

Tender Details		07-11-2022 03:10:42
Tender Code	MMD/T-NSC-09/1122	
Tender Type	Procurement Tender	
Type Of Bid	Two Bid	
Description	LTAC Three Phase DLMS Compliant 10-40 A Static Energy Meter (without HHT)	
Estimated Cost (In Lakhs)	4670	
Basis of prices	Firm Price Basis	
Tender Validity	120	
Delivery Requirement (In Months)	4	
Tender on rate contract basis	NO	
Tender Fee (In INR)	25000	
GST In INR (@18% on Tender Fee: SAC No.	4500	
Total Tender Fee Amount including GST in INR.	29500	
Contact	Mr Girish Gaikwad , 7506990821 ,cemmcsedcl@gmail.com	
Pre-Qualifying Req	As per QR Clause	
Budget Type	Capex	
Scheme Code	Capital	
Scheme Name	Capital	
Department	Material Management Cell	
Office Type	HO	
Location Type	Corporate Office	
Designation	Executive Engineer(Distribution)	
Pre-Bid Meeting Address	Online (Google Meet)	
Bid Opening Address	Office of Chief Engineer [MMD] Maharashtra State Electricity Distribution Co. Ltd. Material Management Department, Plot No. G-9, "Prakashgad" First floor, Prof. A.K. Marg, Bandra (E), Mumbai – 400 051	
Version No	1	
Call for Deviation	YES	
Is Annexure C1 Applicable	YES	
Is Manufacturer Applicable	YES	
Is Trader Applicable	NO	
Minimum % of Offered Quantity	20	
Is Power Supplier Applicable	NO	
Tender Sale Start Date	07-11-2022 17:00	
Tender Sale End Date	28-11-2022 12:00	
Bid Start Date	07-11-2022 17:05	
Bid End Date	28-11-2022 15:00	
Pre-Bid Meeting Date	15-11-2022 17:00	
Techno-Commercial Bid opening on	28-11-2022 15:30	

Price Bid opening on	Will be declared later
Annexure C1 Opening Date	Will be declared later
Winner Selection Date	Will be declared later
Can Bidder Opt EMD Exemption	Y



MATERIAL MANAGEMENT DEPARTMENT
 MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.
 Tender No. MMD/T-NSC-09/1122

BID NOTICE

The Chief Engineer, Material Management Department (MMD), on behalf of Maharashtra State Electricity Distribution Company Limited (the Purchaser), hereby invites sealed bids from eligible bidders for procurement of LTAC Three Phase, four wire DLMS Compliant 10 - 40 Amps static energy meter (without HHT). Entire bidding document is available online on <https://etender.mahadiscom.in/eatApp/> as per date indicated below. Any changes in the Bid Schedule, corrigendum etc. shall also be notified via MSEDCL's website. Prospective bidders are therefore requested to regularly check the website for any updates.

Tender No. MMD/T-NSC-09/1122

Estimated Tender Cost: Rs. 46.70 Crores

Tender Fee: Rs. 25,000.00 + 18% GST

The bidder should submit non-refundable Bid Fee of Rs. 25,000.00 + 18% GST paid through online payment only, prior to the dead line for submission of bids as per the procedure led by the MSEDCL.

Earnest Money Deposit: The bid must be accompanied with EMD @ 0.50% (Half Percent) value of the offered quantity of the tender in the form of BG as per the Annexure-M enclosed with tender documents having validity of 120 days from opening of tender. Interest shall not be allowed on EMD.

The scanned copy of the online payment receipt / Demand Drafts / BG should be uploaded (in e-tendering) and the Demand Drafts should be submitted to this office on or before submission date and time.

Calendar of Events Event	Date and Time
Begin Sale of Bid Document	07.11.2022
Date and time of submission of Bids	28.11.2022 at 15:00 hrs.
Date and time of Bid Opening	28.11.2022 at 15:30 hrs.

THE CHIEF ENGINEER
Maharashtra State Electricity Distribution Co. Ltd.
Material Management Department,
Plot No. G-9, "Prakashgad" First floor, Prof. A.K. Marg,
Bandra (E), Mumbai - 400 051.
E-mail- cemmcmsedcl@gmail.com

MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD.

TENDER FOR

**Procurement of LTAC Three Phase, Four Wire
DLMS Compliant 10-40 A Static Energy Meter
(without HHT)**

Tender No: **MMD/T-NSC-09/1122**



**OFFICE OF THE CHIEF ENGINEER,
Maharashtra State Electricity Distribution Co. Ltd.
Material Management Department,
Plot No. G-9, "Prakashgad" First floor, Prof. A.K. Marg,
Bandra (E), Mumbai - 400 051.
E-mail- cemmcmsedcl@gmail.com**

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INDEX

SR. NO.	CLAUSE NO.	DESCRIPTION	PAGE NO.
1	-	BID NOTICE	1
2	-	SECTION I: INSTRUCTION TO TENDERERS	6
3	I	SCOPE OF WORK	7
4	II	QUALIFYING REQUIREMENTS	7-9
5	III	PRICES	9
6	IV	TAXES	9-10
7	V	BASIS OF PRICES	10
8	VI	SAMPLE SUBMISSION	10
9	VII	DELIVERY	10-11
10	VIII	OFFERING THE MATERIAL	11
11	IX	CONFLICT OF INTEREST	12
12	X	QUOTATION	12
13	XI	AMBIGUITY IN QUOTATION	12
14	XII	FILLING IN OF ANNEXURE	12
15	XIII	ADDITIONS/ALTERATIONS PROHIBITED	12
16	XIV	BIS LICENSE AND BEE CERTIFICATE	12-13
17	XV	MANDATORY REQUIREMENT OF SUBMISSION OF OFFER	13
18	XVI	SUBMISSION OF DRAWING & BILL OF MATERIAL	13-14
19	XVII	NAME OF AUTHORIZED REPRESENTATIVE	14
20	XVIII (A)	OFFER OF MICRO & SMALL ENTERPRISES AND OTHER UNITS	14-15
21	XVIII (B)	PREFERENCE TO INDUSTRIAL UNITS LOCATED IN MAHARASHTRA AND OFFERS BY MATCHING RATES WITH LOWEST ACCEPTABLE BIDDER	15-16
22	XIX	EARNEST MONEY DEPOSIT (EMD)	16-17
23	XX	SIGNING OF THE TENDER DOCUMENTS	17
24	XXI	SUBMISSION / SUPERSCRIBING OF THE TENDER DOCUMENTS	17-18
25	XXII	TIMELY SUBMISSION OF OFFER	18
26	XXIII	PURCHASER'S RIGHT	18
27	XXIV	DISREGARD OF TENDER CONDITIONS	18
28	XXV	PROHIBITION FOR POST TENDER CORRESPONDENCE	18
29	XXVI	RIGHT TO ORDER OUT QUANTITY IN VARIANCE TO OFFERED QUANTITY	19
30	XXVII	ACCEPTANCE OF TENDER	19
31	XXVIII	NOTIFICATION OF AWARD	19
32	XXIX	EARNEST MONEY OF UNSUCCESSFUL BIDDER	19

SR. NO.	CLAUSE NO.	DESCRIPTION	PAGE No
33	XXX	VALIDITY OF OFFERS	19
34	XXXI	DECLARATION FROM BIDDER	19
35	XXXII	CORRUPT OR FRAUDULENT PRACTICES	19
36	XXXIII	INFLUENCE	19
37	XXXIV	TENDER FEES EXEMPTION	20
38	XXXV	PRE-BID MEETING	20
39	XXXVI	CLARIFICATION ON DEVIATIONS	20
40	-	CERTIFICATE	20
41	-	Section II: CONDITIONS OF TENDER AND SUPPLY	21
42	1	EFFECT OF CONTRACT	21
43	2	QUALITY OF SUPPLIES	21
44	3	MATERIAL AND COMPONENTS	21
45	4A	ACCEPTANCE OF SUPPLIES/INSPECTION	22-24
46	4B	RANDOM SAMPLE TESTING	24
47	5	RIGHT TO CARRY OUT INSPECTION DURING MANUFACTURING	24
48	6	RIGHT TO REVISE DESPATCH INSTRUCTIONS, DELIVERY SCHEDULE AND TO DEFER SUPPLIES	24
49	7	WAGAN LOADS/TRUCK LOADS	25
50	8	ROAD TRANSPORT	25
51	9	DESPATCH INTIMATION	25
52	10	BILL OF MATERIALS	25
53	11	PACKING LIST	25
54	12	REPLACEMENT OF GOODS LOST, BROKEN OR DAMAGED	25-26
55	13	REPLACEMENT OF REJECTED MATERIALS	26
56	14	MATERIAL DESPATCHED AND PROGRAMME	26-27
57	15	MATERIAL RECEIPT & SUBMISSION OF BILLS AT CONSIGNEE	27
58	16	PAYMENT OF BILLS	27-28
59	17	TAXES	29
60	18	DEDUCTION	29
61	19	GUARANTEE	29-30
62	20	LIFTING OF REJECTED/DAMAGED MATERIALS FROM STORES	30
63	21	LIQUIDATED DAMAGES FOR LATE DELIVERY	30-31
64	22	ORDER PLACED ON TIME PREFERENCE BASIS (WHEREVER APPLICABLE)	31
65	23	FORCE MAJEURE CLAUSE	31

SR. NO.	CLAUSE NO.	DESCRIPTION	PAGE No
66	24	ACCEPTANCE OF LOWER FORD RATE OFFERED IN SUBSEQUENT TENDER	32
67	25	PERFORMANCE OF CONTRACT:	32
68	26	CONTRACT PERFORMANCE DEPOSIT	32
69	27	POWER OF ATTORNEY:	32-33
70	28	SETTLEMENT OF DISPUTE	33
71	29	JURISDICTION:	33
72	30	TERMINATION OF CONTRACT	33
73	31	DEBAR OF MANUFACTURER FROM PARTICIPATION IN FUTURE TENDERS OF MSEDCL	33-34
74	32	TAX DEDUCTED AT SOURCE	34
75		ADDITIONAL TERMS & CONDITIONS FOR FOREIGN BIDDERS / MANUFACTURERS	34-35
76	-	ANNEXURE B- PRICE SCHEDULE	36
77	-	<u>ANNEXURE C-1 : MATCHING RATE</u>	37
78	-	<u>ANNEXURE – D : TECHNICAL SPECIFICATION</u>	38
79		ANNEXURE – E : CONSENT FOR SUPPLYING THE MATERIAL AS PER MSEDCL STANDARD TECHNICAL SPECIFICATIONS	39
80		ANNEXURE – F-1 : UNDERTAKING TO BE SUBMITTED BY THE PARENT COMPANY SITUATED ABROAD IN CASE OF THE PARTICIPANT BIDDER WHO IS AN INDIAN BASED SUBSIDIARY	40
81	-	ANNEXURE – F-2 : FORM OF AUTHORISED NOMINEE/ASSIGNEE	41
82		ANNEXURE – G : UNDERTAKING CUM INDEMNITY BOND FOR POLYCARBONATE ENCLOSURES	42
83	-	ANNEXURE – H : GUARANTEED TECHNICAL PARTICULAR	43
84		ANNEXURE – I: DECLARATION FORMAT.	44
85	-	ANNEXURE – J : DISPATCH INSTRUCTIONS	45
86	-	ANNEXURE – K : LIST OF STORES	46
87	-	ANNEXURE – M : BANK GUARANTEE FORMAT FOR EMD	47
88	-	ANNEXURE – N : BANK GUARANTEE FORMAT FOR CONTRACT PERFORMANCE DEPOSIT	48-49
89	-	SCHEDULE- C	50
90	-	INSPECTION CALL FORMAT	51

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SECTION-I

INVITATION TO TENDER AND INSTRUCTION TO BIDDERS

TENDER FORM (NOT TRANSFERABLE)

(TO BE SUBMITTED ONLINE DULY FILLED IN AND DIGITALLY SIGNED)

To be submitted online not later than the date mentioned in the tender details. For participating in tender opening, the bidder can login at the specified time and date of opening of the tender, if he desires so.

The bidder is requested to quote his lowest rates F.O.R. destination for the supply of materials. The material is required at various places in the State of Maharashtra. The tender documents duly filled-in and digitally signed, are to be submitted online before due time & date of the submission of tender in prescribed form.

The modifications made to the terms & conditions shall applicable to this tender only.

FOR CHIEF ENGINEER (M.M.DEPARTMENT)

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INSTRUCTIONS TO THE BIDDERS

I SCOPE OF WORK:

The scope of work under this tender is for design, engineering (wherever applicable), manufacture, inspection & testing before dispatch, packing and supply of LTAC Three Phase, four wire DLMS Compliant 10 - 40 Amps static energy meter (without HHT) as specified in Annexure-D / Technical Specifications, at various destination sites / stores Centres of the Purchaser in Maharashtra.

The quantity for procurement is 2,50,000 Nos.

The Actual Quantity of meters that will be procured may vary depending upon the site requirement. The Quantity mentioned as above against various capacities can undergo change. However, the Minimum Assured Quantity for procurement shall be 50% of the total tendered quantity as mentioned above.

The list of various destination sites / stores Centres of the Purchaser is enclosed as Annexure K.

