as per queue which ever is later, after acceptance of material at 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.
- (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) The supply of **meters** along with modem shall be completed within **45 days** from the date of placement of order.
- (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:-
Company reserves the right to defer or reschedule the delivery. However, no variation in price and any other statutory levies will be payable as applicable.

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3. PERFORMANCE GAURANTEE

- (i) The meter shall be guaranteed for the period of two years from the date of commissioning or two and half year from the date of despatch, whichever is earlier. The metes and also software / MRIs found defective within the above guarantee period shall be replaced by the supplier free of cost within one month of receipt of intimation. If the defective meters / software / MRIs are not replaced within the specified period above the Company shall recover an equivalent amount from any of the bills of the supplier.
 - (ii) The supplier shall warrant that the modem will be new, unused and in accordance with the technical specification and free from defects in material and workmanship. The modem shall be guaranteed for satisfactory performance for a period of 5 years from the date of installation or 5 ½ years from the date of supply, whichever is earlier.
- 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. These material will likewise replaced and tested subsequently by the supplier to the destination indicated on "Freight paid basis" at their cost in a **reasonable time** of 30 days from the date if intimation.
 - 3.2 Further, it is clarified that all the charges towards carrying out replacement including packing /forwarding loading/unloading shall be borned 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 Company for a certain period.

4. SAMPLE

- (i) All the bidders are requested to submit **one (1) sample meter**, of each rating of offered meter 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 meter is not submitted within scheduled date and the offer shall stand rejected
- (ii) The offers should be fully technically acceptable i.e. the sample meter should meet all the constructional features & technical requirements as specified in the technical specifications in Section-III and GTP (Schedule-II). The sample meter shall be got tested in any NABL accredited lab for relevant acceptance test as per IS: 14697 with test of accuracy upto I_{max} 10 Amp & Test of MD requirement as per sliding window principal as per tender specification for evaluation & price bid of only those bidders whose sample meter has successfully passed above tests shall be opened. **The cost of testing is to be borne by the MPPKVCL**, however in case the sample meter do not successfully pass the above tests at NABL accredited lab, the testing charges of such sample meters so incurred shall have to be born by the respective bidder for which every bidder will have

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to submit the irrevocable Bank Guarantee of Rs. 80,000/- from Nationalized Bank in favour of Chief Engineer (Corp. Office – Pur), MPPKVVCL, Indore / or DD of Rs. 80,000/- in favour of Sr. AO, MPPKVVCL, Indore. No offer will be accepted without such BG / DD & the BG / DD will have to be submitted along with the EMD in the same envelop. The Company reserves the right to test sample meter in company's lab also.

5. TYPE TEST CERTIFICATE

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:14697/1999** 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, notarised copy 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. 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. PERMANENT SECURITY DEPOSIT

Facility of Permanent Security Deposit can be availed by the vendor in accordance with the terms and conditions as mentioned in **Section V – General Terms and Conditions of Purchase**.

8. VERIFICATION/TESTING OF MATERIAL SUPPLIED

The verification / testing of material supplied will be in accordance with schedule-II (E).

9. All the terms and conditions and technical specifications mentioned in the tender document purchased from the Chief Engineer (Corp. Office - Pur) O/o CMD (WZ) MPPKVVCL, GPH Compound Pologround, and 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.

10. The Bank Guarantee against testing charges of meters – The bidder will have to submit the irrevocable Bank Guarantee of Rs. 80,000/- from Nationalized Bank in favour of Chief Engineer (Corp. Office – Pur), MPPKVVCL, Indore / or DD of Rs. 80,000/- in favour of Sr. AO, MPPKVVCL, Indore. No offer will be accepted without such BG / DD & the BG / DD will have to be submitted along with the EMD in the same envelop. The BG so submitted shall be valid for period of 1 (one) Year. In case the sample meters do not successfully pass the tests at NABL Accredited Lab as prescribed, the testing charges of such sample meters so incurred shall have to be born by the respective bidder and if the bidder fail to deposit the testing charges incurred on the unsuccessful sample meter the Bank Guarantee of Rs. 80,000/- submitted shall be forfeited.

-Sd-

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

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Supply of 3 phase, 4/3 wire HT Meters, 63.5 volt/110 volts, 1 Amp, 0.2S accuracy class along with GSM /GPRS enabled modem suitable for meter end with software and accessories

Section III (A): Technical Specifications

ISI marked, class- 0.2S, three phase four wire, 63.5 volts, phase to neutral, 1 Amp static (Electronic) trivector energy meter confirming to IS: 14697/1999, IEC: 62053-22 and CBIP report no 88, with latest amendment.

&

ISI marked, class- 0.2S, three phase three wire, 110 Volts phase to phase, 1 Amp static (Electronic) trivector energy meter confirming to IS: 14697/1999, IEC: 62053-22 and CBIP report no 88, with latest amendment.

1.0 ISI MARKED ENERGY METER:-

1. SCOPE:-

This specification covers design, manufacturer, testing and supply of high precision three phase four wire / three phase 3 wire static trivector energy meter of accuracy class 0.2 S capable of performing functions of tariff metes for HT consumers /energy audit in EHV /sub transmission system & load survey applications.

2. STANDARD APPLICABLE:-

The meters shall be of class 0.2 S class accuracy and shall meet all the requirements specified in standard specifications IS: 14697/1999, IEC 687, IEC: 801 & CBIP report No. 88, with its latest amendment in June-2000, IEC 62056 with latest amendments for Open Protocol

3. CLIMATIC CONDITIONS:-

The meter shall be suitable for operating under the following climatic conditions and shall be capable of maintaining desired accuracy under duly hot tropical climates.

i)	Peak ambient temperature	-	50 deg. cent.	
ii)	Minimum temperature	-	0 deg. cent.	
iii)	Maximum relative humidity approaching to	-	95% saturation	sometimes
iv)	Average number of rainy days per annum	-	90	
v)	Average number of thunder storm days per annum	-	40	
vi)	average annual rainfall	-	150 cms	
vii)	Maximum wind pressure	-	150 kg /m ²	
viii)	Maximum altitudes	-	1000 meters	
ix)	Maximum average ambient temp.	-	40 deg. cent.	
x)	Maximum temperature allowed by an object exposed to	-	60 deg. cent.	

4. TECHNICAL REQUIRMENT & DESIGN CRITERION:-

4.1 Meters are required for installation in the premises of HT consumers or in substations, The basic system parameters wherein these meters will; be installed shall be as under : -

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Primary voltage		$132 \text{ KV} // \sqrt{3} (\text{ph} - \text{N})$
Secondary voltages	:	$110 // \sqrt{3}$ volts (phase to neutral) for 3 phase 4 wire meter 110 Volts for 3 phase 3 wire
Primary current	:	132 KV 100 Amps to 200 Amps
Secondary current	;	1 Amp

Exact CT ratios and PT ratios will be intimated at the time of order.

Meters shall be designed on

(i) 3 phase 4 wire measurement principle & should have 3 current & 3 potential measuring circuit, i.e. one for each phase.

(ii) 3 phase 3 wire measurement principle & should have 2 current & 3 potential measuring circuit, i.e. one for each phase.

- 4.2.1 The meters shall work satisfactorily in the absence of neutral and shall work even if any two voltage wires are extended to the meter.
- 4.2.2 The meter shall be designed for 1 Amp CT secondary and 200% overloading.
- 4.2.3 Accuracy - 0.2S as per IS14697
- 4.2.4 The meters shall make use of non volatile memory for storage of billing and tamper data there shall be no battery back up for the retaining of data.
- 4.2.5 Computation of demand shall be on the basis of Real Time Clock of the meter itself.
- 4.2.6 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 specifications. Any other design meeting technical specification requirements or features / accuracy etc. better than this specification requirement manufactured as per relevant IEC /TS shall also be acceptable.
- 4.2.7 Meters shall be suitable for accurate measurement and display of energy and other billing parameters within the specified limits of errors under balanced and unbalanced loads conditions in a poly phase network.
- 4.3.1 POWER FACTOR RANGE : Meters shall be suitable for measurement of billing parameters with specified accuracy for full power factor range i.e. zero lag unity zero lead.
- 4.3.2 Computation of apparent energy shall be on the principle of

$$S = S_a + S_b + S_c$$

(Total apparent power)

(Where S_a , S_b & S_c) $S_a^2 = P_a^2 + Q_a^2$

(Stands for apparent) $S_b^2 = P_b^2 + Q_b^2$

(Power in phase A, B & C) $S_c^2 = P_c^2 + Q_c^2$

- 4.3.3 KVAh computation shall be on the basis of power factor lag + lead principle / lag only principle user selectable. The KVAh computation shall be on the basis of lag + lead principle by default.

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- 4.3.4 Dial multiplying factor for the specified CTs & PTs ratios shall be unity.
- 4.3.5 The display of energy & also demand shall have minimum seven digits with fixed decimal. For meters up to & including 33 KV class (depending on CT ratio) the energy and demand shall be displayed in KWh & KVA respectively.
- 4.3.6 The meter shall be fully programmable by the user for TOD timing, billing dates, MD resetting option etc.
- 4.3.7 Once finalised the meter constants shall be freezed and it shall not be possible by the manufacturer or the user to alter the meter constants at factory or at site.
- 4.3.8 Provision shall be made to read various billing parameters and also load survey data through a meter reading instrument, This arrangement can be through an optical coupler or any other suitable device galvanically isolated from meter circuit. Provision shall be made to seal the optical coupler to ensure proper security.
- 4.3.9 Meters shall be designed for satisfactory operation with the following supply voltage / frequency 50 Hz).

Voltage – V. ref +20% to -30 %

Frequency – 47.5 Hz to 52.5 Hz (ref. frequency 50 Hz)

For above voltage and frequency range the meters shall measure, register and display various parameters accurately.

4.3.10 **DISPLAY PARAMETERS:-**

The data shall be displayed on LED /LCD/FIPS display which shall be clearly visible from distance in 7 segment 7 digit.

a) Auto Display

Lamp Test

Real Time

Date

Cumulative active energy import - KWh

Cumulative active energy export - KWh

Cumulative apparent energy during KWh import - KVAH

Cumulative apparent energy during KWh export - KVAH

Maximum demand during the month Import mode - KVA

Maximum demand during the month Export mode - KVA

Instantaneous Average Power Factor

TOD Time Zone Readings of Active / Apparent energy and apparent demand

Readings of Cum Active and apparent Energy, Apparent Demand and TOD counter readings at the time of last MD reset.

Billed average power factor 1st History month

Billed tamper counts 1st History month

Billed tamper counts 2nd History month

Power On Hrs History 1

b) On pressing of ready push button i.e. billing parameters.

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LED /LCD/FIPS segment check	-	
Real time	-	DD-Month –HR-MT
KVA MD during last Integration Period	-	KVA
Both Import and Export		
Cumulative active energy import	-	KWh
Cumulative active energy export	-	KWh
Cumulative apparent energy during KWh import	-	KVAH
Cumulative apparent energy during KWh export	-	KVAH
Maximum demand during the month Import mode	-	KVA
Maximum demand during the month Export mode	-	KVA
Cumulative maximum demand during import & export mode separately.	-	KVA
MD reset counter	-	No. of reset
Tamper information		
TOD Time Zone Readings of Active/Apparent Demand / Energy		
Readings of Cum Active and apparent Energy, Apparent Demand and TOD counter readings at the time of last MD reset.		
Billed average power factor 1 st History month		
xiv) All other parameters available in Auto Display Mode		
c) Programmable optional requirements of display on pressing push button.		
Phase current	-	A
Phase voltage	-	KV
Instantaneous power	-	KW
Instantaneous MVA _r	-	KVAR
Instantaneous PF	-	
Frequency	-	Hz
Reactive energy import while KWH import		
Reactive energy export while KWH import		
Reactive energy import while KWH export		
Reactive energy export while KWH export		

4.3.11 VIEW PARAMETES:-

(Display / information required through meter reading instrument)

Reactive energy import while KWh import

Reactive energy export while KWh import

Reactive energy import while KWh export

Reactive energy export while KWh export

Present demand - KVA

Power factor

maximum demand during the month KW import & export

Tamper information.

- x) The record of 12 previous MD resets should be available in the memory of the meter to be made available at the BCS end by downloading through MRI.
- xi) Daily mid night reading of energy (Active, Reactive & Apparent) for last 35 days to be available in meter memory to be downloaded at BCS end through MRI.
- xii) All balance parameters of a) & b) above .

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Meter Reading at Power Outage :-

Provision to read the meter in No Power Condition shall be provided. As external power pack unit for this purpose can be used to display the readings during power outage.

4.3.12. MAXIMUM DEMAND REGISTRATION:-

Maximum demand computation shall be based on sliding window concept / block interval concept (user selectable) with integration period of 15 minutes or 30 minutes programmable (15 minutes sliding window by default). For sliding window MD, there shall be three updates of 10 minutes or 5 minutes for 30 minutes and 15 minutes integration period respectively.

4.3.13 The MD integration cycle shall be on the basis of real time. However the real time clock of the meter shall be used only for the purpose of time matching and for computation of maximum demand an internal clock of the meter shall be made use of.

4.3.14. TAMPER FEATURES:-

Missing potential – to indicate loss of potential in any or two phases of potential supply. The identification of phase date and time of first occurrence, date and time of last tamper restore and cumulative number of tampering shall be indicated.

Reversal of CT – To indicate identification of phase number of cumulative tamper (any one or two phases reversal).

Current unbalance – to indicate number of hours there has been unbalance of current beyond the prescribed limits.

CT Short (Bypass) / Open : The meter shall be capable of detecting and recording occurrences and restoration of shorting (bypassing) / opening of any one or two phases of CT when the meter is connected to a 3 phase 4 wire system.

Over current –To indicate number of hours there has been over current beyond the specified limit / CT ratio limits.

Neutral Disturbance.

Magnetic Influence - The Meter shall be capable of detecting and recording presence of external magnetic field near the meter as per relevant standard, and declare it as a magnetic influence

Snapshots (numerical values) of voltage, current, power factor and active import & apparent energy readings as well as the date and time of logging of the occurrence and restoration of all tamper events, subject to meter-memory space as described herein under, should be logged in the meter-memory and available for retrieving through the meter's optical port via MRI and downloading to the BCS.

Minimum 200 events (occurrence and restoration where occurrence and restoration shall be counted as separate events) of all types of tampers with date and time shall be available in the meter memory on first-in, first-out basis.

The threshold values for voltage, current and P.F. etc. for the purpose of logging occurrence and restoration of various types of tamper will be mutually decided by the purchaser and supplier. The Supplier should, however, propose these values in their offer.

Properly designed meter tamper logic should be provided. The tamper logic should be capable of discriminating the system abnormalities from source side and load side and it should not log/record tamper due to source side abnormalities.

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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 tamper as per SL. No. (a) above is to be included in the DISPLAY PARAMETERS and information regarding rest of the tampers / unbalance etc are required to be included as in information in the VIEW PARAMETERS. The snap Shot of voltage, current and power factor for all the above tamper occurrence and restoration events should be stored in Meter memory to be downloaded by MRI and viewed at BCS end.

Power Fail : -The meter should log power down and power up event. The cumulative Power On / OFF time should be available in Meter memory to be down loaded with MRI and viewed at the BCS end.

Security : -The offered meters shall have the following unique security feature for different levels described belows: -

Password security level	Operation
1	<p style="text-align: center;">READ ONLY OPERATION</p> Read only such as readings, load survey event reading
2	<p style="text-align: center;">LOW LEVEL WRITE</p> Set time MD reset, tamer reset.
3	<p style="text-align: center;">HIGH LEVEL WRITE</p> Tariff definitions change bill dates, Persistence time change, MD reset options load survey configuration, changes in energy definition, Change of passwords for level 1, 2 & 3.

1. Passwords shall be zero for all 3 levels initially. With zero password the operation will be available without getting password clearance. This will allow the user to chose whether to use passwords to prevent readings in particular or to use only the authenticators to validate any data change transactions at levels 2 & 3.
 2. Give tamper/ fraud evidence where it is not possible to be tamper / fraud proof. This means that meter has to record all authenticated transactions performed with it and communicate the recorded data in meter readings. Recording. may include lock / unlock password change and transactions given in BCS scheduling with date and time.
- 4.3.15 Provision shall be made for push button to initiate display parameter in the front of the meter.
- 4.3.16 Provision shall be made for max demand reset push button complete with provision to seal the MD reset push button.
- 4.3.17 Provision shall be made for programmable time between the two max demand reset operations.
- 4.3.18 An operation indicator in the form of blinking optical signal shall be provided to indicate that the meter is operating satisfactorily. Tenderers may confirm whether the blinking optical signal is of weighted pulse and this can be effectively used for verification of accuracy. Whether the intensity of blinking signal is sufficient for detection by the optical sensor may also be confirmed by the tenderers.
- 4.3.19 Meters shall be programmed for auto display of billing parameters with provision of : -
 -Programmable time display of each billing parameters.
 -Programmable time of display cycle.

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4.3.20 Tamper information shall remain on display unless authentic command is received.

4.3.21 TOD Tariff / Demand:-

The meter shall be capable of registering time of day energy consumption data on stand alone basis. The meter shall be provided with an internal time clock and timer both controlled by a quartz crystal with a battery totally independent of power supply and shall be capable of being set into a minimum of 8 time zones in a 24 hour cycle to cover morning and evening peak and off peak periods separately. The TOD Timings shall be user programmable. Sufficient registers shall be provided to record and display the “display parameters”(Billing parameters) i.e. export and import active and apparent energy and demands for each time zone. The accuracy of the built in calendar and clock shall be better than one minute per month. The default TOD Timings shall be –

Register 1-	2200 Hrs. to 0600 Hrs
Register 2-	0600 Hrs to 1800 Hrs and
Register 3-	1800 Hrs to 2200 Hrs.

It should be possible to change the time period for all these six registers through the hand held meter reading device and also manually through a programmable clock installed in the meter itself. The main control for this change should be available on the computer located at the metering office. (The meter should be able to record energy consumption up to the specified time of day(as programmed) to help conducting regular energy balance study).

4.3.22 Provision should be made for automatic reset of max demand at the end of pre-defined period (say for eg. Beginning of month, every 16th of month, end of the month etc). This feature can be enabled or disabled at USER end. By default the automatic reset of max demand shall be disabled.. The billing parameters at the time of reset of the max demand (manual / automatic) alongwith one previous record of MD Reset shall be stored and display shall be possible on demand in meter. Period as to when automatic reset of max demand is required shall be programmable. In addition reset of maximum demand shall also be possible through push button or through an 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. The record of 12 previous MD resets should be available in the memory of the meter to be made available at the BCS end by downloading through MRI.