II QUALIFYING REQUIREMENTS :

1. The offers of only original manufacturers of L.T.A.C. Static Energy Meters shall be accepted against the Tender.
2. The following requirement shall be fulfilled by the bidders/manufacturers
 - a) The turnover in any one of the last three financial years shall be 60% of estimated cost of the tender or Rs. 100 Cr. whichever is higher. For evaluation of offers the turnover during any consecutive three of following F.Y. may be considered :
2018-19, 2019-20, 2020-21, 2021-22
 - b) The bidder/manufacturer shall have supplied minimum 12.5 Lakhs static meters during the last three financial years.
 - c) The bidder/manufacturer shall have minimum experience of three years of supply or manufacturing for static energy meters upto the end of the last financial year.
3. The offers of Indian subsidiary company, whose parent company is located abroad fulfilling the qualifying requirements, shall be considered provided the Indian participant subsidiary company fulfils the minimum experience of three years of supply or manufacturing of static energy meters up to the end of the last financial year. Further, the conditions of turnover (i.e. Rs. 100.00 Crores or 60% of estimated cost of tender whichever is higher) during any one of the last three financial years and supply of minimum quantity of 12.50 Lakhs static energy meter during last three financial years can be fulfilled by the parent company located in abroad on behalf of their Indian subsidiary company. The parent company shall furnish undertaking for accepting responsibility for supplying quality meter as per specifications and execution of the contract on behalf of its India based subsidiary unit who has participated in the tender in Annexure F-1.
4. In case of offers of Foreign bidders / manufacturers, they shall fulfill Qualifying Requirement as per Sr. No. II [1] and II [2] above.
5. The offer from any one of Indian manufacturing companies which are sister companies of the same group and with the same management having majority of

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common Directors and shareholders shall be considered provided they are jointly fulfilling the Qualifying Requirements as per Sr. No.II [1] and II [2] above.

6. Bidder must possess the following certifications at the time of submission of the bid.
 - a) The meter shall bear ISI mark
 - b) ISO 9000.
 - c) ISO 14000.
7. The participating firm has to submit valid NABL accreditation Certification that they have in house National Accreditation Board for Testing and Calibration Laboratories (NABL) Lab for testing of Energy Meters.
8. The participating firms have to submit Capability Maturity Model Integration (CMMI Level – III) certificate along with offer.
9. The participating firms have to submit R & D certification from Department of Science and Industrial Research (DSIR) along with offer. However, those firms which are not having R & D certification but have applied for R&D Certification to Department of Science and Industrial Research (DSIR), they shall submit this certificate before opening of Commercial Bid (Price Bid) of subject tender. Non submission of DSIR Certification before opening of Commercial Bid (Price Bid) from bidders, their offer shall not be considered for further evaluation.
10. Following Documents should be submitted by the bidder along with the bid.
 - BIS License certification.
 - The quantity offered for the supply of Three Phase Meters (without HHT) in the prescribed format as per schedule 'C'.
 - Documentary evidence showing annual turnover of last 3 years, certified by Chartered Accountant for preceding three financial years.
 - Copies of orders executed by the bidder, and the Certificate from the purchaser with regards to successful execution of the order for preceding three financial years.
 - List of orders in hand.
 - Documentary evidence (for e.g. SSI/NSIC Certificate) for manufacturing capacity to cover the quantity offered by the bidder and considering orders in hand.
 - List of in house manufacturing and testing facilities as well as quality control set up.
 - Certificate from Chartered Accountant for not having controlling stake in more than one entity as per clause no VII.
 - Type test certificates from NABL accredited lab such as CPRI/ERDA valid for a period of five years.
 - The bidder has to submit Undertaking cum Indemnity Bond as per Annexure-G.

FOR FOREIGN BIDDERS / MANUFACTURERS :

In case of foreign bidders/manufacturers, they shall fulfill Qualifying Criteria as per Clause II[1] and II[2] of technical specification.

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III PRICES :

- (i) Prices are acceptable only on F.O.R. destination basis inclusive of Goods and Service Tax (GST for brevity) i.e. Integrated GST (IGST) for outside State / Central GST+ State GST (CGST+SGST) for within State, risk in transit, freight showing the break-up as desired in the Annexure 'B'. It shall be noted that quotations not conforming to F.O.R. destination basis inclusive of IGST/(CGST+SGST) etc. and to the unit as specified in Annexure 'B', shall be rejected even though the bidder's offer may be lowest. The bidder shall quote Ex-Works Price and element of freight and insurance along with applicable rate of IGST/(CGST+SGST). The F.O.R. destination price i.e. up to site or the Store Centre of the purchaser as the case may be inclusive of IGST/(CGST+SGST), risk in transit and freight will be programmatically calculated. While raising the invoices, however, IGST/(CGST+SGST) should be shown separately in the invoice raised.
- (ii) For each of the items quoted, bidder shall specify offered quantity. However, the offered quantity shall not be less than 20% of the advertised quantity (Advertised quantity means the quantity required as indicated in Annexure 'B' / Price Bid) so as to deliver the said quantity within the delivery requirement of the Purchaser as indicated in the tender documents.

IV TAXES:

- (i) The Purchaser shall be registered under Goods and Service Tax Act and should comply with all the statutory compliance requirements of GST Law diligently.
- (ii) It is imperative for the bidder to indicate the amount of IGST/(CGST+SGST) included in their price while giving the break-up of F.O.R. destination price in Annexure 'B', failing which, the offer will be treated as ambiguous and will be rejected as per the provisions of clause X of tender form.
- (iii) After awarding the contract, the supplier shall not charge any additional amount towards GST; during the currency of contract except statutory variation by Central / State Government in normal (full) rate of integrated GST. In case the GST is decreased than the rate indicated in the price bid, the benefits of the reduction in the GST shall be passed on to the purchaser. The increase in the GST rate due to increase in turnover during the contractual delivery period shall not be charged to the purchaser.
- (iv) Necessary documentary evidence for the GST claimed shall be submitted along with the bills.

V BASIS OF PRICES:

The bidder shall quote the prices on firm price basis, as has been specifically brought out in the Tender Details. For any deviation in this regard, the offer shall be summarily rejected.

VI SAMPLE SUBMISSION:

For testing of tender sample meters at any one NABL Lab and Testing Division MSEDCL, tenderer are required to submit 5 (Five) nos. of sample meters out of which one is without ultrasonic welding and 3 (Three) No. of meter enclosures as per technical specifications in the office of the Chief Engineer, MSEDCL, Material

Management Dept., 1st Floor, Prakashgad, Bandra (E), Mumbai – 400051 on or before the time & date stipulated for submission of offer

Tender sample of HHU is not required to be submitted.

The Cl. No. 25 of technical specification stands modified to this extent and other stipulations of Cl. No. 25 of technical specification will remain unchanged.

Packing of tender samples:

“Sample meters shall be suitably packed in order to avoid damage during transit or handling. In case, the sample meters found damaged, it shall be the bidder’s sole responsibility. Therefore, bidders should ensure that the meters packed are intact.”

VII DELIVERY:

- (i) The scheduled delivery period is 4 months from the letter of award.
- (ii) Bidder is requested to quote delivery F.O.R. DESTINATION only & only in the unit of the item specified in Annexure ‘B’ i.e. if the quantity is in sets or in tones or in numbers or in kilometers or in coils, the rate of delivery shall only be in the same unit.
- (iii) It is mandatory on the part of the tenderer to quote the delivery on monthly basis. If the offered delivery is indicated on quarterly basis, then the delivery would be counted proportionately in three equal installments per month for liabilities of the contract including payment of price variation and levy of liquidated damages.
- (iv) Size mix for the purpose of delivery, when delivery is quoted in assorted items, shall be determined by the Purchaser while issuing the A/T or dispatch instructions and will be binding on the bidder. The Purchaser will also have the liberty of modifying the size mix for the purpose of delivery, even after the A/T is issued.
- (v) Offer shall be rejected if the equated monthly delivery schedule and rate of delivery per month is not indicated.
- (vi) The delivery period to be submitted by the bidder for the offered quantity shall be in equated monthly lots from the date of LoA.
- (vii) Bidder to submit the equated monthly lot schedule in format as per below clause (x)
- (viii) MSEDCL may issue dispatch instructions as per requirement. The quantity demanded per consignee could be less than or equal to monthly lot specified in contract. Wherever as per demands, the quantity to be supplied to a consignee in a particular month is less than monthly lot quantity; the said quantity will be treated as lot quantity for the purpose of delivery and payment.
- (ix) MSEDCL may instruct the supplier to withhold entire or part of monthly supply of material for a specified period by giving two months advance instruction.
- (x) Time being the essence of contract, the supplier shall strictly maintain monthly delivery schedule.

Material description	Offered qty.	1 st month qty.	n th month qty.

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The bidder is advised to get their type tests & drawing approval immediately after placement of LoA so that the material is received by the purchaser well within the committed delivery period. If there is any delay in delivery of material as per schedule, the undelivered quantity as per schedule can be diverted to other good performing bidder.

POOR PERFORMANCE :

If the participating firm/ supplier delays the supply beyond 3 (three) months of their schedule for immediate earlier two consecutive orders for the similar item then, although the liquidated damages for delayed supply are applicable as per tender condition, the firm may not be considered for placement of order against the subject tender.

For three phase meter tender, performance in delivery of earlier three phase meter orders will be consider.

VIII OFFERING THE MATERIAL:

- (A) The bidder may offer the material as per MSEDCL standard technical specifications as per Annexure-D. In case the material is being offered as per MSEDCL Standard Technical Specifications, the bidder does not have to fill the entire guaranteed technical particular (GTP). The bidder shall only submit the consent in this regard as given in Annexure-E and submit the type test reports & drawings for approval of MSEDCL. However; the bidders, who do not want to offer the material as per MSEDCL Standard Technical Specifications and have deviations in lieu of Indian Standards, will have to fill the entire GTP.
- (B) The person / entity should not have controlling stake in more than one entity applied for the tender / bid. **Necessary certificate duly certified by Chartered Accountant to this effect shall be submitted along with the tender documents.**
- (C) Factory address, from which the bidder intends to supply the material against the tender, shall be as indicated in the latest approved on line vendor registration form on e-tendering through which the vendor is submitting the offer.
- (D) The bidder shall offer the rates, taxes as applicable for the factory location indicated in his latest approved on line vendor registration form on e-tendering through which he is submitting his offer.
- (E) If the bidder intends to supply the materials from approved multiple factory locations in addition to the factory from which the bidder has submitted the offer; the bidder has to indicate the location and quantity offered from each location in the format "A"
The F.O.R.D. rate shall remain same for all the multiple locations. The bidder shall indemnify MSEDCL for any consequences arising due to supply from approved multiple locations.

Sr. No.	Name of approved factory location	Address of factory location	Quantity offered
(1)			
(2)			

Further, I/we hereby indemnify MSEDCL for any consequences arising due to supply of offered material from approved multiple locations.

Seal & signature of bidder

IX CONFLICT OF INTEREST

A bidder may be considered to have a conflict of interest with one or more parties in a bidding process if they:

- (a) Have controlling shareholders in common; or
- (b) Receive or have received any direct or indirect subsidy from any of them; or
- (c) Have the same legal representative for purposes of a bid; or
- (d) Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on a bid of another bidder, or influence the decisions of the purchaser regarding the bidding process.

Bidders found to be in conflict of interest, shall be disqualified.

X QUOTATION:

- (i) Bidder shall quote his rate per unit specified in Annexure 'B' / Price Bid in figures.
- (ii) Bidder's printed terms and conditions will not be considered as forming part of the tender.

XI AMBIGUITY IN QUOTATION:

The bidder is requested to please make a note that in case of ambiguous terms in respect of offered quantity in Annexure- B and schedule 'C', F.O.R. condition, GST, basis of price (i.e. firm / variable) or if the blanks are left out in the offer, the item / tender shall be rejected.

XII FILLING IN OF ANNEXURE:

The bidder is requested to ensure that the comments against each and every item / clause of Annexure shall be clearly filled in and answered. Any item/clause shall not be left blank or unanswered. If any item /clause is not applicable, the "Not Applicable (N.A.)" checkbox shall be selected.

XIII ADDITIONS/ALTERATIONS PROHIBITED:

The bidder shall not make any additions, alterations or changes in the Tender Form and the Conditions of Tender & Supply (Annexure 'A') including the description of material mentioned in Annexure 'B'. They should quote rate for the material described or click the checkbox 'Not quoted' against each of the item in Annexure 'B' / Price Bid.

XIV B.I.S. LICENCE CERTIFICATE :

A scanned copy of valid BIS License (full Copy) certifications for offered items ratings duly sealed & signed must be uploaded and submitted along with offer, failing which, the offer shall be rejected.

In case the validity of the BIS license is expiring before date of submission of tender, necessary documentary proof of having applied for renewal of validity of the BIS license must be uploaded while submitting the bid. The renewed copy of the BIS License shall be submitted before commencement of supply.

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However, valid BIS license scan copy of offered material must be submitted by the qualifying bidders before commencement of supply, failing which their order will be cancelled with financial liability on supplier.

XV MANDATORY REQUIREMENT OF SUBMISSION OF OFFER:

The offer shall be submitted online duly filled in; attaching all the required documents, completed in all respects and should be digitally signed.

XVI SUBMISSION OF DRAWING & BILL OF MATERIAL: (wherever applicable)

The bidder shall submit the drawings and bill of material conforming to the tender specification wherever applicable. In such cases, the offer without the drawings and bill of material shall not be evaluated and considered. The drawings and bill of material submitted along with the bid shall not be considered for evaluation of the offer but the drawings and bill of material of the successful bidder shall be scrutinized when the Purchaser decides to accept such bid. It may, however, be noted that Purchaser's action of evaluation of the tendered bid would not mean approval of the drawings and bill of material submitted along with the tender bid.

The bidder shall depute his authorized representative for discussion on the drawings, either immediately on hearing from the Purchaser or after receipt of Letter of Award. The formalities like submission of drawings, bill of material etc. and getting the same approved by the Purchaser shall be completed by the successful bidder within TEN DAYS from the date of Letter of Award of the contract. The approval to drawings complete in all respects mentioned in technical specifications (Annexure-D) will be accorded within SEVEN working days thereafter. Any delay in this regard shall lead to cancellation of the Letter of Award at the risk and cost of the bidder. The supplies against the contract shall conform to the approved detailed drawings / bill of material and the detailed technical specifications.

XVII NAME OF AUTHORIZED REPRESENTATIVE:

The digital certificate shall be in the name of person authorized by the firm. In case, the digital certificate is compromised or the person holding the digital certificate is no longer authorized to digitally sign the tender, it is the responsibility of the bidder to revoke this certificate and obtain the fresh certificate. While submitting the bids online only valid digital certificate shall be used. The vendors are requested to check the validity of digital signature and prior to the expiry date & they are requested to get their Digital signature key validated before expiry of the same. MSEDCL shall not be responsible for Non-submission of any of the Bids (Techno Commercial Bid, Deviation Bid, Price Bid, Annexure - C-1) by vendors due to expired/Invalid Digital signature.

The bidder is responsible for all the contractual liabilities and responsibilities thereof.

In case the bidder authorizes the representative to deal on behalf of the bidder, the name and address of such person should be informed to the purchaser. The bidder shall submit the power of Attorney in favour of representative duly executed before the Notary. In the absence of the Power of Attorney, the purchaser shall not deal with the representative.

(A) OFFER OF MICRO and SMALL ENTERPRISES AND OTHER UNITS:

The bidder registered with Directorate of Industries of Government of Maharashtra for manufacturing the items tendered/offered and those who have attached valid certificate at the time of vendor registration shall be considered for concessions

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applicable and procurement of reserved items as per GoM G. R. dtd. 30-10-2015 amended up to date. These benefits shall be available only to those items approved during the registration process and subsequent updates in registration up to the submission of this tender.

Based on concession of Central Government's Micro and Small Enterprises office order dtd. 23-03-2012, 241 items are being kept reserved. As per above reservation of items 100 % reserved items to be purchased from Micro and Small Enterprises out of which 20 % reserved items to be purchased from S.C./S.T. enterprises. Reservation is applicable for a limited period unless and until re-examined. If Micro and Small Enterprises participated in the tender and the tendered item is not reserved, then 20 % order with L-1 rate to be given to Micro and Small Enterprises and out of this 20 %, 4 % to be given to S.C. /S.T. enterprises.

If there are any specific Government Directives such as reservation of items for units in Maharashtra, non-eligibility of preference to SSI units etc. for particular items, price and purchase preference etc. the same would be applicable irrespective of the fact that it has not been specifically incorporated in the tender notice and/or tender documents.

(B) PREFERENCE TO INDUSTRIAL UNITS LOCATED IN MAHARASHTRA AND OFFERS BY MATCHING RATES WITH LOWEST ACCEPTABLE BIDDER

The lowest acceptable rate will be the unit rate worked out without considering IGST/(CGST+SGST) as applicable and the same rate will be considered as applicable to the respective bidder who has agreed to accept order at lowest acceptable rate.

(C) Matching of Rates

The confirmation for acceptance of the order at the lowest acceptable rate shall be given in the format as per Annexure -'C-1' of the tender documents by the bidder other than L-1. The same should be submitted online on or before the due time and date of submission of Annexure- 'C-1'. The confirmation shall be opened online on due time and date of opening of Annexure-'C-1'. Schedule for submission and opening of Annexure-'C-1' shall be communicated separately by e-mail and on the website. Though confirmation in Annexure-'C-1' as above is called from all the qualified bidders, the bidders, who quoted rates within the range of 5 % in comparison with the lowest acceptable rates, shall only be considered and their Annexure `C-1' will be opened on the date and time intimated subsequently in the presence of bidders who chose to be present. Provided, however, that the Annexure 'C-1' of the bidders, who have quoted above the range of 5 % in comparison with the lowest acceptable rates, shall also be considered in case the aforesaid bidders within the range of 5 % are unable to fulfill the quantity requirement. In that case also, the date of opening of Annexure- `C-1' will be intimated to the bidders

In the above confirmation, if the bidder indicates any rate, then the confirmation given by the bidder will not be considered as valid.

Above confirmation for the quantity less than as indicated in Clause X (iii) (offered quantity shall not be less than 20 %) of Instructions to the bidder shall not be acceptable.

The prices indicated in the original offer shall not be considered as valid once offer for acceptance of order by matching rates is given. In the event of withdrawal of offer by

matching rates within the validity period, the entire offer against the tender shall become invalid and shall be summarily rejected and the earnest money paid by the bidder shall be forfeited.

The lowest acceptable tenderer would be considered for awarding order for quantity subject to his capacity and capability as under.

Trial Order: Minimum 10 % but limited up to 20 % of tendered quantity.

Wherein

Trial order means the firm who have not supplied tender item to any Government / Semi-Government Electricity Dist. Utility / SEB or MSEDCL during preceding five years.

(D) Quantity Allocation:

- 1) If L-1 bidder is within Maharashtra State and if total tender quantity for quoted item is offered by L-1 then 100 % quantity will be awarded to L-1 bidder for quoted item.
- 2) If L-1 bidder is within Maharashtra State and offered quantity is less than the tender quantity for quoted item then,
 - a) Quantity allotted to L-1 bidder will be equal to quantity offered by him.
 - b) Balance quantity after allotment as (a) above, will be distributed among Maharashtra State bidders as per their price ranking (if ready to match with L-1 rate) subject to maximum 50 % of total tender quantity for quoted item to Maharashtra State bidders including L-1 bidder.
 - c) Any balance quantity after allotment as (a) & (b) above, will be distributed as per their price ranking (if ready to match with L-1 rate) irrespective of bidder is Maharashtra or out of Maharashtra state bidder including partial allotment if any to Maharashtra bidder in (b) above.
- 3) If L-1 bidder is outside Maharashtra State then,
 - a) If the L-1 bidder offered more than 50 % of tendered quantity for quoted item then maximum of 50 % of tender quantity for quoted item will be allotted to L-1 bidder.
 - b) If the L-1 bidder offered less than 50 % of tendered quantity for quoted item then quantity equal to offered quantity for quoted item will be allotted to L-1 bidder.
 - c) Balance quantity after allotment as (a) or (b) above, will be distributed among Maharashtra State bidders as per their price ranking for maximum 50 % of required quantity. (if ready to match with L-1 rate).
 - d) Any balance quantity after allotment as (a) ,(b) & (c) above, will be distributed as per their price ranking (if ready to match with L-1 rate) irrespective of bidder is Maharashtra or out of Maharashtra state bidder including partial allotment if any.
 - e) If all bidders including L-1 bidder are from outside Maharashtra state and if the offered quantity of L-1 bidder is 100 % then entire quantity will be allotted to L-1 bidder. If quantity offered by L-1 bidder is less than 100 %, then after

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 allotting to L-1 bidder balance quantity will be allocated to remaining bidder who matched the L-1 rates as per price ranking & quantity quoted.

f) In spite of above the quantity allocation will be at the sole discretion of MSEDCL.

4) If new suppliers are allowed then maximum 20% of tender quantity will be allotted for new supplier as per their price ranking.

XVIII EARNEST MONEY DEPOSIT (EMD):

The bidder should pay the Earnest Money @ 0.50% (Half Percent) value of the offered quantity of Tender in the form of BG as per the Annexure-M enclosed with tender documents having validity of 120 days from opening of tender. Interest shall not be allowed on EMD. EMD shall be forfeited (i) in case the bidder withdraws the tender / offer during the validity period (ii) in case the bidder fails to pay the performance deposit if the contract is awarded.

However, bidders from the following categories are exempted from payment of earnest money deposit.

- 1) All Government and semi Government institutions under Govt. of Maharashtra and Zilla Parishad in Maharashtra and fully owned undertaking of any State Govt. and Govt. of India only for the items manufactured by such institutions.
- 2) Micro and Small Enterprises registered under Micro, Small and Medium Enterprises Development Act-2006 only for the items mentioned in their permanent registration certificate at the time of vendor registration.
- 3) The bidder registered with N.S.I.C. and those who have attached valid N.S.I.C. Registration Certificate for the items mentioned in their permanent registration certificate at the time of vendor registration.

The benefits mentioned in (1) to (3) above shall be available only to those items approved during the registration process and subsequent updates in registration up to the date of submission of this tender.

Exempted bidders should upload a latest valid certificate issued by any approved body of 'Ministry of Small & Medium Enterprises' (MSME) such as 'National Small Industries Corporation' (NSIC) or 'District Industries Centre' (DIC) for EMD exemption.

XIX SIGNING OF THE TENDER DOCUMENTS:

Offer shall be submitted along with the tender documents and duly filled in with all Sections / Annexures / Appendixes / Schedules etc. The offer shall be signed with valid digital signature.

XX SUBMISSION / SUPERSCRIBING OF THE TENDER DOCUMENTS:

The offer is to be submitted as follows.

(a) Online Submission:

- (i) Techno-Commercial Bid (Part-I): This part shall contain all technical and commercial aspects of the bid and documents supporting the same except the Price Bid.

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The bidder is requested to please make a note that in case of the Price Bid (Part-II) is submitted instead of Techno-Commercial Bid in Part-I or submitted Price Bid (Part-II) along with Techno-Commercial Bid in Part-I, the offer shall be rejected.

(ii) Price Bid (Part-II)

This part shall contain only the Price Bid strictly in the prescribed format, i.e. Annexure 'B'.

(b) Offline Submission:

Physical submission of documents (Part-III)

Envelope for this part shall contain documents like Type Test Reports, Drawings, Bill of Material, Catalogues etc. wherever applicable as per technical specification and they shall be scanned and these scanned documents to be taken into PDF format on CD media (2 sets) and are to be submitted to EE (NSC) in the office of Chief Engineer, Material Management Dept. in sealed envelope on or before due date & time of submission.

METHOD OF SUBMISSION OF PART-III AND THEIR OPENING:

This envelope shall be individually sealed and shall be super scribed with the name and address of bidders and the following information before posting or delivering the same:

- i. Tender No.
- ii. Due date and time of submission.
- iii. Due date and time of opening.

Envelope as above shall be submitted on or before the prescribed due date and time of submission and shall be opened on due date and time of opening as prescribed.

In case of bidders whose techno-commercial bid is acceptable, their Price Bids will be opened at a later date. This date shall be intimated to such bidders separately.

XXI TIMELY SUBMISSION OF OFFER:

- (a) The bid is to be submitted online on or before due date and time of submission to the Purchaser at website.
- (b) It is advisable to submit the digitally signed offer sufficiently in advance of due date and time so as to avoid last minute congestion of network / server.
- (c) Offer received after the due date and time of submission shall not be accepted.
- (d) In case, the due date of opening of tender happens to be holiday, the offer shall be opened on the next working day at the same time.

XXII PURCHASERS RIGHT:

The Purchaser reserves the right to reject any offer without assigning any reason whatsoever.

The Purchaser reserves the right to make any changes in terms & condition at any stage of the process without assigning any reason whatsoever.

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If any type of legal litigation against MSEDCL is pending in any court/Forum against/by the bidder or its sister concern/Director/Partner/Proprietor, then purchaser reserves the right to reject partly or fully their bid without assigning any reasons thereof.

Bidder has to submit the declaration regarding no any type of legal litigation against MSEDCL is pending in any court/Forum against/by the bidder or its sister concern/Director/Partner/Proprietor.

XXIII DISREGARD OF TENDER CONDITIONS:

Tender containing any deviations / additions / alterations /changes in the conditions of the tender and supply as stated in Annexure 'A', 'B', 'C-I', 'D', 'E', 'F', 'G' and schedule 'C' shall not be acceptable.

The bidder having digitally signed all the tender documents indicates any deviations / additions / alterations / changes in the covering letter, unrelated annexures and schedules of the offer or elsewhere, the same shall be ignored and the offer shall be treated as meeting with all specified tender conditions.

XXIV PROHIBITION FOR POST TENDER CORRESPONDENCE:

The Bidder should note that no correspondence shall be entertained or considered after the due date and time of submission of tender unless otherwise sought by the Purchaser.

XXV RIGHT TO ORDER OUT QUANTITY IN VARIANCE TO OFFERED QUANTITY:

The Purchaser reserves the right to order out / procure any quantity in excess of the offered quantity with mutual consent. The quantity specified may be for dispatch to one destination or several places.

XXVI ACCEPTANCE OF TENDER:

The Purchaser does not bind itself to accept the lowest or any tender; neither will any reasons be assigned for the rejection of any tender or part of tender. It is also not binding on the Purchaser to disclose any analysis report on tender/samples. The bidder on his part binds himself to supply any item or items selected from his offer in part or whole at the option of the Purchaser.

XXVII NOTIFICATION OF AWARD:

Notification of Award of contract will be made by a letter of Award, to be sent by registered post or given by hand, to the successful bidder by the Purchaser. It could also be made by e-mail or by Fax to be confirmed in writing by registered post to the successful bidder by the Purchaser.

Acceptance of the same to be conveyed within 3 working days by the supplier.

XXVIII REFUND OF EARNEST MONEY DEPOSIT OF UNSUCCESSFUL / SUCCESSFUL BIDDER:

Earnest money deposit shall be returned to the unsuccessful bidder by RTGS within 7 (seven) working days after the tender has been decided and on submission of receipt of E.M.D. payment to the G.M. (F&A-SB), MSEDCL, Prakashgad, Prof. A.K. Marg, Bandra (East), Mumbai -400051. Earnest money deposit in the form of BG will be returned to the unsuccessful bidder within 7 (seven) working days by Chief Engineer, Material management Dept. after the tender has been decided. Further, the Earnest money deposit

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shall be returned to the successful bidder after submission of acceptance letter regarding 2.5% of Contract Performance Deposit in terms of A/T.

XXIX VALIDITY OF OFFERS:

The bidder shall keep the offer valid for acceptance up to and including last date of calendar month, covering the date of completion of 120 days (one hundred and Twenty days) from the date of opening of the tender and shall also agree to extend the period of validity required by the Purchaser. The bidder shall not be allowed to modify or change the conditions of the tender while extending the period of validity.

XXX DECLARATION FROM BIDDER:

In order to ensure participation of reliable and honest bidders / contractors / vendors, etc. the bidder shall submit the declaration along with the bid in Annexure-I

XXXI CORRUPT OR FRAUDULENT PRACTICES:

The Maharashtra State Electricity Distribution Company Ltd. and the State require that bidders / suppliers / contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, MSEDCL:

(a) defines for the purposes of this provision, the terms set forth below as follows:

- (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and
- (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

(b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

XXXII will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded an MSEDCL contract if at any time it determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, an MSEDCL contract.