4.3.23 Load Survey capability:-

It should be possible to store previous data of atleast 31 days x 4 parameters for interval of 15 minutes or 62 days x`4 parameters for interval of 30 minutes or 62 days x 2 parameters for interval of 15 minutes etc. (depending upon integration period and number of parameters) of energy consumed and also demand i.e. load survey is needed for the demand and energy consumed in every MD integration time cycle. The demand to be recorded in the load survey shall match with the demand recorded in the display parameters. The demand and energy consumed shall be recorded separately under energy Import and energy Export periods. Load survey based on MD intgration period shall be selectable from the following parameters :-

- Active Demand and Energy Import / Export Mode
- Apparent Demand and Energy Import / Export Mode
- RKVAH Import while KWH import Demand and Energy

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-RKVAH	Export while KWH import	Demand and Energy
-RKVAH	Import while KWH export	Demand and Energy
-RKVAH	Export while KWH export	Demand and Energy
-Voltage		
-Current		
-Power factor		

All the above parameters should be user selectable. The default Load survey parameters shall be intimated at the time of order.

It should be possible to retrieve load survey data by hand held meter reading device through the communication port provided on the energy meter. Out of the above indicated parameters included in the load survey capability it shall be possible to select at least four parameters for load survey data. To clarify, the load survey memory shall be capable of accommodating and storing every 15 minutes data of at least four parameters. Choice of any four parameters out of the parameters indicated above shall be user selectable. Choice of any four parameters will be indicated to the successful tenderer. The time tagging should have precision of the real time clock.

All power interruptions (phase-wise) should be time stamped and available for downloading. These parameters are essential for computing the performance indices like System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI) to meet the regulatory requirements.

These load survey and system data should be retrievable with the help of Meter Reading Instrument as and when desired & load profiles and system data profiles can be viewed graphically / analytically with the help of meter application software. The offered meter application software shall be capable of exporting these data for analysis to other user software in spreadsheet format (Excel / Qpro / Lotus 123 etc.).

- 4.3.24 It should be possible to down load view parameters, daily midnight readings and load survey data on the compatible computer and obtain full details of demand and consumption in statement form and also in graphic form.

Meters shall be four quadrant meters capable of recording active reactive and apparent energy and also demand in all the four quadrants.

Capability of meter to measure fundamental frequency energy and harmonic energy shall be described by the tenderer.

Meters shall be designed to withstand at least EMI-EMC level IV in accordance with IEC 1000 PART "IV" It is obligatory on the part of tenderer to confirm this requirement and also to submit a type test / test report confirming successful performance under EMI-EMC level. IV.

- 4.3.25 Necessary 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 and additional if any shall be provided by the supplier. No separate cost will be borne by the purchaser on this account. The software shall include provision for load survey graphic presentation and other reports generation in BCS from the data collected form the meter through meter reading instrument.

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For efficient and speedy recovery of data read through meter reading instrument, base computer software shall be supplied having the following specifications as below:

The BCS software shall be windows based, user friendly. The data transfer shall be highly reliable and fraud proof. Base computer software shall give all details adequate for analysis and abnormal event data & load surveys parameters. The software shall have the facility to convert all the consolidated information / data of selectable parameters into ASCII format which should be clearly defined. The EDP department of purchaser can generate its own DBF (Data base files) to download all the required information into it. The BCS should support automatic meter reading with the help of GSM /CDMA/ PSTN modem.

i Platform:-

The BCS shall be executable on **MS windows 98** system. The BCS shall be suitable to run on IBM PC or compatible hardware platform.

ii. 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 daily mid night 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.

iii. 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.

- a. Site’s ID/Numbers
- b. Meter Sr. No.
- c. Date of meter reading
- d. Location
- e. MRI File. (Meter Reading File)

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IV. The Data Transfer:-

It shall be possible to transfer data to and from meter reading instrument through serial interface.

V. Configurability:-

It shall be possible to have selective printing out 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 user 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.

VI. 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 passwords shall be user definable. The software installed on one PC shall not be copied on another PC.

VII. 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.

COMMUNICATION: - For the output ports available in the meter standard communication interface shall only be adopted. The Meters shall conform to either open protocol standard IEC-62056 duly certified by the CPRI or the meter should be API compliant duly certified by competent authority. In case any proprietary protocol is used in the meter, it will be obligatory on the part of the bidders to furnish complete details of proprietary protocol to the purchasers so that there may not be any difficulty in extraction of data from the meter through the available ports when connected to the communication bus (prepared for some other data communication purpose). Details of protocol used are necessarily required to be intimated/furnished by the supplier to the purchaser.

The energy meter shall have a galvanically isolated optical communication port, so that it can be easily connected to hand held common meter reading instrument for data transfer to or from meter reading instrument with proper security and without error OR subsequently hooked to a remote metering device such as GSM modem CDMA Modem, PSTN Modem etc. The optical port shall be located in front of the meter and shall have adequate sealing arrangement to seal it. Serial communication protocol shall be adopted for data communication. In the forthcoming paragraphs requirement of a D-port telemetering purpose has been described. Meters covered under this tender will be employed for metering at or sub stations or in the premises of HT consumers for tariff application. In both the case the instantaneous parameters load survey data and tamper information etc will be monitored remotely through computer installed in central station. The data from meter will be transferred to the central station through the either GSM / CDMA / PSTN communication links as meter are required to be completed with capability of remote meter reading. It will be obligatory on the part of the bidders to supply the software in adequate copy needed for remote meter reading. No separate cost

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towards remote meter reading software using GSM / CDMA/ PSTN technology will be born by the purchaser.

- 4.3.26 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 information of meter including and integration etc shall be independent of requirement of battery, The meter shall perform satisfactorily without any requirement of lithium battery even under power off conditions.
- 4.3.27 Under battery weak condition an indication shall appear on the display or on MRI/ Laptop. The location of lithium batter shall be such that it should be possible to replace the battery at site, The life of the lithium battery for supplying energy to real time clock during no voltage or power off condition would not be less than 10 years.
- 4.3.28 Output device : The meters shall have a test out put in the form of a blinking of LED for testing of the meters accuracy. Testing shall also be possible through optical port accessible from the front and can be monitored with meter reading instrument having high resolution display.
The meters shall give high resolution energy values directly to meter reading instruments. The resolution will be sufficient to enable conduction of the starting current and accuracy test in less time.

Meters shall have two number galvanically isolated ports one for collection of data for load survey and other parameters through the meter reading instrument which can also be subsequently connected to a GSM/CDMA/PSTN Modem for remote metering and other for remote meter reading purpose only. The load survey port shall have optical coupler for transfer of data from meter to the meter reading instrument or modem as the case may be. In addition to this load survey port, provision shall be made for another D- port, which will be permanently hooked to the RTU/Modem for the purpose of remote meter reading. While designing this port due care shall be taken and it shall be ensured that damage to the meter/meter circuitry is not possible by injecting magnetic/ electrical charges through this D- port. A specific confirmation, that, these considerations have been taken care of, shall be made by the tenderer.

The port for load survey data collection shall be suitable to receive the coupler of CMRI and certain changes in the meter configuration as discussed else where in the tender should be possible through this port and only through this port. The other D-post is exclusively for remote meter reading purpose and communication to the meter through this port for programming purpose should not be possible. Provision for sealing shall be made for both communication ports, For the output ports available in the meter standard communication protocol shall only be adopted. The meters should be either IEC 62056 compliant, duly certified from CPRI or should be mod bus compliant or API Compliant or if any proprietary protocol is used by the manufacturer, then it will be obligatory on the part of the bidder to furnish complete details of the proprietary protocol to the purchaser so that there may not be any difficulty in extraction of data from the meter through the available ports when connected to the communication bus (prepared for some other data communication purpose). . Details of protocol used is necessarily required to be intimated/furnished by the supplier to the purchasers.

- 4.3.29 Meters shall have provision for testing of meters in the meter testing laboratory or testing of meters at site with the help of electronic substandard meters and phantom load test set. (In order to reduce the testing time of meter particularly for verification of demand suitable facility shall be provided through meter reading instrument).

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- 4.3.30 Meter shall operate and record satisfactorily independent of phase sequence of input supply so long as phase association between voltage and current circuit is in order.
- 4.3.31 The performance of meter should not be affected by the external electromagnetic interference such as Electricals discharge of cable and capacitor, harmonics, electrostatic discharges, external magnetic field and injection of DC current in AC circuits etc.
- 4.3.32 The basic meter shall be designed for overloading up to 200%.
- 4.3.33 No setting point/ setting register etc, shall be provided for adjustment of measurement errors.
- 4.3.34 **CONSTRUCTION OF THE METER:-**

Body of the meter shall be designed suitable for projection mounting. The meter should be made of high quality raw material to ensure higher reliability and longer life. The meter should be compact and reliable in design. e.g. to transport and immune to vibration and shocks involved in transportation / handling. The construction of the meter shall be suitable for this purpose in all respects and shall give assurance of stable and consistent performance under all conditions especially during dust storm / heavy rains / very hot days.

All insulating material used in the construction of the meter shall be non hygroscopic non ageing and of tested quality. All parts that are likely to develop corrosion shall be effectively protected against corrosion. The construction of the meter shall be such as to be sealed independently and prevent unauthorized tampering. The meter cover should be ultrasonically welded with the base.

Meters described above shall be installed in substation / lines / HT consumers premises our door inside a metal box. directly under the sun and extreme weather conditions. Suitability of meter for such use shall also be confirmed.

4.3.35 **SEALING OF THE METER:-**

Proper sealing arrangements shall be provided on the meter to make it tamper proof and avoid mishandling by unauthorized person. Atleast two (2) seals on the body, two (2) seal on the terminals blocks and one seal each on max demand resetting device and communication ports could be provided. All the seals shall be provided on the front side only.