XXXIII INFLUENCE:

Any efforts by the bidders to influence the owner during evaluation process before order placement will be rejected. Similarly deviation in the term of payments, penalty, performance deposit, delivery period will be treated as non-responsive quotation / offer and will not be considered for evaluation /order placement.

Bidder shall submit the undertaking certifying that they have not approached any one for undue influence.

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XXXIV TENDER FEES EXEMPTION:

Tender fee to be paid at the time of uploading / online submission of the tender. Bidders from the following categories are exempted from payment of Tender fees:

- 1) All Government and semi Government institutions under Govt. of Maharashtra and Zilla Parishad in Maharashtra and fully owned undertaking of any State Govt. and Govt. of India only for the items manufactured by such institutions.
- 2) Micro and Small Enterprises registered under Micro, Small and Medium Enterprises Development Act-2006 only for the items mentioned in their permanent registration certificate at the time of vendor registration.
- 3) The bidder registered with N.S.I.C. and those who have attached valid N.S.I.C. Registration Certificate at the time of vendor registration.

The benefits mentioned in (1) to (3) above shall be available only to those items approved during the registration process and subsequent updates in registration up to the date of submission of this tender.

The tender fee paid against the particular tender shall not be refunded / transferred /adjusted at all.

XXXV PRE-BID MEETING:

- 1) The bidder or its official representative is invited to attend pre-bid meeting(s) which will take place at the place, date and time designated in the Bidding Data.
 - 2) The purpose of the pre-bid meeting(s) will be to present the salient features of the bidding documents to the bidders, including the bid submittal requirements, the Conditions of Contract (including payment terms and conditions), the technical features of the project, and to clarify issues and to answer questions on any matter that may be raised by the bidders.
 - 3) The bidder is advised to visit the Site and study the bid document thoroughly, and is requested to submit any questions in writing or by fax, to reach the Employer not later than one week before the pre-bid meeting.
- A. Minutes of the meetings, including the text of the questions raised and the responses given will be transmitted without delay to all the prospective bidders through the website <https://etender.mahadiscom.in/eatApp/>. Any modification of the bidding documents listed which may become necessary as a result of the pre-bid meetings shall be made by the Purchaser exclusively through the issue of an Addendum pursuant to Clause and not through the minutes of the pre-bid meetings.
- 4) Nonattendance at the pre-bid meeting will not be a cause for disqualification of a bidder. Nevertheless, senior representatives of the bidders are strongly encouraged to participate in the pre-bid meeting to help ensure that they fully understand the key concerns of the Employer and the Employer's requirements.

XXXVI CLARIFICATION ON DEVIATIONS:

The purchaser, if necessary, shall obtain clarifications on deviations within 2 working days by requesting for such information from any or all the bidders in writing, as may be necessary.

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The same should be submitted online on or before the due time and date of submission of Deviation Bid. The clarification shall be opened online on due time and date of opening of Deviation Bid.

The Schedule for submission and opening of Deviation Bid shall be communicated by auto generated e-mail of the e-tender website.

CERTIFICATE:

I/We agree to supply the materials at the rates herein tendered by me / us subject to the conditions of tender and supply in Annexure 'A' of this tender which I/We have carefully read and which I/we have thoroughly understood and to which I/we agree. I/we hereby agree to keep this offer open up to the date mentioned in tender details and shall be bound by communication of acceptance dispatched within the validity period.

Seal & Signature of bidder

(SECTION II)**ANNEXURE 'A'****CONDITIONS OF TENDER AND SUPPLY****1) EFFECT OF CONTRACT:**

The contract shall be considered as having come in to force and shall be in operation for a period of 4 months from the date of Notification of Award. The bidder whose offer is accepted is hereinafter called "the supplier".

2) QUALITY OF SUPPLIES:

All materials supplied shall be strictly as per specification laid down by MSEDCL and in accordance with the approved standard Guaranteed Technical Particulars (GTP), drawings and type test reports.

ORDER QUANTITY, DELIVERY SCHEDULE AND QUALITY TESTING:

- a. The L.O.A. will be issued for entire ordered quantity but this L.O.A. shall be treated as release order for first lot quantity offered by the bidders in delivery schedule.
- b. The firm should offer the delivery as under:
Minimum 10% of ordered quantity within 2 months from date of order & balance quantity in equated monthly lots within delivery schedule with +/- 5% tolerance.
- c. The delivery schedule for ordered quantity will be spread over the delivery period of tender in proportion to the quantities quoted by the firms.
- d. The order for balance ordered quantity shall be released after receipt of satisfactory type test reports of samples drawn from first lot from independent laboratory.
- e. In case of failure of the sample meters in type tests, then the balance ordered quantity shall stand cancelled.
- f. The delivery schedule in the tender document shall be read as under:
"Commencement period of delivery of first lot shall be as quoted in the offer. However the delivery period for the balance ordered quantity shall commence within one month as per monthly delivery rate from the date of release order for balance ordered quantity."

3) MATERIAL AND COMPONENTS:

Against the subject tender the firm has to supply Meters. The Hand Held Terminals (HHTs) are not required to supply along with the meters. The respective clauses of supply of HHTs along with the meter in Technical Specification stands cancelled for this particular tender.

The material and components not specifically stated in this specification but which are necessary for satisfactory operation of the equipment / items specified, shall be deemed to be included unless specifically excluded and shall be supplied without any extra cost.

4) A) ACCEPTANCE OF SUPPLIES / INSPECTION:

- i) The supplier shall normally offer at a time, the entire quantity required to be delivered every month as per the delivery schedule indicated at Annexure 'B' of A/T for the purpose of inspection by the Purchaser.

Time being the essence of contract; the supplier shall strictly maintain the monthly delivery schedule.

- ii) Materials shall be inspected by the Purchaser's Executive Engineer / or the representative authorized by the Purchaser before dispatch. An intimation in the prescribed Proforma about the date on which materials shall be ready for inspection, indicating quantity, shall have to be given to the Executive Engineer / or the representative authorized by the Purchaser before dispatch so as to reach him 10 working days in advance, failing which, the supplier shall be responsible for delay in delivery on account of inspection.

The intimation in the prescribed proforma (Inspection call) shall be forwarded through online inspection portal (<https://mip.mahadiscom.in/InspectionPortal/>) and on e-mail id cemmcmsedcl@mahadiscom.in & cemmcmsedcl@gmail.com. Inspection calls sent on any other e-mail id than specified above not furnished through online inspection portal, shall not be entertained and the supplier shall be responsible for delay in delivery on account of inspection.

On receipt of such intimation, the materials shall be inspected within 10 working days. The materials shall be dispatched only after inspection and approval of same by the Inspector. The inspection approval letter shall be valid for a period of 30 days from the date of issue of letter to enable the supplier pack the material and arrange transportation thereof so that material should be reached at the respective consignee within scheduled delivery period.

After this period of 30 days, the validity of this inspection approval letter will lapse. If the material is not reached within scheduled delivery period to respective consignees, the approval of purchaser is to be sought by the supplier for revalidation of inspection approval letter at the sole discretion of MSEDCL.

For quantity supplied beyond contractual delivery period, negative price variation and statutory variations shall be applicable. However, the positive price variation and statutory variations for quantity supplied beyond contractual delivery period shall not be allowed unless the delayed delivery is attributed to MSEDCL.

- iii) The supplier shall notify the names of the consignees as per DI, to whom the inspected lot would be dispatched. The supplier shall get the copies of inspection approval letter together with witness certificate duly signed by the concerned Inspecting Officer IN BLUE INK only and also mention reference or inspection approval letter on the challan / invoice, failing which any delay occurred in getting the S.R. Notes from the consignees would be solely to supplier's account. The inspection report shall be filled in online on the same day by the Inspector from the site on MSEDCL web portal after the inspection.
- iv) Factory address, from which the bidder has to supply the material, shall be as indicated in the latest approved on line vendor registration form on e-tendering through which the bidder has submitted the offer.
- v) The supplier shall offer inspection call intimation of readiness of material as per the monthly schedule only. In the event, during the inspection by the Purchaser's Inspecting Officer, if it is observed that the quantity actually offered for inspection is less than the quantity indicated for inspection in the inspection call, the Purchaser shall be entitled to recover from the supplier, the actual expenses incurred for

arranging the inspection, and the supplier shall not dispute the amount to be recovered.

- vi) The supplier shall submit the test certificates / reports from any NABL approved laboratory or the laboratory of his own for the respective quantity of material, before dispatch. The material shall not be dispatched unless and until the test certificates are approved by the Purchaser.
- vii) All the necessary help shall be extended by the supplier to the authorized representative of the Purchaser to carry out testing of equipment / materials.
- viii) MSEDCL may issue the dispatch instructions (DI) to deliver the ordered quantity to the bidders in Maharashtra within same districts of factory location of the supplier. However, it will not be binding on the MSEDCL; supplier has to deliver the material in other districts as per MSEDCL requirement. Further outside Maharashtra bidders have to deliver the material as per MSEDCL requirement to the designated consignee.
- ix) MSEDCL on its sole discretion may get material inspected and tested by third party NABL lab.

B) RANDOM SAMPLE TESTING:

Random sample testing is carried out as per technical specifications on samples.

5) RIGHT TO CARRY OUT INSPECTION DURING MANUFACTURING:

The Purchaser at its option, will inspect the material ordered during its process of manufacturing including the inspection of raw materials and will request the supplier to carry out such tests as may be necessary to ensure proper quality of the material. The samples of components of the material shall be subject to quality check by the inspecting officer during manufacturing.

6) RIGHT TO REVISE DESPATCH INSTRUCTIONS, DELIVERY SCHEDULE AND TO DEFER SUPPLIES:

- i) The Purchaser reserves its right to revise the dispatch instructions issued along with the order, at the time of giving final clearance for dispatch after inspection of the material. If such change in destination is not intimated at the time of inspection approval or waiver of inspection, The supplier shall dispatch the material as per the dispatch instruction in accordance with A/T. indicated by him in the inspection call letter.
- ii) The Purchaser reserves its right to change the delivery schedule of the contract either by reducing the monthly lot up to 60% of the agreed lot or by increasing the same up to 120% of the agreed lot with prior two months' notice and the Purchaser shall not be liable to pay any compensation/damages on account of such change in delivery schedule.
- iii) The Purchaser reserves its right to defer the balance supply to be received against the order by giving two months' notice for a maximum period of 6 months. In such an event, the delivery period for the deferred material shall be deemed to be extended proportionate to the period of deferment and the Purchaser shall not be liable to pay any compensation/ damages on account of such deferment of deliveries.

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7) WAGON LOADS / TRUCK LOADS:

Quantity to be dispatched to consignee should be minimum in two full truck loads and may be part load as per the Purchaser's requirements may not necessarily be in full wagon load / truck load and may be part load as per the Purchaser's requirement.

8) ROAD TRANSPORT:

In case the supplier prefers to dispatch the materials by road transport at his risk and cost and without any extra cost to the Purchaser, the materials shall be accepted only during office hours on working days. The supplier should ensure that the goods reach the stores in first half so as to arrange their unloading during office hours, failing which, the Purchaser shall not be liable for delay in unloading and for inconvenience caused to the transport contractor in the form of detention etc. Unloading at stores shall be arranged by the consignee.

9) DESPATCH INTIMATION:

The supplier shall inform by e-mail to the consignee details of dispatch along with e-way bill receipt in hard & soft format giving RR / LR No., Wagon / Truck No., Type of wagon, craneable consignment or otherwise, total value of consignment, etc. to facilitate the consignee to arrange for clearance of goods on cemmcsedcl@mahadiscom.in or cemmcsedcl@gmail.com.

10) BILL OF MATERIALS:

The supplier shall furnish bill of materials for each type of equipment / material offered which should be consistent with the drawing, specification and guaranteed technical particulars. The copies of the bill of materials should always be enclosed along with the bill submitted by the supplier for payment wherein he should specifically mention the materials / components dispatched out of the bill of materials, if the equipment is not sent in totality. Where the equipment / material to be supplied consist of more than one component, the supplier claiming payment for equipment / materials shall certify that all components of the equipment / material have been supplied in full for the quantity indicated in the invoice. Part payment shall not be allowed.

11) PACKING LIST:

Each package shall contain, in waterproof cover, the detailed list indicating the order reference, date, list of content and reference to the approved bill of materials. Each item contained in the package shall be described sufficiently to enable identification of the quantity, weight etc. There should not be any alteration in the packing list incorporated in the order, soft copy of the packing list should be sent to all the consignees and hard copy to G.M. (F&A-SB) should be enclosed with the bills along with other documents.

12) REPLACEMENT OF GOODS LOST, BROKEN OR DAMAGED:

Notwithstanding anything herein contained, the supplier undertakes to be responsible for the safe arrival of the materials in good condition and without any loss or damage at the final destination and until the same be actually delivered to and received by the Purchaser at its stores or other place of final destination and for this purpose, materials carried by railways or other carrier shall be deemed to be so carried at the risk of the supplier. In case of transit damage / shortages, the payment shall be made only for the quantity received in good and working condition and the consignee shall lodge claims with carriers and transfer the same to the supplier with all necessary documents for settlement of the same with carriers at the supplier's end. The transit damages / shortages / losses reported by the

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consignee shall be repaired / replaced by the supplier duly inspected, free of cost, within one month from the date of such intimation of breakages / shortages / losses without waiting for settlement of the claims from carrier or insurance co. etc.

13) REPLACEMENT OF REJECTED MATERIALS:

If, on inspection at the final destination, the Purchaser discovers any loss in the materials supplied or that they are received in damaged condition or that in the opinion of the Purchaser, they are not of the contracted quality or specification, the Purchaser shall be entitled (notwithstanding that the property in the materials shall have passed on to the Purchaser) to refuse to accept or reject the materials altogether and claim damages or cancel the contract and buy its requirements from any of its suppliers stipulating earliest possible delivery and in accordance with its tender system against the supplier and recover the damages if any, from the supplier from any outstanding sums that may be due to the supplier from the Purchaser against this contract or against any of the contract entered into with the supplier, without prejudice to other rights and remedies available to it in law and reserving always to itself the right to forfeit the performance deposit placed by the supplier for the due fulfillment of the contract.

In case the stores / materials are found not in accordance with the prescribed specifications and / or the approved sample, the same will be rejected and the supplier shall replace the rejected stores / materials free of cost within one month from the date of intimation. The replacement of goods shall also have to be got inspected as per inspection clause. Further if the stores / equipment supplied becomes incomplete on account of either rejection or short supply of its components, the complete cost of the stores / equipment shall be recovered from supplier's bills without notice.

14) MATERIAL DESPATCHED AND PROGRAMME:

A statement as under indicating dispatches effected during every month shall be furnished to this office along with the programme of manufacturing / dispatches during the following two months. In the event of no dispatch, the statement shall contain nil information.

MONTHLY STATEMENT:

I. Name of Supplier:

II. Reporting Month:

Sr. No.	A/T No.	Material	Item No. as Per A/T	Consignee	RR/LR Delivery Challan No. With date	Date of Actual Receipt of Material	Qty. Dispatched Between 26 th of Preceding month and 25 th of the Reporting month	Programme of supply during the next 2 months
1	2	3	4	5	6	7	8	9

Consolidated details of the above information shall be furnished to office of the Chief Engineer (M.M. Dept.) after completing the supplies of a particular order. The copy of this consolidated information shall invariably be forwarded to the respective consignees, failing which; security deposit paid against the contract shall not be released.

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15) MATERIAL RECEIPT & SUBMISSION OF BILLS AT CONSIGNEE:

On receipt of material at destination of consignee as per DI, Additional Executive Engineer (MM Dept.) of respective store should ensure the receipt of material in good & healthy condition. While receiving the material, store in charge should ensure the receipt of material as per Dispatch Instructions issued by MM Dept. Further, the store in charge should ensure the receipt of original & scan copies of following documents:

- a) Tax invoice.
- b) Detailed packing list.
- c) Bill of Material.
- d) Delivery challan.
- e) E-way bill receipt.
- f) Dispatch document (RR/LR).

On confirmation & validity of above documents, store in charge will generate Provisional SR Note through ERP system immediately for receipt of material at stores thereof.

Where required by the Purchaser, the successful bidder must send the operation and maintenance manuals, test certificates, drawings etc. for the material ordered. These should be sent immediately after dispatch of material and a statement to that effect should be made in the invoice.

After successful RST of supplied each lot, store in charge will generate final SR note through ERP system within 7 working days from receipt of material at stores.

16) PAYMENT OF BILLS:

(a) Terms of payment:

- a. The Bidder shall be paid 100% payment of the Contract price within 60 days from the date of receipt of material in stores in good condition, against inspected lot quantity.
- a. However, in respect of only those entities which qualify for 45 days payment period under the Micro, Small and Medium Enterprises Development Act, 2006, 100% payment of the Contract price will be paid within 45 days from the date of receipt of material in stores in good condition, against inspected lot quantity.
- b. In respect of Micro, Small and Medium Enterprises, best efforts will be made for payment within 45 days from date of submission of invoice along with requisite documents after the delivery of entire lot. However, no claim for interest will be entertained in case of delay in payment beyond 45 days. The Micro, Small and Medium Enterprises who are ready to accept this payment term may only quote. No dispute in this regard will be entertained. After completion of order, the claims of whatsoever nature lodged after 30 days from the last date of payment will not be entertained.
- c. The payment shall be effected by A/C payee cheques / RTGS. Following documents as required in terms of order, will have to be forwarded to the G.M. (F&A-SB), Maharashtra State Electricity Distribution Co. Ltd., Prakashgad, Station Road, Bandra (East), Mumbai - 400 051 along with bills in triplicate to facilitate payment with a copy to the Chief Engineer of respective Zone.

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- (i) Invoice (on the basis of rates accepted as per A/T) issued in accordance with the provisions of GST Invoice Rules.
 - (ii) Supplementary Invoice / Bill for price variation claim if applicable with the relevant documents in support of P.V. claim.
 - (iii) Inspection and Test Certificate approval.
 - (iv) E Way Bill
 - (v) Copy of Acceptance letter of Permanent Bank Guarantee / Security Deposit Certificate.
 - (vi) Packing list.
 - (vii) Approved Bill of Material.
 - (viii) Certificate of having dispatched Operation & Maintenance Manual, copies of Test Certificates and approved drawings / Bill of Material to consignees wherever applicable.

The supplier shall forward the original R.R. / L.R. direct to the consignee along with relevant documents. The original bill shall be forwarded to The G.M. (F&A-SB), MSEDCL, Prakashgad, Bandra (E) and marked ORIGINAL. The bill should indicate the GST registration no. and date held by him under the GST Law. The Purchaser shall not be responsible for delay in payment of bills if the supplier fails to comply with any of the above requirements.

Supplier's copy of S.R. Note will be forwarded by the consignees through their respective Common Stores for supplier's record towards acknowledgement of receipt of material. Accounts copy of S.R. Note will be forwarded by the respective Common Stores to G.M. (F&A-SB) for payment.

Wherever the payment is to be effected against Material Receipt Intimation (MRI) and if the supplier fails to forward the documents such as inspection report, bill of materials, approved drawings, etc. wherever required along with the invoice to the respective consignees and no payment shall be made against the said MRI.

The whole of the first lot as well as monthly lot when delivered in installments, the date of delivery and due date of payment will be counted after the receipt of the entire lot.

Any amount more than Rs. One Lakh can be transferred to the bank Account of the supplier electronically. For this RTGS (Real Time Gross Settlement) provision, following information is to be furnished by the bidder in the required documents of the online offer.

1. Name of the Company
2. Name of the Bank & Branch with address where the amount is to be transferred.
3. Current Account Number (15 digits)
4. RTGS No. / (IFSC Code) (Indian Financial Security Code)
5. MICR Code of the Bank
6. Company's email ID

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7. Contact Name & Telephone No.

17) TAXES:

(A) Notwithstanding the fact that contract price is inclusive of GST:

(i) GST shall be paid at actual on the basis of due date of delivery or actual date of supply whichever is lower against documentary evidence.

(ii) Variation in GST on bought out items shall not be entertained.

(B) Structural changes in and due to 'Input Tax Credit' Scheme: -

(i) In the event of any structural change occurred in the Input Tax Credit Scheme after the date of submission of the tender till the currency of the contract, the benefit out of such change shall be passed on to the purchaser.

(ii) In the event of 'Input Tax Credit' being extended by the GST Law which were otherwise ineligible for claiming Input tax credit thereof, the seller should advise the purchaser about the additional benefits accrued or any variation thereof, through a letter containing such details and computation within such time as may be agreed between both the parties i.e. Supplier & MSEDCL.

18) DEDUCTION:

Any amount or amounts which become payable by the supplier to the purchaser under a particular contract, shall be deducted by the purchaser from any amount/amounts due or becoming due to the supplier under the same or any other contract and shall be adjusted against dues to the Purchaser.

19) GUARANTEE:

Material offered (Meter) shall be guaranteed for a period of 66 months from the date of receipt at the consignee's Stores Centre or 60 months from the date of commissioning, whichever is earlier. In case of failure of material within the above guarantee period, tenderer shall make available other new conditioned / repaired material, free of cost at stores for replacement within 45 days from the date of intimation from stores and lift the failed material for repair rejected material after replacement. For this purpose, bidder shall maintain spare stock in adequate quantity of ordered ratings of material. If the defective material is not replaced / repaired within the specified period as above, the Maharashtra State Electricity Distribution Company Ltd. shall retain an equivalent end cost of material plus 15% supervision charges from any of the bills of the supplier or encashing available performance bank guarantee submitted against guarantee period or through any available sources, till the return of the equipment. No interest will be paid on the amount so retained / recovered. In case of material / item not returned duly repaired within 45 days, penalty shall be imposed @ 0.5% per week or part thereof maximum up to 10% of the cost of undelivered material / equipment beyond specified time limit. In case of material / item not returned duly repaired within 5 months, total cost of the material / item along with penalty will be adjusted / recovered from the pending bills of the supplier or encashing available performance bank guarantee submitted against guarantee period or through any available sources with MSEDCL.

The clause itself shall be the notice to the supplier about encashment of PBG to adhere to the timelines.

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The outage period, i.e. the period from the date of failure till unit is repaired / replaced shall not be counted for arriving at the guarantee period.

Further, in case of repeated failures of equipment's / material, the Purchaser reserves the right to debar / disqualify the supplier for future tenders / orders irrespective of grounds for debarring in MSEDCL debar policy.

20) LIFTING OF REJECTED/DAMAGED MATERIALS FROM STORES:

- (a) On failure to replace or repair the transit damaged or rejected material within one month from the date of intimation as required under tender, it shall be deemed to have concluded that such material is finally rejected. The damaged / rejected material shall be lifted by the supplier within 30 days from the date of receipt of notice to that effect from the concerned consignee on reimbursement to the Purchaser of the cost of the material / equipment, if any, already paid in terms of payment clause in the contract and actual expenses incurred by the consignee towards handling, demurrage / wharfage / undercharges, freight, insurance premium etc. The Purchaser shall not be responsible in any case for the loss, destruction, damage, deterioration of the material after expiry of the said 30 days period.
- (b) If the supplier fails to lift the material within this period, the material will remain with the Purchaser at the cost and risk of the supplier. Supplier shall, therefore, be liable to pay ground rent @ 0.1% (Plus GST as may be applicable) per day of purchase cost of the material to be lifted from the date of intimation of rejection till the actual date of lifting.
- (c) The Purchaser will give 7 days notice for lifting of rejected material and if not lifted, will be also free to Scrap / dispose of such material, after the period of said 37 days, by Public auction /Tender notice/ Destruction as may be deemed fit and storage charges @ 0.1 % (Plus GST as may be applicable) per day of purchase cost will be recovered from the date of intimation of rejection of materials till the date of realization of the sale amount/physical removal of the material besides the actual expenses incurred as referred to at (a) above. The amount received from the sale of scrap/rejected material will be adjusted in the penalty.

Notwithstanding what is contended in the foregoing clauses, the supplier shall be liable to pay the Purchaser the cost and expenses incurred by the Purchaser, if any, including ground rent and the same shall be appropriated and recovered from the sale proceeds.

21) LIQUIDATED DAMAGES FOR LATE DELIVERY:

In case the materials are not delivered within the period stipulated in the order, the supplier shall be liable to pay at the discretion of the competent authority of the Purchaser, the liquidated damages to the Purchaser @ 1% per week or part of week on the value of delayed material / unexecuted quantity plus taxes as applicable, if any on the price subject to a maximum of cumulative ceiling of 10% reckoned on the contract value of such complete portion or section of the plant, equipment or material delayed and also the portion supplied which could not be brought into commission due to any part thereof not having been delivered in time. In addition to above if bidder fails to supply the material within contractual delivery period continuously for 3 lots, then the order shall be liable for cancellation.

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Due consideration may be given in the levy of liquidated damages for reasons absolutely beyond the control of the supplier, for which documentary evidence shall be produced to the satisfaction of the competent authority of the Purchaser.

The Purchaser shall be entitled to deduct/recover the amount of liquidated damages from the current bill payable to the supplier or any other amount due or payable to him against this or any other contract.

For computing the liquidated damages for delayed supplies, the date of railway receipt or the date of receipt of materials at stores in case of road transport, shall be the date of delivery.

In case the Purchaser does not arrange for inspection of material within 10 days from the date of receipt of inspection call in its office wherever applicable, the period of more than 10 days will not be considered for levy of liquidated damages. For computing the period taken for inspection in such cases, the relevant date mentioned in the inspection certificate issued by the inspecting officer would be considered.

22) ORDER PLACED ON TIME PREFERENCE BASIS (WHEREVER APPLICABLE):

In case of order on time preference basis (i.e. orders given at higher rate on delivery period considerations only) if order is given at higher rate of L-2 (or L-3 etc.), then the payment at higher rates will be made provided the firm makes supplies within the stipulated time period. In case of delay in supplies, the payment will be made at the rates offered by L-1. In addition, Clause No. 21 above for Liquidated Damages for late delivery will also be applicable. However, the quantity allocation for order under this clause shall be at the sole discretion of MSEDCL & the specified quantity allocation for this tender will not be applicable in this case.

23) FORCE MAJEURE CLAUSE:

If, at any time, during the continuance of this contract the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restriction, strikes, lock-outs or acts of God (hereinafter referred to as "events"), provided notice of happening of any such eventuality is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance; and deliveries under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, and the decision of the purchasing officer as to whether the deliveries have been so resumed or not, shall be final and conclusive, provided further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days, either party may at its option terminate the contract PROVIDED ALSO that if the contract is terminated under this clause, the purchaser shall be at liberty take over from the contract at a price to be fixed by the purchasing Officer which shall be final all unused, undamaged and acceptable materials, bought out components and stores in course of manufacture in the possession of the contractor at the time of such termination or such portion thereof as the purchaser may deem fit accepting such material, bought out components and stores as the contractor may with the concurrence of the purchaser elect to retain.

24) ACCEPTANCE OF LOWER FORD RATE OFFERED IN SUBSEQUENT TENDER :

During contractual delivery period of supply , the quoted rates with PV / without PV shall remain the same , however for same specification of material if the rates will receive lower in another subsequent tender in extended period of contract then it is binding on the supplier to supply the same material at lower rate for balance quantity of material i.e. in case if price bid of next subsequent tender of similar technical specification is opened and FORD rate found lower than the ongoing contracts this FORD rate shall be made applicable for the balance quantity beyond contractual delivery period. Further the purchaser reserves the right to allow the supplier to deliver the quantity or otherwise beyond the contractual delivery period.