The meter body cover should be ultrasonically welded with the base such that it would not be opened without breaking / damaging the meter body.

The meter body one sealing screw shall be provided with good quality 7 digits numbered polycarbonate seal or any superior body sealing arrangement with embossing on sides, one side with the logo of the firm and other side MPWZ. The numbers of the seal shall be unique and should not be repeated in any case. Access to the working part should not be possible without breaking the seals. The polycarbonate seals shall have proper locking to avoid opening of the seal in any case by means of tampering.

TRACKING SOFTWARE FOR SEALS:-

It is mandatory to provide Tracking and recording software for all new seals so as to track total movement of seals starting from manufacturing, procurement, storage, record keeping, installation, series of inspection, removal and disposal etc.

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4.3.36 CONNECTION DIAGRAM AND TERMINAL MARKING:-

The connection diagram of the meter shall be clearly shown on inside portion of terminal cover and shall be of permanent nature, Meter terminals shall also be marked and this marking should appear in the above diagram.

4.3.37 The holes for lead sealing wire may be 2 mm, one hole should be provided in the head and one in the thread to portion.

4.3.38 Meter shall have a name plate clearly visible effectively secured against removal and indelibly and distinctly marked with all the essential particulars as per relevant standards i.e.

Manufacturer's name and trademark

Manufacturer's serial number

type and description

Rated current voltage and frequency

Relevant ISS/IEC No should be printed alongwith ISI certification mark.

Manufacturer's meter constant shall invariably be indicated duly printed.

Name of the owner, purchase order no. and date and month / year of manufacturing as indicated below, suitable abbreviated shall be printed.

Owner	MPPKVCo. Ltd Indore	P.O. No. / Month	Date / year	Tender No.
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Guarantee period : -

5.1 Acceptance test : -All acceptance test as per IS:14697/1999 with latest amendments, CBIP report No. 88 with latest amendments and IEC 687 with latest amendments ,shall be carried out in the meter

5.2 Routine Test : -All routine tests as per IS:14697/1999 with latest amendments, CBIP report No. 88 with latest amendments and IEC 687 with latest amendments ,shall be carried out in the meter

6. PRE DESPATCH INSPECTION:-

All acceptance tests and inspection of meter / software/ MRI shall be carried out at the place of manufacture unless otherwise specially agreed upon by the manufacturer and purchaser at the time of purchases. The manufacturer shall offer to the inspector representing the purchaser all the reasonable facilities, free of charge for inspection and testing to satisfy him that the materials is being supplied in accordance with this specifications. The Companys representative / Engineer attending the above testing will carry out testing as per IEC: 687, IS 14697 and CBIP report No. 88 and this specification and issue test certificate approval to the manufacturer and given clearance for despatch.

7. GUARANTEE :-

The meter shall be guaranteed for the period of two years from the date of commissioning or two and half year from the date of despatch, whichever is earlier. The meters and also software / MRIs found defective within the above guarantee period shall be replaced / repaired by the supplier free of cost within one month of receipt of intimation. If the defective meters / software / MRIs are not replaced / repaired within the specified period above the Company shall recover an equivalent amount from any the bills of the supplier.

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8. **MINIMUM TESTING FACILITIES:-**

Manufacturer should possess fully computerized meter test bench system for carrying out routine and acceptance tests as per IEC: 687, IS 14697 and CBIP report No. 88. In addition this facility should produce test reports for each and every meter. The tenderer should have necessary minimum testing facilities for carrying out the following tests.

AC voltage test

Insulation resistance test

Test on limits of errors

Test on meter constant

Test of starting conditions

Test of no load condition

Repeatability of error test

test of power consumption

Vibration test

Tamper conditions – as per MPPKVV Co. Ltd. Indore's specifications

The manufacturer should have duly calibrated ESS/ RSS meters of class 0.1 accuracy.

9. **MANUFACTURING ACTIVITIES:-**

Meter should be manufactured using SMT (surface mount technology) components and by deploying automatic SMT pick and place machine and reflow solder process. Further the bidder should own or have assured access (through hire, lease or subcontract) of above facility.

Quality should be ensured at the following stages.

- (a) At PCB manufacturing stage, each Company shall be subjected to computerized bare Company testing.
- (b) At insertion stage all components should undergo computerized testing for confirming to design parameters and orientation.
- (c) Complete assembled and soldered PVC should undergo functional testing using automatic test equipments (ATEs).
- (d) Prior to final testing and Calibration all meters shall be subjected to aging test (i.e. meters will be kept in ovens for 72 hours at 55 deg. cent temperature and atmospheric humidity under real life condition at its full load current. After 72 hours meters should work satisfactorily) to eliminate infant mortality.

The calibration of meters shall be done in house.

The bidders should submit the list of all components used in meter along with the offer.

10. **PACKING:-**

Each meter may be suitably packed in the first instance to prevent ingress of moisture and dust and then placed in cushioned carton of a suitable material to prevent damage due to shocks during transit. The lid of the carton may be suitably sealed. Each meter be packed in separate cushioned carton.

A suitable number of selected cartons may be packed in a case of adequate strength with extra cushioning if considered necessary. The cases may be properly sealed against accidental opening in transit.

The packing cases should be marked to indicate the fragile nature of the contents.

11. The tenderer should have valid BIS license for ISI certification mark, as per IS 14697, on the offered meters on the date of opening of tender. In absence of BIS mark on the offered meters, the offer shall be outrightly rejected.

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12. **Type Testing of Meter** : -The offered meter should be strictly in conformance to the tender specifications. The offered meters should be fully type tested at NABL accredited Laboratory only in accordance with Tender specifications, IS 14697 with latest amendments to be read along with CBIP Report 1988 with latest amendments and IEC 62056 with latest amendments for Open Protocol. The Type test report should not be more than 2 years old. The attested photocopy of the Type Test results should be enclosed with the offer.
13. **GUARANTEED TECHNICAL PARTICULARS:-**
The tenderer shall fill the guaranteed technical particulars in the proforma enclosed with the tender specification. The tenderer has to submit test certificates in conformity to Tender specifications from NABL accredited laboratories for all type tests mentioned in the ISS 14697 with latest amendments, CBIP Report 1988 with latest amendments and IEC 62056 with latest amendments for all ratings of meters offered by them failing which the offer maybe liable to be rejected. This requirement is for both past as well as for new supplies, The tenderer has also to give a details write up in 3 copies high- lighting the design feature of the meters offered by them.
14. **DRAWING & TECHNICAL LEAFLETS: -**
Detailed dimensional drawing alongwith the circuit diagram and detailed technical leaflets showing clearly the quantity or the material used for meters and its constructional features should be furnished alongwith the offer.
15. **AFTER SALES SERVICE:-**
In order to provided prompt and smooth after sales support / service etc. It shall be preferred to post / engage an engineer / technician in MP preferably at Jabalpur by the manufacturer, who shall be fully conversant with he manufacturers meters, to attend any minor defects immediately and to educate the user about proper installation of meter and programming of MRI base computer taking reading billing datas load survey tamper information etc. thought MRI and down load to PCs to get print outs etc.
16. **METER READING INSTRUMENT:-**
With the every lot of 100 Meters or part thereof the bidder are required to supply one no. common MRI (Meter reading instrument) of reputed make free of cost CMRI should conform to technical specification given in annexure-Vi(B) and minimum guaranteed technical particulars given in schedule VI(B) in this tender specification.

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

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Section III (B): Technical Specifications

GSM/GPRS Enabled Modem suitable for meter end with software and accessories as per technical specification.

1. SCOPE:-

This specification covers the design, engineering, manufacture, assembly, inspection, testing at manufacturers Works before dispatch and supply of intelligent GPRS Enabled GSM modem and suitable accessories for automatic and remote data transfer from Electronic energy meters:

The overall system setup shall consist of the following

Meter end (consumer premises):-

- Intelligent GPRS enabled GSM modem “
- Suitable communication cable between modem and meter
- External Antenna with cable
- Universal AC adaptor with power supply cords

Central Station end:

- PC with offered Base Computer Software
- GSM modem with communication cable

2. TECHNICAL SPECIFICATION OF GSM MODEM:-

The supplied modem shall be suitable for communication with electronic energy meters, installed at various consumer premises (HT/LT consumers). The system shall be used for remote meter reading of the consumer end meters via GSM infrastructure. The communication and reading shall be enabled with suitable Base Computer Software (BCS). The modem shall offer in-built intelligence and high speed data transfer rate or a kind of store–forward facility by which data from the meter is read at regular intervals and stored in modem’s internal memory and forwarded to remote central station (as configured) for viewing billing and reporting via Base Computer Software.

Various features of GSM modem (to be installed with electronic energy meter) are described as below:

1.1 Power Supply Section:-

2.1.1 Input specifications:-

- a. The modem shall have an AC input supply of 110V/230V \pm 30%, 50 Hz \pm 5%.
- b. The modem should be capable of proper functioning within the power supply range of 77 to 310V AC.
- c. Average Power consumption of the modem shall not be more than 3 VA under idle condition and 6 VA during data transfer.

Note: Power consumption may vary from site to site depending on signal strength at that particular location. Above values are typical values.

- 2.1.2 Withstand capacity against surges should be according to Indian conditions i.e. 6.0 kV.

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- 2.1.3 Input terminals: The power supply input shall be a suitable two core integrated cable coming out from modem box.
- 2.1.4 The modem shall have capability to work under continuous power on condition.