However other stipulations of clause No. 23 of Section-II i.e. Annexure-A will remain unchanged.

25) PERFORMANCE OF CONTRACT:

The Purchaser will not be in any way liable for non-performance either in whole or in part of any contract or for any delay in performance thereof in consequence of strikes, shortage, non-availability of raw materials, combination of labour or workmen or lockout, breakdown or accident to machinery or accidents of whatever nature, failure on the part of the railways to supply sufficient wagons to carry essential raw materials etc. and finished products from the stores, subject to the provision and stipulation made in condition No. 21 as stated above i.e. Liquidated damages for late delivery.

26) CONTRACT PERFORMANCE DEPOSIT:

26.1 The supplier will have to furnish contract performance deposit as per Annexure - N in the form of unconditional & irrevocable BG within 15 days from the date of issue of LoA, as mentioned in Clause 26.2.

26.2 The contract performance deposit shall be an amount equal to 5% of the contract value in two installments.

First performance deposit shall be equal to 2.5% of the contract value in the form of unconditional & irrevocable BG within 15 days from the date of issue of LoA & second performance deposit shall be equal to 2.5% of the contract value in the form of unconditional & irrevocable BG within 15 days after 6 months from the date of issue of LoA.

In case contract period is less than or 6 months, the supplier will have to furnish 1st installment equal to 2.5% of the contract value in the form of unconditional & irrevocable BG within 15 days from the date of issue of LoA & second performance deposit equal to 2.5% of the contract value in the form of unconditional & irrevocable BG before 2 months from the expiry of contract period.

26.3 The contract performance deposit shall be refunded within 90 days from the date of expiry of the guarantee period of the equipment supplied. The purchaser shall not be liable to pay any interest or compensation to the contractor for retaining the deposit after the end of the said period.

26.4 The contract performance deposit is intended to secure the performance of the contract for guarantee period of the equipment supplied. However, it is not to be construed as limiting the damages stipulated in other clauses of the contract.

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27) POWER OF ATTORNEY:

It will be obligatory on the supplier to communicate the revocation of Power of Attorney, if any, after submission of offer till the execution of contract failing which the act/s & action done by the agent/representative shall be deemed to be the valid act/s & action of the bidder/supplier.

28) SETTLEMENT OF DISPUTE:

Permanent Dispute Resolution Committee (PDRC) comprises of Chief Engineer (MM Dept.), one member of Accounts Department and representative of supplier will resolve the dispute arise if any.

29) JURISDICTION:

Any disputes or difference arising under, out of or in connection with this tender or contract if concluded, shall be subject to the exclusive jurisdiction of the "Courts" in Mumbai.

30) TERMINATION OF CONTRACT

- 1) The decision of the Purchaser shall be final as regards the acceptability of the stores supplied by the supplier and the Purchaser shall not be required to give any reason in writing or otherwise at any time for the rejection of the stores/materials.
- 2) In case the contractor/supplier fails to deliver the stores/material or any consignment thereof within the contracted period of delivery or in case the stores/materials are found not in accordance with the prescribed specification and the performance of the supplied material is not found satisfactory, the Purchaser shall exercise in discretionary power either,
 - a) to purchase from elsewhere, after giving 15 days due notice to the contractor, at the risk of contractor, such stores/material not so delivered or other of similar description, without cancelling the contract in respect of consignment not yet due for delivery,
 - OR
 - b) to cancel the contract reserving Purchaser's right to recover damages Plus GST as may be applicable.
 - c) notwithstanding that the powers under (a) and (b) referred above are in addition to the rights and remedy available to the Purchaser under the General Law of India relating to contract.
 - d) Purchaser reserves right to recover damages against risk purchase or 10% value of non-supplied material plus applicable taxes, if any whichever is higher.

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

- 3) Further contract can be terminated in case of sub-standard /poor quality material.

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31) DEBAR OF MANUFACTURER FROM PARTICIPATION IN TENDERS OF MSEDCL:

The Policy & Procedure for Debarring of Agency from Business Dealings with MSEDCL is provided on MSEDCL website link (<https://www.mahadiscom.in/supplier/wp-content/uploads/2018/06/Final-Booklet-Single-Page.pdf>) and forms the parts of tender document.

In case of failure on part of successful Bidder at any stage of tendering and execution, the Bidder may be debarred as per MSEDCL debar policy.

32) TAX DEDUCTED AT SOURCE:

The purchaser shall deduct tax at source in accordance with the provisions of the laws as and when the same is notified.

33) ADDITIONAL TERMS AND CONDITIONS FOR FOREIGN BIDDERS / MANUFACTURERS:-

Other terms and conditions applicable to the foreign bidders/ manufacturers are as under:

a) Offer:

The offer shall be submitted by foreign bidder/manufacturer directly or through their authorized Assignee/Nominee. However the order shall be placed on the said foreign bidder/manufacturer. In case offer is from Authorized Assignee/Nominee in India, the undertaking as per Annexure F-II for appointment of Authorized Assignee/Nominee shall be submitted by foreign bidder/manufacturer.

b) Taxes and Duties:

The foreign supplier shall be solely responsible for payments of all expenses incurred outside India and payments of charges incurred in India up to the destination store of MSEDCL including any or all taxes, fees or other charges and related expenditure for Assessable Custom Duty, Transport cost from port of entry to Destination Stores, inland insurance, other incidental charges, service tax, wharfage, demurrages, warehousing charges and so on imposed by any statutory and/or Governmental Authority for importing meters.

c) Custom Clearance:

The supplier shall be solely responsible for custom clearance either by its own or through its authorized Assignee/Nominee. The supplier shall ensure the availability of required documents for speedy custom clearance. If the cargo clearance gets delayed on account of non availability of required documents or any other reason the damages if any shall be borne by the supplier. MSEDCL will provide necessary documents for custom clearance in accordance with prevailing rules as and when requested by successful bidder.

d) The quantity to be delivered to the consignee i.e. store destination may not be necessarily in full wagon load/ truck load/container load and it may be part load as per purchasers requirement.

e) Terms of Payment:

Standard payment clause no. 16 of Section-II (Annexure-A) shall be applicable. However cheques may be drawn in favour of Assignee/Nominee if desired by the foreign supplier.

f) Pre dispatch inspections of the material at the Factory shall at the discretion of the Purchaser.

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g) Earnest Money Deposit (EMD):

Earnest Money Deposit as per Clause No. XIX of invitation to tender and instruction to Bidders (Section-I) shall be paid by foreign bidders/ manufacturers or their authorized Assignee/Nominee.

h) Contract Performance Deposit :

Contract Performance Deposit clause is applicable as per Clause (26) of Section-II (Annexure-'A') for foreign bidders/ manufacturers.

All other terms and conditions, technical specifications of tender document shall be applicable. Wherever above conditions overlap with conditions of tender document then conditions modified to the extent above shall prevail.

ANNEXURE - "B"

QUANTITY, PRICE AND DELIVERY PERIOD

ANNEXURE - "B" to be submitted online against commercial bid; attached separately

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ANNEXURE 'C-I'

[To be submitted later on as per as per Clause XVIII(B) of Instructions]
CONFIRMATION FOR ACCEPTING ORDER BY MATCHING RATES WITH LOWEST
ACCEPTABLE BIDDER

APPLICABLE FOR INDUSTRIAL UNITS FROM MAHARASHTRA ONLY Marketing Assistance and Purchase Preference to the units from Maharashtra (refer Clause XVIII of Instructions to Bidders):-

1. In case your unit is located in Maharashtra and the
(a) lowest acceptable rate received against the tender is from the unit outside Maharashtra, please confirm whether you are agreeable to accept order at that lowest acceptable rate limited to 50% (fifty percent) of our requirement.

APPLICABLE FOR ALL BIDDERS INCLUDING THOSE ELIGIBLE UNDER THE ABOVE CLAUSES:

1. Please confirm whether you are agreeable to accept
(b) order at the lowest acceptable rate received against the tender.

[Industrial units from Maharashtra can give option under 1(b) above for balance quantity]

Note:-

1. If the bidder gives the above confirmation for the quantity less than as indicated in Clause X(iii) of the Instructions to the Bidders, then the above confirmation shall not be acceptable.
2. Bidders may confirm matching for one or more items originally tendered.
3. Any withdrawal of confirmation for order by matching rate within validity of offer will render the entire offer invalid and shall be summarily rejected and Earnest Money Deposit shall stand forfeited.
4. A bidder will not be entitled to the benefit of offers by matching rates and will not be considered for orders if his original offer is rejected on the ground of ambiguity or because of not accepting/noncompliance of the terms & conditions of the tender.
5. In the above confirmation, if the bidder indicates any rate, then the above confirmation given by the bidder will not be considered as valid.

ANNEXURE- 'D'

TECHNICAL SPECIFICATION FOR
As indicated in E-Tendering website

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ANNEXURE-E
(On bidders' letter head)

CONSENT FOR SUPPLYING THE MATERIAL AS PER MSEDCL STANDARD TECHNICAL SPECIFICATIONS.

I/We, have understood and checked the tender documents for supply of Three Phase, Four Wire DLMS Compliant 10-40 A meters (without HHT) and have not found any errors in them.

We have submitted price bids for Tender No. MMD/T-NSC-09/1122 for supply of Three Phase, Four Wire DLMS Compliant 10-40 A meters (without HHT).

We hereby declare and confirm that we accept the MSEDCL STANDARD TECHNICAL SPECIFICATIONS and agree to supply the material as per these STANDARD TECHNICAL SPECIFICATIONS if we are awarded the supply order.

In view of above, I/we have not filled the online GTP.

I/we am/ are enclosing the Type Test Report details covering all the type tests as per relevant IS as below.

Sr. No.	Details of Tests as per IS:.....	Type Test Report No. & Date
(1)		
(2)		

Yours faithfully,

Signature & Seal of company,

In the capacity of duly authorized to sign bids for and on behalf of

Address:

ANNEXURE - 'F-1'

"INDEMNITY BOND"

UNDERTAKING TO BE SUBMITTED BY THE PARENT COMPANY SITUATED ABROAD IN CASE OF THE PARTICIPANT BIDDER WHO IS AN INDIAN BASED SUBSIDIARY ON GENERAL STAMP OF RUPEES 200/-

The Chief Engineer (MMD),
Maharashtra State Electricity Distribution Co. Ltd.,
Prakashgad,
Bandra (E),
Mumbai - 400 051.

Sub: Undertaking against Tender ____ for procurement of _____.

Dear Sir:

We, M/s. _____ having registered office at _____ are the Parent Company of M/s. _____ who have participated against your tender no. _____ for procurement of _____.

We have carefully read and have thoroughly understood and agree to the terms and conditions of the subject tender.

We hereby undertake that in case of placement of order against the subject tender on our subsidiary company, M/s. _____, in the event of we accept all the responsibilities and liabilities for supply of quality meters as per specification of the tender and execution of the contract. We further hereby undertake that we shall be responsible for any liability arising out of the contract placed on M/s. _____ and to pay MSEDCL on demand the sum of rupees as per agreement in the event of any breach of condition of the purchase order, loss and damage of the material till expiry of guarantee period as stipulated in the order. Our liability here under shall not be impaired or discharged by extension of time or variation or alteration made with or without our knowledge or consent by or between the parties to the said contract. This undertaking shall be valid and binding on us upto and including the execution and guarantee period of the order and shall not be terminable by notice or change in the constitution of any of the companies. In case of any dispute arising out of or in connection with this tender or contract, if concluded, the same shall be subject to the exclusive jurisdiction of the "Court in Mumbai (India)."

Yours faithfully,

(Authorised Signatory)

For _____

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ANNEXURE - 'F-2'

FORM OF AUTHORISED NOMINEE/ASSIGNEE

(To be submitted on the letter head of the foreign Bidder/Manufacturer)

Date:

To,
The Chief Engineer (MMD),
Maharashtra State Electricity Distribution Co. Ltd.
1st Floor, Prakashgad, Plot No. G-9,
Bandra (East) Mumbai – 400 051.
India

Subject:- Notification of invitation of bids against Tender No. -----
For supply of Static Energy Meters of foreign origin.

Dear Sir,

This has reference to the Tender No. ----- for supply of Static Energy Meters. We M/s. ----- (foreign Bidder/Manufacturer) authorize our Assignee/Nominee in India M/s. ----- to participate against Tender No. -----. We M/s. -----(foreign Bidder/Manufacturer) hereby agree, confirm, adopt unconditionally to abide by the offer of M/s. ----- (Assignee/Nominee) for supply of Static Energy Meters.

Thanking you,

Your's Faithfully,

(Signature of the Authorized Signatory of foreign Bidder/Manufacturer)

(Name)

(Designation)

ANNEXURE - G

**UNDERTAKING CUM INDEMNITY BOND FOR POLYCARBONATE ENCLOSURE OF
SINGLE PHASE METERS**

----- NOT APPLICABLE -----

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Annexure - H

GUARANTEED TECHNICAL PARTICULARS

As indicated in E-Tendering GTP Parameter

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Annexure- I

(On supplier’s Letter Head)

I, certify that,

- a. The business dealings with our firm / agency M/s..... have not been debarred by any Ministry of GoI / GoM / state owned electricity distribution utility and still in force.
- b. The Directors, Proprietors, Partners, Employee(s) or owner of our firm / agency M/s..... have not been either jointly or severally guilty of malpractices in relation to its business dealings with the Government or MSEDCL during the last five years.

I hereby certify that I am duly authorized representative of M/s.----- whose name appears above my signature.

Bidders Name:

Authorized representative’s signature:

Authorized representative’s Name:

Seal of the company

Name and address of the Bidder

Date:

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Annexure- J

(On MSEDCL Letter Head)

Dispatch Instructions

BY R. P. A. D. / ORD. POST /E-MAIL

(SAP CONTRACT No: -----)

To,

M/s. -----

Email: -----

Sub: Supply of ----- against A/T No. ----- dt. -----

Ref: Final Inspection Call letter No. ----- dt. -----.