2.2 GPRS enabled GSM Section:-

The GSM module shall comply with the following:

- 2.2.1 The modem shall operate in Dual Band GSM 900/1800MHz.
- 2.2.2 The modem shall be compliant with ETSI GSM Phase 2+ Standard.
Class 4 (2W) @ 900 MHz
Class 1 (1W) @ 1800 MHz
- 2.2.3 The modem shall support Point-to-Point transmission and Cell Broadcast features.
- 2.2.4 It shall have auto dial feature.
- 2.2.5 Serial binary and suitable data format for data transfer.
- 2.2.6 Short messaging service (SMS) features.

3.3 SIM Card Section:-

- 2.3.1 For placing the SIM Card, a SIM Card Holder shall be provided on the GSM motherboard and shall be accessible only by removing the cover of the GSM modem.
- 2.3.2 The SIM Card supported shall be of 3V Interface.
- 2.3.3 Interlocking facility shall be provided under the device cover.
- 2.3.4 SIM card shall be placed inside the sealable modem. The offered modem shall comply for ESD as per IEC61000-4-2.
- 2.3.5 A simple GSM telecommunication based SIM Card to be used for offered Modem.

4.4 Communication Interface:-

- 2.4.1 A RS232 Serial Link supporting up to 115,200 bauds with an auto-bauding option shall be provided. However the data transfer rate for remote meter reading shall depend on meter compatibility.
- 2.4.2 The RS232 output shall be provided on a 9-pin female connector which can be connected to electronic energy meter's optical / serial communication port through suitable communication cable.

5.5 RF section:-

A SMA interface shall be provided on the GSM modem to which either a fixed or a wired (with magnetic base) Dual Band built-in Antenna of minimum 3db gain can be connected. Provision shall also be made to connect 14db high gain external yagi antenna to improve poor signal strength.

6.6 Network Identification Section:-

For determining the health of the device an LED shall be provided on the modem which will depict the current functioning status (power up/ registered in network/transmitting data).

3. EMI/EMC Specifications:-

The GSM modem shall meet the following EMI/EMC specifications:

- a. Electrostatic Discharge IEC61000-4-2
- b. Fast Transient Burst IEC61000-4-4
- c. Surges Immunity IEC61000-4-5
- d. Conducted Emission CISPR22 (class B)

4. Mechanical Specifications:-

The Mechanical Specifications of the modem shall be as follows:

- a. Mounting Arrangement: A suitable wall mounting arrangement shall be provided.
- b. The GSM modem shall comply with IP50 rating.
- c. Sealing Arrangement: The Top and Base Cover shall have a suitable sealing arrangement so that the GSM SIM Card cannot be tampered with.
- d. The modem shall be housed in an enclosure of engg. Plastic.

5. Environmental specifications:-

The modem shall meet the following environmental specifications:

Temperature: -10 degrees to +55 degree

Humidity: 95% RH (non – condensing)

6. Functional specifications:-

The modem should be an intelligent device and capable of providing the following functionalities:

6.1 Inbound dialing:-

- (a) The modem should have inbound dialing facility i.e. modem shall automatically dial to a particular GSM number (number of modem placed at central station end along with BCS server) at specified time (once in a day/week/month) for the purpose of meter reading. This configuration of the modem shall be made available to the user via offered Base Computer Software.
- (b) If modem could not establish connection to the modem placed at central station at specified time, then it shall retry the same as configured.

6.2 Outbound Dialing:-

- (a) In case the data is required by dialing from the Central station end (Server end), then connection shall be established by the server to the device using AT commands & transparent communication mode shall be established.
- (b) User shall have option to get the data directly from the meter or the data already available in the memory of intelligent modem.
- (c) Provision to generate reports of successful automatic meter reading(AMR) calls and unsuccessful AMR calls separately shall be provided.
- (d) Provision for flexible scheduling of meter reading by BCS automatically on a pre-defined daily, weekly or monthly basis.
- (e) Provision shall be made to read the groups of energy meters in one go from the BCS and the searchable by Meter number, Consumer Number or Zone/Regions/Circle/Division/Sub Dn.

6.3 Event based dialing:-

- (a) Other than regular dialing, the modem shall have feature of event based dialing in case of logging of tamper by the meter, without waiting for the interrogation from central station (BCS server) and meter data shall be sent to the central station
- (b) Further, the modem shall sent an SMS to predefined mobile number and the SMS shall contain meter serial no. The mobile number shall be configurable via BCS.
- (c) Event based dialing and SMS shall be applicable for the event types (tamper/anomaly) as supported/recorded by the meter
- (d) When the modem is busy in collecting the data from the meter and the call comes to get the data, then priority shall be given to outbound call rather than data collection from meter.
- (e) The feature of event based dialing shall be user configurable. Provision of enabling and disabling of the feature shall be provided.

6.4 Baud Rate (Communication Speed) :-

- (a) The modem shall have capability to send/receive data in asynchronous mode, transparent and non transparent upto 9600 bits/sec.
- (b) The modem shall have non transparent data transmission at 1200/2400/4800/9600bps. The data shall be selectable.

7. DEMONSTRATION OF SUITABILITY OF OFFERED MODEMS & COMPATIBILITY WITH OFFERED METERS

The Bidders are required to demonstrate AMR capability and other technical features of their offered modem in conformity to Tender specifications & compatibility with offered meters at the time of technical evaluation. The bidders are required to submit relevant test certificates of their offered modems with the offer.

8. GUARANTEE

The supplier shall warrant that the modem will be new, unused and in accordance with the technical specification and free from defects in material and workmanship. The modem shall be guaranteed for satisfactory performance for a period of 5 years from the date of installation or 5 ½ years from the date of supply, whichever is earlier.

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SECTION-III (C)

TECHNICAL SPECIFICATION OF COMMON METER READING INSTRUMENT TO BE SUPPLIED ALONGWITH THE METERS

1. **SCOPE** :-

The hand held common meter reading instrument (CMRI) for data retrievable should be suitable for retrievable of data stored on the magnetic storage of the meter for dumping it on to a standard floppy disc and getting a print out subsequently. The necessary software for transfer of data on the floppy and reading it on an standard IBM compitable PC shall be included in the scope of supply.

2. **REQUIREMENTS** :-

2.1 **PHYSICAL CHARACTERISTICS** :

2.1.1 **SIZE** :-

CMRI shall be handy and small in size for ease of portability. The maximum dimensions shall not be exceed 250 x 100 x 60 mm (L X W x H). However, the display portion could be wider.

WEIGHT :-

Weight of CMRI including batteries shall not exceed 1 Kg.

2.1.2 **ENCLOSURE** :

The casing shall be of electrical insulating material of high thermal stability and mechanical strength.

Its degree of protection shall be ;

Level(1) IP 65 or

Level(2) IP 67

depending on requirement as per IEC 529/IS 12063.

For details of these two levels of protection against penetration of dust and water reference may be made to clause 5.2.1 of CBIP technical report no.111 (May 1997).

The CMRI enclosure shall be solvent resistant.

The CMRI shall be provided with a suitable holding strap for proper gripping.

2.1.3. **RUGGEDNESS**:-

CMRI shall be able to withstand harsh field environment without physical damage or loss of data. The tests for this requirement are given in the testing procedures as detailed in clause 4.0 of this specification.

2.1.4 **DISPLAY** :-

The display of CMRI shall have the following characteristics :

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- (a) Easy readability in varying ambient light conditions.
- (b) A minimum of 4 line and 16 characters per line on the screen.
- (c) The size of the upper case alpha character shall be minimum 4 mm.
- (d) The contrast and intensity control to get a clear display in varying ambient light.

In addition to the above CMRI may optionally have graphics capability in the display.

2.1.5 **KEY COMPANY** :-

The key Company of the CMRI shall have the following attributes :-

- (a) Any alphanumeric character shall be available with sequential operation of maximum 3 keys.
- (b) Long operational life i.e. minimum 100,000 operations.
- (c) Feedback for key press acknowledgement to user.
- (d) Legible and non-fading keypad imprints.

2.1.6 **INPUT/OUTPUT PORTS (I/O ports):-**

The CMRI shall have serial input/output port(s).

One port shall be serial port, RS232C compatible.

Another optional port may be used for convenience of connecting peripherals such as bar-code reader, printer, battery charger, loader charger etc.

- 2.1.7 The CMRI shall be able to provide power supply for optical sensor used for meter reading applications.

2.1.8 **CLIMATIC REQUIREMENTS :-**

- (a) **Temperature range**
 Specified operating range - -10 deg.C to 50 deg.C

 Limit range for storage - -25 deg.C to 70 deg.C
 & transport
- b) **Relative humidity :**
 - Annual mean - 75%
 - For 30 days, these days - 95%
 being spread in a natural
 manner over one year
 - Occasionally on other days - 85%

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2.2 **PHYSICAL INTERFACE :-**

2.2.1 Interface between Meter & CMRI :

The interface between a meter and CMRI consists of 2 parts.

- a) Meter optical sensor terminating into a 9 pin D type male connector with a cable of 500 mm +10 mm length with electrical circuit.

This cable will be supplied by the meter manufacturer.

- b) CMRI cable should have matching 9 pin D type female connector of 1500 mm + 10mm length with electrical circuit.

This cable shall be supplied by the CMRI manufacturer.

2.2.2 Interference between CMRI and Base computation station :

Suitable cable for communication between CMRI and base computer station shall be provided. This communication shall be serial Rs.232 C. On the BCS end of the cable a 9 pin D type female connector shall be provided.

The cable shall be supplied by the CMRI manufacturer.

The cable specified in Clause 2.2.1 (b) can also be used for communication between CMRI and BCS.

- 2.2.3 Both connecting cables described above in 2.2.1 & 2.2.2 shall be made of flexible material and shall be shielded.

The two ends of each type of cable shall be stress relieved.

2.3 **HARDWARE AND SOFTWARE REQUIREMENTS :-**

2.3.1 **Operating Systems :-**

To facilitate use of various meter specific MRI programmes in one CMRI, MS DOS version 3.0 or higher operating systems shall be used. The facility to upgrade the BIOS/OS by a CMRI supplier shall be available without exposing the hardware of the CMRI.

The additional programs necessary to transfer application programs with serial ports shall be provided by CMRI supplier.

2.3.2 **Memory :-**

The CMRI shall have generally a memory capacity of 4 MB SRAM (static RAM) with battery backup and un-gradable.

2.3.3 **Communication :-**

The CMRI shall be required to communicate in three different modes :-

- a) Downloading/uploading data from/to the meter.

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- b) Uploading/Downloading data to/from the base computer station.
- c) The CMRI shall be able to read bar coded information using a bar code scanner from barcodes for AC static/electromechanical electricity meters.
- d) CMRI shall have flexible baud rate ranging from 300 baud to 19,200 baud and optionally to higher baud rates to cater communication needs stated above.

2.3.4 **Real time clock :-**

A real time clock shall be provided in the common meter reading instrument and shall have the following features :-

- i) Power Requirement : The clock shall have a min. of 15 days battery backup.
- ii) Calendar : The clock shall have a 20 years calendar.
- iii) Time drift : The time drift of the real time clock, considering all influencing quantities shall not exceed 20 seconds per day.

2.3.5 **Time setting facility :-**

The common meter reading instrument shall have the facility to get its time set from the base computer station. Proper security for this shall be ensured.

The meter specific MRI shall have the ability to use CMRI real time clock to tag all time related events.

2.3.6 **Power Supply (Battery):-**

The common meter reading instrument shall have the following features for its power requirements :

- (a) The common meter reading instrument shall be powered by rechargeable battery housed within its enclosure.
- (b) The average capacity of a charged battery shall be sufficient to communicate with meters and base computer station for atleast ;
 - i) FOUR HOURS while communicating through optical interface of metes and
 - ii) SIX HOURS without powering I/O ports for optical interface or printer etc.
- (c) To reduce the equipment down time and inventories, there shall be provision to charge the MRI battery without being removed from the equipment. A suitable battery charger for automatic charging of MRI battery shall be provided ex. loader charger.
- d) There shall be a provision for AUTO POWER SAVE, which shall force the instrument in the power saving mode in case of no activity within 5 minutes.
- e) The battery used for data retention in SRAM shall have a minimum of three years backup capacity.

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- f) The MRI shall have battery low indication and automatic cut off to avoid further drain of the battery.

3. **SOFTWARE :-**

- (a) The CMRI supplier shall provide following software :
- i) Embedded MS-DOS 3.0 or higher operating system.
 - ii) Necessary software for loading application programs via a serial port for uploading and down loading between CMRI and base computer station.
- (b) The following software shall be made available by each meter manufacturer, whose meters are to interface with the CMRI.
- i) Software to be resident in CMRI for the purpose of reading and programming the specific make(s) of static meters.
 - ii) BCS software for accepting data from CMRI, processing, generating reports and downloading instructions from BCS to CMRI.
- c) Special requirements :- A third party software may also be loaded for special applications such as manual meter reading, data entry, printing, display of balance memory etc.

3.1 **Data Security :-**

The meter manufacturers are responsible for maintaining the security of the data extracted from the meters using Manufacturer specific algorithms in the software up to down loading to BCS.

4. **TYPE TESTS :-**

4.1 **TESTS OF MECHANICAL REQUIREMENT:-**

4.1.1 **Free fall test :-**

The CMRI shall be subjected by the method specified in IS 9000 (part VII- Sec. 4) 1979 to free fall as detailed below :-

- | | | | |
|----|-------------------|---|--|
| a) | Number of falls | : | 2 |
| b) | Height of fall | : | 1000 mm |
| c) | Method of release | : | To allow free fall from horizontal position of normal suspension, with a minimum disturbance at the moment of release with LCD display facing upwards. |

After conclusion of the test there shall not be any physical damage and loss/change of data. The functionality of the CMRI shall not be affected.

4.1.2 **Shock test :-**

The CMRI shall be subjected to shock test by method specified in section 1 of IS:9000 (Part 7 - Sec 1) - 1979.

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The test shall be conducted on a different test specimen for each direction of shock (also on a specimen different from one to be used for the vibration test). After conclusion of the test there shall not be any physical damage and loss/change of data. The functionality of the CMRI shall not be affected.

4.1.3 **Vibration test** :-

The CMRI shall be subjected by the method specified in IS 9000 (part 8):1981. The test shall be conducted on a different specimen for each direction of vibration.

After conclusion of the test, there shall not be any physical damage and loss/change of data. The functionality of the CMRI shall not be affected.

4.2 **TESTS OF CLIMATIC INFLUENCES** :-

4.2.1 Tests of protection against penetration of dust and water :

These shall be carried out according to IS:12063.

Any ingress of dust shall be only in a quantity not impairing the operation of the CMRI.

4.2.2 **Dry heat test** :-

The test shall be carried out according to IS:9000 (Part-III - Section I and V of 77).

After conclusion of the test, the CMRI shall show no damage or loss/change of the data. The functionality of the CMRI shall not be affected.

4.2.3 **Cold test** :-

The test shall be carried out according to IS:9000 (Part-II Section III of 77). After conclusion of the test, the CMRI shall show no damage or loss/change of the data. The functionality of the CMRI shall not be affected.

4.2.4 **Damp heat cyclic test** :-

The test shall be carried out according to IS:9000. (Part-V 81).

24 hours after the conclusion of the test there shall not be any physical damage and loss/change of data, the functionality of CMRI shall not be affected.

4.3 **TESTS FOR ELECTROMAGNETIC COMPATIBILITY (EMC) :-**

General test conditions :

For all these tests the CMRI shall be in its normal working position.

After these tests the CMRI shall show no damage and operate correctly.

4.3.1 Test of Immunity to Electrostatic discharges :

The tests shall be carried out according to IEC::1000-4-2(1995), under the following conditions :

Test Voltage	:	15 KV air discharge
Number of discharges	:	10
Severity level	:	4

After application of the electrostatic discharge the CMRI shall show no damage or change of data. The functionality of the CMRI shall not be affected.

4.3.2 Test of Immunity to Electromagnetic HF fields:

The test shall be carried out according to IEC:1000-4-39/1995, under the following conditions :

CMRI	ON
Frequency band	80 MHz to 1000 MHz
Test field strength	10 V/m

After conclusion of the test, the CMRI shall show no damage or loss/change of the data. The functionality of the CMRI shall not be affected.

4.3.3. **Radio Interference Measurement :-**

The test of radiated disturbance shall be carried out according to table 4, clause 6 of CISPR 22 for frequency range of 30 MHz to 1000 MHz

4.3.4 The Meter reading instrument being supplied should be of reputed make complete with communication cable between Meter and MRI. The software for meter reading instrument and software required for compatible base computer shall also be provided for collection of data through optical port provided in the front face of the meter. The MRI shall be capable of downloading all the available parameters at least for 100 meters in a stretch.

5. **GUARANTEE:-**

The common meter reading instrument being supplied alongwith meters shall be guaranteed for the period of 30 months from the date of despatch. The CMRI found defective within the above guarantee period shall have to be replaced/repared by the supplier free of cost within one month from the date of receipt of intimation. If the defective CMRIs are not replaced /repared within the specified period, the company shall recover an estimated equivalent amount from any of the bills/security deposit of the supplier

6. **DRAWING & TECHNICAL LITERATURE:-**

One set of drawing, descriptive literature and instructions manual for operation, erection and commissioning of the CMRI being supplied shall be enclosed with the offer.

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SECTION-III (D)

VERIFICATION/TESTING OF MATERIAL SUPPLIED

- i) One meter shall be selected for conducting type tests from the first lot of metres received in Areas Stores, by a committee constituted by CE (Corp. Office - Pur). The sample so selected shall be sealed by at least 3-4 seals / stickers by the committee members. The selected sample shall be sent with complete details for type test and additional test / special tests as per IS 14697 to be read along with CBIP technical report 1988, IEC 62056 & tender specification at CPRI Bhopal / ERDA Vadodra / Any NABL accredited Test house. **The type test charges shall be borne by MPPKVVCL.**
- ii) In case of successful type test results, supply shall be continued. However, in case the meter do not meet the requirement as per ISS/CBIP/ Specification in type test (s), one more samples shall be selected from the supply already received to get them type tested at supplier's cost. In case of repeat failure in type test (s) the order shall be cancelled.

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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	ISI marked, class- 0.2S, three phase four wire, 63.5 volts phase to neutral, 1 Amp static (Electronic) trivector energy meter confirming to IS: 14697/1999, IEC: 62056 and CBIP report no 88, with latest amendment and details technical specification given in Section III (A) and GTP given in Schedule II (A) annexed with RS 232 port.	15 Nos.		
2	ISI marked, class- 0.2S, three phase three wire, 110 Volts phase to phase, 1 Amp static (Electronic) trivector energy meter confirming to IS: 14697/1999, IEC: 62056 and CBIP report no 88, with latest amendment and details technical specification given in Section III (A) and GTP given in Schedule II (A) annexed with RS 232 port.	15 Nos.		
3	GSM/GPRS Enabled Modem suitable for meter end with software and accessories as per technical specification given in section -III (B). Suitable & compatible with meter offered under Sr. No. 1 & 2 above.	30		

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.