(I.W. Regn. No. ----- dt. -----)

Your readiness of material letter no. dtd.....

Dear Sir,

With reference to the above, you are requested to dispatch as given below:

Sr. No.	Consigned to	Meant for Circle	Meant for Zone	Qty. in Nos.

Further, you are requested to contact concerned S.E. (O&M) Circle / E.E. (O&M) Division / Addl. E.E. (MM Section) before dispatching / unloading the above material.

This is issued without prejudice to all other terms and conditions of the order.

Yours faithfully,

Chief Engineer (M M Dept.)

Copy f.w.cs. to: The C.E., MSEDCL, -----.

Copy to:

The G.M. (F & A – SB), MSEDCL, Mumbai.

The E.E. (IW), MSEDCL, Mumbai.

The E.E. (O & M Division), MSEDCL, -----

The Addl.E.E. (MM Section), MSEDCL, -----

Annexure- K

List of Stores

Sr. No.	Name of Stores	Address
1	Common Stores Ahmednagar	Nagar-Pune Road, Opp. Arti Hotel, Kedgaon, Ahmednagar.
2	Common Stores Airoli	Power House, Thane-Belapur Road, Airoli, Navi Mumbai.
3	Common Stores Akola	Major Store Babhulgaon NH No 6 Akola.
4	Common Stores Amravati	Major Store MSEDCL Power House, Mulshi Road, Amravati.
5	Common Stores Aurangabad	MIDC Plot No. J-13, Opp. Garware Stadium, Naregaon Phata, Chikhalthana, Aurangabad.
6	Common Stores Beed	Near 132 kV Sub-station, Idgah Nagar, Nalvandi Naka, Beed.
7	Common Stores Chandrapur	Near Vidyut Bhavan, Bagala Chaowk, Babu Peth, Chandrapur.
8	Common Stores Jalgaon	Old MIDC Area, Behind Ajanta Lawns, Ajanta Road, Aurangabad Highway, Jalgaon.
9	Common Stores Kalyan (Netivali)	MIDC Phase 1, Near Tata Power House, Kalyan - Dombivali Road
10	Common Stores Kamptee	Maldhakka Godown, Behind Railway Station Kamatee, Nagpur.
11	Common Stores Khamgaon	Manav Dharm Bld. Near 132 kV Sub-Station, Shegaon Road, Khamgaon, Dist. Buldhana.
12	Common Stores Kolhapur	Kaneri Math Road, A/P Gokulshirgaon, Tal. Karveer, Dist. Kolhapur.
13	Common Stores Kudal	Malwan Road, MIDC Pinguli-Nerur, Kudal, Sidhudurg.
14	Common Stores Latur	MIDC Plot No. P-21/P, In Front of Kirti Gold Oil Mill, Latur.
15	Common Stores Mulshi	Phursungi-Saswad Road, Near Overhead Bridge, Mulshi/ Phursungi, Dist. Pune.
16	Common Stores Nanded	Taroda Naka Main Road, Nanded.
17	Common Stores Nashik	Aringale Plot, Hanuman Nagar, Jail Road, Juna Saykheda Road, Panchak, Nasik.
18	Common Stores Osmanabad	Near MSEDCL Rest House, Tuljapur Road, Osmanabad.
19	Common Stores Palghar	Near 33/11 kV Sub-Station, MSEB Coloney, Boisar Road, Palghar.
20	Common Stores Parabhani	Old Power House Jintur Road, Parbhani.
21	Common Stores Ratnagiri	MIDC Area Mirjole, Kuwarbav, Ratnagiri.
22	Common Stores Sangli	Near Walchand Engineering College, Vishram Baug, Sangli.
23	Common Stores Satara	A/P Satara, Tal. Koregaon, Dist. Satara.
24	Common Stores Solapur	Plot No P-4, MIDC Chincholi, Behind Post Office, Solapur
25	Common Stores Tumsar	Near Power House, Nakaq Dongari Road, Old Bus Stop, Tumser, Bhandara.
26	Common Stores Yavatmal	MIDC Lohara, Yavatmal.

ANNEXURE – M

BANK GUARANTEE FORMAT

EARNEST MONEY DEPOSIT BANK GUARANTEE AGAINST TENDER

B.G. No. & DATE:

The Bank of _____(full address of Branch) hereby agree unequivocally and unconditionally to pay, at Mumbai within 48 hours, on demand in writing from the MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION CO. LTD. (name of the company formerly known as M.S.E.B.) on behalf of M/s _____(Address as per MSEDCL REGISTRATION) who have tendered and/or contracted or may tender or contract hereafter for supply of materials. Equipments or services to the MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION CO. LTD. against Tender No. ----- dated ----- total value of Tender is Rs. -----

This agreement shall be valid and binding on this Bank up to and including validity (date) and shall not be terminable by notice or any change in the constitution of the Bank or the firm of contractors or any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made given conceded or agreed with or without our knowledge or consent by or between parties to the said within written contract. The validity of this Bank Guarantee will be extended by us for the further period of six months, one month prior to its present validity period at the request of MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION CO. LTD.(name of the company formerly known as M.S.E.B.).

In case of any dispute arising out or it connection with the extension or encashment of Bank Guarantee, the Courts in Mumbai will have jurisdiction.

Our liability under this Guarantee is restricted to Rs.-----/- (Rupees----- only). Our Guarantee shall remain in force until (date). Unless a suit or action to enforce a claim under the guarantee is filed against us within six months from the aforesaid date, all your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all liability there under.

Place:

Date:

Sign-----

For-----

(Banker's Rubber Seal & Bank Code No. of signatory)

Please note that:

1. The value of non-judicial stamp paper for this Bank Guarantee is Rs.200/- should be purchased in the name of Guarantor Bank.
2. The Bank Guarantee should be furnished from any Scheduled Bank/Nationalized Bank.
3. Please state the full and complete postal address of the Bank undertaken the guarantee.
4. The Bank Guarantee may be valid as per terms and condition of A.T.
5. B.G. should be submitted along with covering letter of Bank.

ANNEXURE – N

BANK GUARANTEE FORMAT

FORM OF BANK GUARANTEE FOR THE PERFORMANCE OF THE EQUIPMENT

B.G. No. & Date:

This deed of Guarantee is made thisday of.....
By.....branch having at H.O. at..... (here in after called "the Surety" which expression shall where the context so admits include its permitted assign) in favour of MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION COMPANY LTD. (name of the company formerly known as M.S.E.B.) being a government company formed as per the provisions of the Maharashtra Electricity Reforms Transfer Scheme. 2005 having its registration no. U40109 MH 2005 SGC 153645 (here in after called the "Creditor" which expression shall include its permitted assigns). WHERE AS M/s. (Name of Party)..... (Postal address as per A/T) have entered into a contract to supply (Name of Material) to the MAHARASHTRA STATE ELECTRICITY DISTRIBUTUION COMPANY LTD. (Name of the Company formerly known as M.S.E.B.), vide contract No.dtd.....on the terms and conditions in the said contract. (here in after for brevity sake called "the said contract").

In accordance with terms of the said contract, the creditor has agreed to pay to M/s.....(Name of Party)..... the said sum representing the 5% of the total contract price for the Rs...../- and WHEREAS M/s. (Name of Party).....is required under the terms of contract to furnish a Bank Guarantee for Rs...../- (Rupees:.....Only) the said sum representing the 5 %price as given in the said contract.

The surety as he requests of M/s.(Name of Party).... has agreed to give this guarantee.

NOW THEREFORE THIS DEED WITNESS AS FOLLOWS:

1. In consideration of the creditor agreeing to make to the debtor at Mumbai the payment of Rs..... (Rupees.....only) being the value of 5% of the total contractprice as given in the said contract on supplying the complete material as per the contract by the debtor failing which the surety does undertake to pay to the creditor on demand such amount of amounts as the surety may be called upon to pay not exceeding in the aggregate sum of Rs./- (Rupees.....only).
2. The surety hereby guarantee to the creditor the due performance and observance by the debtor of the terms and conditions of the contract.
3. The surety also agrees that it shall not during the currency of the guarantee herein given or during the period of its execution revoke the same even by giving notice to the creditor.
4. On account of the non-fulfillment of the contractual obligation by the debtor or in case the surety or contractor do not renew this guarantee bond as herein provided, the surety will on simple demand from the creditor, pay at Mumbai the creditor, the sum of Rs.....(Rupees only) as indicated under clause -1 above, without demure and without the creditor to invoke any legal remedy that may be available to them to compel the surety to pay the same even if the debtor consider such demand of the creditor unjustified.
5. The surety agrees and declares that notwithstanding anything contained in Section 133 to 135 of the Indian Contract Act 1872 (IX of 1972) or any other rule of law or equity in the view of any variance in the terms of the said contract shall not operate as a discharge of

his obligations hereunder or shall any composition made by the creditor with debtor in respect of any breach of the terms and conditions of the said contract operate as a discharge of the surety's obligation and surety further expressly agrees and declares that though as between the creditor and surety, the surety shall be liable for sum payable or falling due hereunder equally with the debtor and the surety save as otherwise herein provided hereby waives all his rights which he might as guarantor be entitled to claim and enforce.

- 6. The decision of the creditor that any sum has become payable shall be final and binding on the surety.
- 7. The guarantee shall come into force on supply of material shall remain in force till the end of(date)The surety, at the request of the creditor shall extend the validity of the Bank Guarantee for a further period of 12 months, one month prior to its present validity period.
- 8. In case of any dispute arising out of or in connection with the extension or encashment of the Bank Guarantee, the courts in Mumbai will have the jurisdiction.
- 9. The guarantee herein contained shall not be effected, by the change in the constitution of the surety or the debtor.
- 10. Our liability under this guarantee is restricted to Rs.(Rupees.....only) and our guarantee shall remain in force until (Date....) unless a claim under this guarantee is lodged with us within six months from the date of expiry of guarantee i.e. on or before ..(date)...all your rights under this guarantee shall be forfeited and we shall be relieved and discharged from all our liabilities there under.

IN WITNESS WHERE OF THE surety has executed this deed in presence of

Place: Signature.....

Date: for.....

(Banker's Rubber Seal & Code No. of signatory)

Witnessed (2 witness is required from bank only)

1) Name & Address

Signature

2) Name & Address

Signature

Please Note:

- 1. The value of non-judicial stamp paper for this bank guarantee is Rs. 200/- should be purchased in the name of Guaranteed Bank.
- 2. The bank guarantee should be furnished from any Scheduled bank
- 3. Please state the full and complete postal address of the bank undertaking the guarantee.
- 4. B.G. may be valid as per terms of A/T including guarantee period of material.
- 5. B.G. should be submitted along with covering letter of Bank.

=====

SCHEDULE C

Quantity Offered at Column No. 7 of Annexure-‘B’ (Price Schedule):

Sr. No.	Item Code	Material Description	Quantity Tendered in Nos.	Quantity Offered at Column No. 7 of Annex-‘B’ (Price Schedule) in Nos
1	2	3	4	5
1	77009507814	LTAC Three Phase, four wire DLMS Compliant 10 - 40 Amps static energy meter (without HHT).	2,50,000	

Seal & Signature of Supplier

=====

Format for Inspection Call-Readiness of Material

Ref. No.**Date:**

To,
The CE (MMD),
Prakashgad, Bandra (E),
Mumbai - 400051.

Sub: Inspection Readiness of material against A/T No. ----- dated. ----- for
Supply of -----.

1. Brief description of the material Offered for inspection:
2. Reference of drawing Approval :
3. a) Reference of approval of type test:
b) Reference of approval of balance type test (If applicable):
4. Whether it is a joint inspection with Testing SE (TQA) etc. (if applicable):
5. a) Whether EMD has been paid against the order:
b) if paid, please give details:
6. Sr. No. of the items as per A/T:
7. Total Quantity of the items Ordered:
8. Total quantity of the items inspected so far:
9. a) Quantity monthly committed in delivery schedule:
b) Lot No. for which the Quantity is offered for inspection now:
c) Due date of delivery as per A/T for offered quantity:
10. Date of readiness of Material:
11. Complete address of the factory where materials is to be inspected:
12. Name of the person to be contacted in connection with inspection & his
Office/Factory/Residence Tel. No.:
13. Staggering holiday of Factory/Office at the place of inspection:
14. a) Whether Dispatch Instructions are available (Say Yes or No):
b) Quote Letter No.:
c) Brief destination & Qty. per consignee of this present lot offered:
15. Last visit of our Inspecting Officer:
16. a) Whether the entire material is dispatched against last inspection. (Our EE[IW]
will ensure before inspection of this lot that the earlier inspected lot is already
dispatched)
b) Quantity dispatched
17. Further programme of production Quantity likely to be offered & by what date:

Authorized Signature
For (Name of the Firm).