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5. The quoted price should be ‘FIRM’ and on F.O.R. destination basis inclusive of all taxes and duties etc.
6. **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.
7. 1 no. CMRI shall have to be supplied free of cost per lot of 100 meters or part thereof.

PLACE:

SIGNATURE OF TENDERER

DATE:

NAME IN FULL

DESIGNATION/ STATUS IN THE FIRM

COMPANY SEAL.

Schedule II (A): GTP

ISI marked, class- 0.2S, three phase four wire, 63.5 volts phase to neutral, 1 Amp static (Electronic) trivector energy meter confirming to IS: 14697/1999, IEC: 62053-22 and CBIP report no 88, with latest amendment

&

ISI marked, class- 0.2S, three phase three wire, 110 Volts phase to phase, 1 Amp static (Electronic) trivector energy meter confirming to IS: 14697/1999, IEC: 62053-22 and CBIP report no 88, with latest amendment

Sl.No.	Test	Minimum requirement	As per firm's offer
--------	------	---------------------	---------------------

PART-A

1.	Name of manufacturer	-	
2.	Type of meter	-	
3.	Standard Applicable	IS:14697-1999 with latest amendments /IEC 687 with latest amendments CBIP report 88 (with latest amendment) IEC 62056 for open protocol	
4.	Model No.	-	
5.	Rating		
	i) Accuracy class	0.2S as per IS14697	
	ii) Rated sec. voltage	$110/\sqrt{3}$ (P-N) for 3 phase 4 wire meter 110 volts for 3 phase 3 wire meter	
	iii) Rated Current	Secondary 1 Amp.	
	iv) Rated frequency	50 Hz (+/- 5% variation)	
	v) Power factor	Zero lag to Unity to Zero lead	
	vi) Minimum saturation current	i) 200% of Ib	
	vii) Shall work within accuracy upto max. loading (Imax)	i) 200% of Ib	
6.	i) Continuous current rating (Amp.)	1 Amp	
	ii) Running with no load & +115 % voltage (test procedure as per IS 14697)	No creeping	
7.	Short time over current	20 times of Imax for 0.5 Sec.	

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Sl.No.	Test	Minimum requirement	As per firm's offer
8.	Starting current (minimum) at which meter shall run & continue to run	0.1 % Ib	
9.	Power loss at rated frequency & reference temperature		
a)	Current circuit per phase	As per IS 14697-1999 with latest amendments	
b)	Voltage circuit per phase	As per IS 14697-1999 with latest amendments	
(c)	Meter load on PTs	As per IS14697	
10.	Momentary over voltage	As per IS 14697	
11.	Dielectric voltage withstand	6 KV AC (As per IEC 14697)	
12.	Communication port	2 nos. galvanically isolated optical port i.e., 1 NO galvanically isolated optical port for load survy facility etc. Another RJ-11/ D Port for remote meter reading	
13.	Battery backup	Battery back up is not required for memory. Only for real time clock lithium battery back up is required during no voltage or power off condition.	
14.	Type of material used		
a)	Base i) Material	High Impact strength, flame retardent, UV stablised polycarbonate	
b)	Terminal Block i) Material	As above	
c)	Meter cover i) Material	As above	
			Meter cover should be ultrasonically welded with base
d)	Terminal cover i) Material	As above	
e)	Screw i) Material	Nickle Plated - Brass	
	ii) Size	M-4 x 6 mm	

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Sl.No. Test	Minimum requirement	As per firm's offer
15. Type of Display	LED/LCD/FIPS-7 Segment	
i) No. of Digits display	7 (One digit after decimal point) minimum.	
ii) Character size of display digits	7x4 mm (minimum)	
16. Fixing/sealing arrangement		
i) Fixing of meter	3 fixing holes (one at top & two at bottom terminal block)	
ii) Sealing of meter cover to Base	2 nos., tightening from front	
iii) Sealing of terminal cover	Two	
17. Performance of meter in tamper conditions	Should work within specified accuracy as per IS14697	
18. Reverse phase sequence	Meter should record energy accurately	
19. Size of calibration LED & colour (Cl. 4.3.18 of Annex.-II Technical Specification)	As per Cl 4.3.18 of Annex II Technical Specification	
20. Electromagnetic compatibility (EMI/EME severity level)	Should withstand severity level 4.	
21. Effect in accuracy on influence external electro-magnetic interference of electrical discharge, external magnetic field DC current in AC supply or in neutral, capacitor switching & harmonics etc.	Should work within accuracy as per IS 14697/IEC 687/CBIP'88	
22. Effect of accuracy in tamper conditions	Should work within accuracy as per limits prescribed in IS14697	

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Sl.No.	Test	Minimum requirement	As per firm's offer
23.	Cut off voltage (at which meter stop working)	Below (-) 50%	
24.	Input voltage & frequency variation within which meter works satisfactory	+20% to -30% of V.ref. +/- 5% of ref. Frequency as per limits specified in IS14697	
25.	Relative humidity	95% (some times approaches to saturation)	
26.	Ref. Temperature	27oC	
27.	Temperature range of operation	0 to 55oC	
28.	Drift in accuracy of measurement with time	No Drift in accuracy in measurement with time	
29.	Fixing arrangement of name plate	Name plate (rating Plate) within the meter under display window.	
30.	Approximate weight of meter	To be mentioned	
31.	Type of body	Projection type	

PART-B

1.	Manufacturing activity		
i)	Whether SMT components & technology used	SMT component & technology necessary	
ii)	Whether submitted quality assurance plan	Required to submit	
2.	Testing facility		
i)	Whether fully automatic computerised meter test bench with print out facility available	Must available	
ii)	Make & S.No. of Test bench	-	
iii)	Accuracy of RSS/ESS duly calibrated	To be indicated	

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Sl.No.	Test	Minimum requirement	As per firm's offer
iv)	Whether following inhouse testing facility available:		
a)	Insulation resistance	Must be available	
b)	Running on no load	-do-	
c)	Starting current	Must be available	
d)	Accuracy requirement	-do-	
e)	Power consumption	-do-	
f)	Repeatability of error	-do-	
g)	Tamper condition	-do-	
h)	Electromagnetic compitability	-do-	
3.	Whether offered meter is type tested as per technical specifications of the tender , IS 14697/1999 to be read along with CBIP Technical Report from NABL accredited laboratory only (indicate name of laboratory/ Ref. of report No. & dt.) Attested copies Of the test reports to be attached.	To be clearly mentioned.	
4.	Guaranteed life of meter	10 years minimum	
5.	BIS licence No. & dt. with its validity for ISI certification mark	To be mentioned	
6.	ISO licence No. & dt. with its validity	To be mentioned	
7.	Communication Protocol Standard	The meters should be either IEC 62056 compliant or mod bus Compliant or having common API or if the manufacturer is using proprietary protocol in the meter than it will be obligatory on the part of the bidder to handover complete details of the protocol to the purchaser. Complete details of protocol used should be mentioned.	
9.	Past experience		
i)	Order received up to date of submission of offer	Ord.No. Qty. & dt.	Name of SEB/ Power Utility

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Sl.No.	Test	Minimum requirement	As per firm's offer
	a) 110 Volt static trivector meters		
	ii) Qty. supplied up to date of submission of offer		
	(Note - copy of order be enclosed specifically alongwith its technical specification)		
10.	Other parameters/features not covered in the above GTP		Shall conform to specification of IS-14697/1999, IEC:687 & CBIP report No.88 (Revised version July'96, with its latest amendment in June,2000 & IEC 62056 for open protocol.

Certified that all the information/parameters indicated above exist in the meter offered by us & shall stand all the tests specified above within the variation of current/voltage frequency and climatic conditions specified therein.

DATE :

SIGNATURE OF TENDER

PLACE :

NAME

DESIGNATION

COMPANY SEAL

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SCHEDULE-II (B)**GUARANTEED TECHNICAL PARTICULARS FOR CMRI
(METER READING INSTRUMENT)**

Sl.No. Parameter	Specification/ Min. requirement	As offered by bidder
1. Make		
2. Model	Common MRI	
3. Size	Not to exceed 250x100x60 mm (LxWxH)	
4. Weight	Not to exceed 1 Kg.	
5. Enclosure	Electrical insulating material of high thermal stability & mechanical strength with degree of protection IP 67	
6. DISPLAY	Alphanumeric, Graphics (Back light facility, super twist) with contrast & brightness adjustment	
(A) Alphanumeric		
i) No. of lines & Character/line	16 lines Min. 24 characters/lines	
ii) Size of the character	4 mm x 4 mm (software selectable through DOS mode)	
(B) Graphics	192 x 128 pixels	
7. Key Company	Maximum 3 Key strokes for operation, Key life 1,00,000 operations	
8. Physical interface		
(A) Between Meters & MRI	RS-232 Port (Optical to RS 232)	
(B) Between MRI Base Computers	RS-232 Port (9 Pin D Connector)	

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Sl.No. Parameter	Specification/ Min. requirement	As offered by bidder
9. Operating System used and Version	Any latest MS DOS version (Ver 6.22 or latest)	
10. Memory Capacity of MRI	At least 2 MB Program + 2 MB Data	
11. Battery backup for RTC SRAM	10 Years (RTC)	
12. Power	1.2 A hr Ni-MH battery continuous operation of 8 Hrs.	
13. Charger	Intelligent, fast charger (May charge within 3 hrs.)	
14. Provision for Battery low indication and Automatic cut off	LED indication of battery low, with auto power cut off	
15. Communication protocol software	Can run virtually any DOS application programs	
16. Communication Baud Rate	Variable Baud Rate, 300 to 115 19,200	
17. Software	Software for data collection be preloaded in the MRI Software required to download data from MRI to PC be provided.	
18. Accessories with MRI	1. MRI to meter Communication cable of at least 1.5 metre in length with optical port on one side. 2. MRI to PC Communication cable 3. Charger 4. The additional programme in 3-1/2" floppy, necessary to transfer application programme with serial port 5. CMRI carrying case 6. Operating manual and data sheet	

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Sl. No.	Parameter	Specification/ Min. requirement	As offered by bidder
19. Climatic Requirements			
	A) Specific Operating Range	0-50oC	
	B) Limit range of Storage & Transport	-20 to 70oC	
20.	Accuracy of Real time clock	i) L1-ION back up battery with 10 years back up ii) 20 years calendar iii) Time drift less than 10 sec. Per day iv) Time can be set from Base Computer with proper scrutiny v) Real time clock is accessible for application to tag the same.	
21.	Specification	MRI should conform to the specifications as given in Technical Report No.111 by CBIP for MRIs.	
22.	Guarantee	30 months from the date of receipt at our stores.	

DATE :

SIGNATURE OF TENDER

PLACE :

NAME

DESIGNATION

COMPANY SEAL

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SCHEDULE – II (C)

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

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along with GSM /GPRS enabled modem suitable for meter end with software and accessories

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



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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: -

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

- (ii) The 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: -
- a) In cash, to be deposited with the Senior Accounts Officer, MPPKVVCL, Indore.
 - b) By Bank Draft in favour of Senior Accounts Officer, MPPKVVCL, Indore.
- (iv) **The following are exempted from payment of Earnest Money Deposit: -**
- a) 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.**
 - b) The **Small Scale Unit permanently registered with NSIC**, whose registration certificate is valid for the item quoted on due date of opening of commercial and technical bid shall be entitled for exemption from EMD. (The renewal / amendment of certificate should not be more than 3 years old from the due date of opening of tender).
 - c) The Medium/Large Scale Manufacturing Units, located in Madhya Pradesh (other than SSI/ Ancillary units to 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.
 - d) Fully owned State/Central Govt. manufacturing units, if 100% shares are held by the Govt. concerned, for which documentary evidence must be furnished with the offer.
 - e) The 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.
 - f) 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.**
- a) EMD shall be returned to the unsuccessful bidders, as soon as possible, after the tender is decided.
 - b) EMD of bidders on whom the orders have been placed, shall be returned on acceptance of security deposit.

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.

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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.

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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).

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 & DD/BG OF RS. 80,000/-"**.

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 & DD/BG of Rs. 80,000/-"** **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 & DD/BG of Rs. 80,000/-"**, 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 & BG/DD”
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: -**

- (i) PAYMENT TERMS : AGREED.**
- (ii) SECURITY DEPOSIT : AGREED.**
- (iii) PENALTY : AGREED.**
- (iv) PERFORMANCE GUARANTEE : AGREED.**

(i) EMD has been deposited in the form of -

(ii) DD/BG of Rs. 80,000/- from Bank (Name of Bank) DD No. / BG No.-

**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 & DD/BG shall be opened on the due date and time, as notified in the Notice Inviting Tenders. The requirement for **EMD & DD/BG** 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.

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.

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33. POOL RATES

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

34. 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.

35. 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.

36. 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

* * *

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

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 MPPKVVCL, 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) do (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 (Permanent Security Deposit) : Facility to deposit permanent Security Deposit shall be available to vendors, only if so mention and permitted in **Section II – Special Terms and Conditions of Purchase**. Additionally, following terms and conditions shall apply in respect of Permanent SD.

- (a) The outside-the-state firms can furnish permanent security deposit of Rs. Five Lac (In the form of Demand Draft) with the Discom-WZ. Upon submission and acceptance of permanent SD, such vendors would be exempted from submission of security deposit against individual orders, subject to approval.
- (b) The State SSI units can also furnish the permanent security deposit of Rs. 3 Lacs (In the form of Demand Draft) with the Discom-WZ. Upon submission and acceptance of permanent SD, such vendors would be exempted from submission of security deposit against individual orders, subject to approval.
- (c) The facility of permanent security deposit shall be extended to only such suppliers who have had business with the M. P. Electricity Board or MPPKVVCL Indore for more than 3 years and where supplier's performance has been found good.
- (d) The validity of permanent security deposit, as and when given to any supplier, shall be initially for a period of 1 or 2 years only as the case may be, and its revalidation will be done after reviewing the performance of the supplier.

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(C) ALTERNATE III (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 or II 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.
- (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. This shall not be applicable in case of permanent security deposit.
- (vi) No interest shall be paid by the Company on security deposit furnished by the manufacturer / suppliers.

18. EXTENSION ORDER

- (i) The extension order can be placed for any addition quantity to the extent of **50 %** quantity of the original order within six months from the date of placement of order on same rates terms & conditions of 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

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(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)**, notarised photo copies of appropriate **Type Test Certificates** would have to be furnished by the bidders, otherwise their offers shall be liable to 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.
- (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.

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- (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
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

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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) MPPKVCL,
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
List banks other than nationalised banks, which are approved to furnish Bank Guarantee			
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 Manufacturer	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	Security Deposit. Please indicate details of Security Deposit , as would be applicable to the bidder.	(Please refer to Section V General Conditions & section-II special terms and condition of Purchase for details, and fill in the response accordingly)
a)	Normal SD @ 10 % shall be deposited, OR	
b)	Permanent SD has been deposited (please attach proof), OR	
c)	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 “registered dealers situated within the state of MP” or you shall raise invoice as a registered dealer of any other state?</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 “registered dealers situated within the state of MP” please indicate whether the transaction would be of “Sale in Transit nature (viz E1-C Transaction etc.)” 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 “<u>Sale in Transit nature (viz E1- C etc.)</u>”.</p> <p>Or</p> <p>Transaction would NOT be in the nature of <u>Sale in Transit.</u></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 VI: Check List
(TO BE KEPT IN THE ENVELOPE PART-II, “COMMERCIAL/TECHNICAL BID”)

Check List Item	Options	Answer
Technical Information		
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	
Financial Information		
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	
Documentation		
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	
Schedule I: 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 “ Part III Price Bid ”, 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 “ Part-I Earnest Money Deposit ”, Name of Work, TS number, Bidder name and Date of opening	Yes/No	
Whether all the information mentioned in Schedule III is filled and duly signed and stamped with the legally authorised signatory	Yes/No	
Whether all the information related to Past Experience (Schedule IV) is filled and duly signed and stamped with the legally signatory authority	Yes/No	
Whether all the information related to Technical & Commercial Deviations (Schedule V) 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 “ Part-II Commercial & Technical Bid ”, Name of Work, TS number, Bidder name and Date of opening	Yes/No	
Seal the envelop after keeping complete “ Commercial and Technical Bid Document ” along with the “ Check List ”	Yes/No	
All the three envelops carrying Part-I Earnest Money Deposit, Part-II Commercial & Technical Bid and Part-III Price Bid shall be kept in one sealed envelop 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 work and bidder. Details of Earnest Money Deposit, and due date of opening.	Yes/No	
Whether Certification of Agreement with the MPPKVCL, Indore’s Payment Terms, Penalty and Security Deposit Clauses as per the format mention in the document is pasted on the main envelop	Yes/No	
Whether DD / BG of Rs. 80,000/- submitted against testing charges	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.
1	Duly Signed Complete Tender Document in Vol I & II (except ‘Schedule I- Price Bid, which is to be kept separately in Part III - price bid envelop)	As printed
2	Documents/ Certificates/ Reports	XXXX
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 __
3	Annexure if any, to Schedule II (Guaranteed Technical Particulars)	__ to __
4	Annexure to Schedule III (General, Commercial, Technical Information)	XXXX
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 __
5	Annexure to Schedule IV (Past Experience)	XXXX
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 __
6	Annexure if any, to Schedule V (Technical / Commercial Deviations)	__ to __
7	DD/BG of Rs. 80,000/- against testing charges of meter	__ to __

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

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Schedule VIII: PROFORMA OF BANK GUARANTEE AGAINST TESTING CHARGES OF METER

(To be stamped in accordance with Stamp Act)

The non-judicial stamp paper should be in the name of issuing Bank

Ref.

Bank Guarantee No.

Date

To

-----,
-----,
-----,
-----,

Dear Sirs,

In accordance with Invitation to Bid under your Specification No..... M/s having its Registered/Head Office at(hereinafter called the ‘Bidder’) wish to participate in the said Bid or.....and you, as a special favour have agreed to accept an irrevocable and unconditional Bank Guarantee for an amount of Rs. 80,000/- valid uptoon behalf of Bidder in lieu of guarantee against testing charges for meter required to be made by the Bidder, as a condition precedent for participation in the said Bid.

We, the Bank at.....(local address) having our Head Office at..... guarantee and undertake to pay immediately on demand by _____ the amount of

.....

(in words & figures)

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without any reservation, protest, demur and recourse. Any such demand made by said 'Employer' shall be conclusive and binding on us irrespective of any dispute or difference raised by the Bidder.

This Guarantee shall be irrevocable and shall remain valid upto 1 year. If any further extension of this guarantee is required, the same shall be extended to such required period (not exceeding one year) on receiving instructions from M/son whose behalf this guarantee is issued.

In witness whereof the Bank, through its authorised officer, has set its hand and stamp on this.....day of20.....at.....

WITNESS

..... (Signature) (Signature)

..... (Name) (Name)

..... (Official Address) (Designation with Bank Stamp)

Attorney as per
Power of Attorney No.
Dated.....