Annexure 'B'(Price Schedule)

Sr.No	Item Code	Material Description	Unit	Quantity Required	HSN	Quantity Offered	Unit ExWorks including packaging charges but excluding duties & taxes etc (In Rupees)	Freight Charges Per Unit (In Rupees)	Transit Insurance Charges Per Unit (In Rupees)	Integrated GST for outside State Transaction on (Ex-Works Price+Freight Charges + Transit Insurance Charges)(In Rupees)	Central GST for within State Transaction on (Ex-Works Price + Freight Charges + Transit Insurance Charges)(In Rupees)	State GST for within State Transaction on (Ex-Works Price + Freight Charges + Transit Insurance Charges)(In Rupees)	Free Door Delivery Price Per Unit by Road upto Destination/Stores/Sub Station (In Rupees)
1	2	3	4	5	6	7	8	9	10	11	12	13	14=(8+9+10+11+12+13)
1	77009507814	THREE PHASE 10-40A DLMS	NO	250000	90283010								

Delivery Details

[Delivery must in the units specified for the items as per Price Schedule]

First lot of ____ in assorted sizes will be delivered within 2 Months from the date of LOA Award. After this period supply will be completed at the rate of ____ in assorted sized per month

Confirmation Details

We Confirm The Following :

I) Goods and Services Tax(GST) i.e Integrated GST / (Central GST+ State GST):

The GST is included in our prices quoted in price bid (Central GST+ State GST) for within Maharashtra State/Integrated GST for outside State and we shall not charge any additional amount towards Integrated GST / (Central GST+ State GST), during currency of contract except statutory variation by Central / State Government in normal (full) rate of Integrated GST / (Central GST+ State GST), in case of Integrated GST / (Central GST+ State GST) Rate is increased. In case the Integrated GST / (Central GST+ State GST) is decreased than the rate indicated in the price bid, the benefits of the reduction in the Integrated GST / (Central GST+ State GST) shall be passed on to the Purchaser. The increase in the Integrated GST / (Central GST+ State GST) rate due to increase in turnover during the contractual delivery period shall not be charged to the Purchaser. If the Integrated GST / (Central GST+ State GST) is not payable at present, we shall not charge the same, if it becomes applicable during the currency of contract due to expiry / withdrawal of tax concessions and incentives during the currency of contract except for statutory variation by Central / State Government.

(i) Necessary documentary evidence for the GST claimed by us shall be submitted along with the bills.

(ii) We here by declare that while quoting the price in the Price Bid, we have taken into account the entire credit on inputs available under the GST Act.

Technical Specification Item: THREE PHASE 10-40A DLMS METER



Maharashtra State Electricity Distribution Company Limited

SPECIFICATION NO.MMC: MSC/DB/01 /2018

TECHNICAL SPECIFICATION

For

THREE PHASE 10-40A DLMS METER

For

DISTRIBUTION SYSTEM

IN

MSEDCL

MATERIAL SPECIFICATIONS CELL

TECHNICAL SPECIFICATION

OF

**LT AC THREE PHASE, FOUR WIRE DLMS
COMPLAINT 10–40 AMPS STATIC ENERGY
METER**

INDEX

1.00	SCOPE	3
2.00	STANDARDS TO WHICH METERS SHALL COMPLY	4
3.00	SERVICE CONDITIONS	4
4.00	GENERAL TECHNICAL REQUIREMENTS	5
5.00	CONSTRUCTIONAL REQUIREMENT / METER COVER & SEALING ARRANGEMENT	6
6.00	TOD TIMINGS	11
7.00	DEMAND INTEGRATION PERIOD	11
8.00	MD RESET	11
9.00	ANTI TAMPER FEATURES	12
10.00	TAMPER EVENTS	12
11.00	DISPLAY OF MEASURED VALUES	14
12.00	DEMONSTRATION	18
13.00	BILLING DATA, BILLING HISTORY & LOAD SURVEY	18
14.00	HHU	19
	15:00 COMPUTER SOFTWARE	
16.00	COMMUNICATION PROTOCOL	22
17.00	CONNECTION DIAGRAM AND TERMINAL MARKINGS	22
18.00	NAME PLATE AND MARKING	22
19.00	TESTS	22
20.00	GUARANTEED TECHNICAL PARTICULARS	25
21.00	PRE DESPATCH INSPECTIONS	25
22.00	JOINT INSPECTION AFTER RECEIPT AT STORES (Random Sample Testing)	25
23.00	GUARANTEE	26
24.00	PACKING	26
25.00	TENDER SAMPLE	26
26.00	QUALITY CONTROL	27
27.00	MANUFACTURING ACTIVITIES	27
28.00	QUALITY ASSURANCE PLAN	30
29.00	COMPONENT SPECIFICATION	30
30.00	SCHEDULES	30
	ANNEXURE I	31
	ANNEXURE II	33
	ANNEXURE III	37
	SCHEDULE 'A'	40

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

1.00 SCOPE

This specification covers the design, engineering, manufacture, assembly stage testing, inspection and testing before dispatch and supply of ISI marked LT AC, Three Phase, Four wire, DLMS Complaint 10 – 40 Amps Or wider range, Static TOD Tri – vector Energy Meters suitable for measurement of Active Energy (kWh), Reactive Energy(kVArh Lag and kVArh Lead separately)and kVAMD in three phase, four wire balanced / unbalanced loads of LT residential and commercial consumers.

The meter shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation, in a manner acceptable to purchaser, who will interpret the meaning of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered material shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in these specifications and / or the commercial order or not.

1.01 MINIMUM TESTING FACILITIES:

Manufacturer shall possess fully computerized Meter Test Bench System for carrying out routine and acceptance Tests as per IS: 13779 / 2020 (amended up to date). In addition, this facility shall produce Test Reports for each and every meter. The list of testing equipment's shall be enclosed. The manufacturer shall have the necessary minimum testing facilities for carrying out the following tests:

- a) Insulation resistance measurement
- b) No load condition
- c) Starting current test
- d) Accuracy requirement
- e) Power consumption in voltage circuit
- f) Repeatability of error
- g) Glow Wire Testing facility.
- h) Tamper conditions - as per specification.
- i) LPRF Communication Connectivity Test as per specification.
- j) The manufacturer shall have duly calibrated RSS meter of class 0.1 or better accuracy. The bidder shall have fully automatic Test Bench having in-built constant voltage, current and frequency source with facility to select various loads automatically and print the errors directly.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

1.02 METER SOFTWARE

The Bidders will have to get appraised & obtain CMMI – Level III within one year from date of letter of award.

1.03 Notwithstanding anything stated herein under, the Purchaser reserves the right to assess the capacity and capability of the bidder to execute the work, shall the circumstances warrant such assessment in the overall interest of the Purchaser.

2.00 STANDARDS TO WHICH METERS SHALL COMPLY:

IS: 13779 / 2020 amended upto date and other relevant IS specifications including CBIP Tech report 325 amended upto date, CEA regulations and MERC guidelines with latest amendments.

IS: 15707 / 2006: Specification for Testing, evaluation, installation & maintenance of AC Electricity Meters-Code of Practice.

The specification given in this document supersedes the relevant clauses of IS: 13779 / 2020(amended up to date) wherever applicable.

IS: 15959 / 2011 amended upto date for Data Exchange for Electricity Meter Reading, Tariff & Load Control – Companion Specification.

The equipment meeting with the requirements of other authoritative standards, which ensures equal or better quality than the standard mentioned above, also shall be considered. For conflict related with other parts of the specification, the order of priority shall be – (i) this technical specification, (ii) IS: 13779 / 2020 amended upto date.

3.00 SERVICE CONDITIONS:

As per IS: 13779 / 2020 (amended upto date), the meter to perform satisfactorily under Non - Air Conditioned environment (within stipulations of IS).

Meter body shall conform to IP 51 degree of protection. For outdoor use, meter shall be installed in sealed enclosure conforming to IP 55.

The meter shall be suitably designed for satisfactory operation under the hot and hazardous tropical climate conditions and shall be dust and vermin proof. All the parts and surface, which are subject to corrosion, shall either be made of such material or shall be provided with such protective finish, which provided suitable protection to them from any injurious effect of excessive humidity.

The meter to be supplied against this specification shall be suitable for satisfactory continuous operation under the following tropical conditions:

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

Environmental Conditions

- | | |
|--|-----------------------|
| a) Maximum ambient temperature | 55°C |
| b) Maximum ambient temperature in shade | 45°C |
| c) Minimum temperature of air in shade | 35°C |
| d) Maximum daily average temperature | 40°C |
| e) Maximum yearly weighted average temperature | 32°C |
| f) Relative Humidity | 10 to 95 % |
| g) Maximum Annual rainfall | 1450 mm |
| h) Maximum wind pressure | 150 kg/m ² |
| i) Maximum altitude above mean sea level | 1000 meter |
| j) Isoceraunic level | 50 days/year |
| k) Seismic level (Horizontal acceleration) | 0.3 g |
| l) Climate: Moderately hot and humid tropical climate conducive to rust and fungus growth. | |

4.00 GENERAL TECHNICAL REQUIREMENTS:

1	TYPE	LT AC three phase, four Wire Static, DLMS complaint TOD Tri-Vector Energy Meter suitable for three phase, four wire balanced / unbalanced loads of LT Consumers.
2	ACCURACY CLASS	1.0 (FOR ACTIVE AND REACTIVE ENERGY)
3	CURRENT RATING	10 – 40 Amps or wider range
4	RATED BASIC CURRENT (I _b)	10 Amps per phase
5	MAXIMUM CONTINUOUS CURRENT (I _{max})	4 times (400 %) of I _b . The meter shall work accurately at 150% of I _{max} .
6	STARTING CURRENT	0.2% of I _b .
7	SHORT TIME CURRENT	As per IS 13779 / 2000.
8	RATED VOLTAGE	3 x 240 Volts Ph-N
9	VOLTAGE RANGE	+ 20 % to – 40 % of rated voltage.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

10	TEMPERATURE	The standard reference temperature for performance shall be 27°C. The mean temperature co-efficient shall not exceed 0.07%.
11	FREQUENCY	50 Hz ± 5%
12	POWER FACTOR	Power Factor range: Zero Lag to unity to Zero Lead to unity Avg. P.F = $\frac{\text{Total (kWh)}}{\text{Total (kVAh)}}$ $\text{kVAh} = \sqrt{(\text{Kwh})^2 + (\text{RKVAhlag} + \text{RKVAhlead})^2}$
13	POWER CONSUMPTION	(i) The active and apparent power consumption in each voltage circuit at reference voltage, reference temperature and reference frequency shall not exceed 1.5 W and 10 VA. (ii) The apparent power taken by each current circuit, at basic current Ib, reference frequency and reference temperature shall not exceed 4 VA.
14	DESIGN	Meter shall be designed with application specific integrated circuit (ASIC) or micro controller; shall have no moving parts; electronic components shall be assembled on printed circuit board using surface mounting technology; factory calibration using high accuracy (0.1 class) software based test bench.
15	POWER SUPPLY	SMPS (Switched-Mode Power Supply)
16	ISI MARK	The meter so supplied must bear ISI Mark.

5.00 CONSTRUCTIONAL REQUIREMENT / METER COVER & SEALING ARRANGEMENT

5.01 GENERAL MECHANICAL REQUIREMENT

The meter shall be designed and constructed in such a way as to avoid introducing any danger in normal use and under normal conditions, so as to ensure especially:

- (a) personal safety against electric shock;
- (b) personal safety against effects of excessive temperature;

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

- (c) protection against spread of fire;
- (d) Protection against penetration of solid objects, dust and water in the meter.

5.02 All parts, which are subject to corrosion under normal working conditions, shall be protected effectively against corrosion by suitable method to achieve durable results. Any protective coating shall not be liable to damage by ordinary handling nor damage due to exposure to air, under normal working conditions. The electrical connections shall be such as to prevent any opening of the circuit under normal conditions of use as specified in the standard, including any overload conditions specified in the standard. The construction of the meter shall be such as to minimize the risks of short-circuiting of the insulation between live parts and accessible conducting parts due to accidental loosening or unscrewing of the wiring, screws, etc. The meter shall not produce appreciable noise in use.

5.03 All insulating materials used in the construction of the meter shall be substantially non-hygroscopic, non-ageing and of tested quality.

5.04 The meter shall be projection type and shall be dust and moisture proof. The meter base & cover/Encapsulated body shall be made out of unbreakable, high grade, fire resistant Polycarbonate material so as to give it tough and non-breakable qualities. Meter base shall be opaque and meter top cover shall be transparent/Opaque (Encapsulated Body). The meter cover shall be secured to base by means of sealable unidirectional captive screws. The meter body shall be type tested for IP51 degree of protection as per IS 12063 against ingress of dust, moisture & vermin but without suction in the meter.

5.05 METER CASE

5.05.01 The poly carbonate body of the meter shall conform to IS: 11731 (FV-2 category) besides meeting the test requirement of heat deflection test as per ISO 75, glow wire test as per the IS: 11000 (Part 2/Sec-1) 1984 or IEC-60695-2-12, Ball pressure test as per IEC-60695-10-2 and Flammability Test as per UL 94 or as per IS 11731(Part-2) 1986.

5.05.02 The base and cover/Encapsulated shall be ultra-sonically/Chemically welded (continuous welding) so that once the meters are manufactured and tested at factory; it shall not be possible to open the cover at site except the terminal cover. The thickness of material for meter cover and base shall be 2 mm (minimum).

5.06 TERMINALS & TERMINAL BLOCK

5.06.01 Moulded terminal block for current and voltage connections conforming to IS: 13779 / 2020 (amended up to date) to meet the requirement of terminal connection arrangement shall be provided. The termination

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

arrangement shall be with an extended transparent terminal cover as per clause number 6.5.2 of IS: 13779 /2020 and shall be sealable independently to prevent unauthorized tampering. Proper size of grooves shall be provided at bottom of this terminal cover for incoming and outgoing service wires.

- 5.06.02 The terminal cover shall be extended transparent type and shall enclose the actual terminals, the conductor fixing screws and unless otherwise specified, a suitable length of external conductors and their insulation.
- 5.06.03 The fixing screws used on the terminal cover for fixing and sealing in terminal cover shall be held captive in the terminal cover.
- 5.06.04 When the meter is mounted, no access to the terminals shall be possible without breaking seals(s) of the terminal cover.
- 5.07 Sealing provision shall be made against opening of the terminal cover and front cover. It is necessary to provide screws with two holes for sealing purpose. The meter shall be pilfer-proof & tamper-proof. The provision shall be made on the Meter for at least two seals to be put by utility user.
- 5.08 The meter shall be completely factory sealed except the terminal block cover. The provision shall be made on the meter for at least two seals to be put by utility user. The Terminal cover shall be transparent with one side hinge or Top side Hinge with sealing arrangement.
- 5.09 **RESISTANCE TO HEAT AND FIRE**
The terminal block, the terminal cover and the meter case shall ensure reasonable safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them.
- 5.10 **OUTPUT DEVICE:**
Energy Meter shall have test output, accessible from the front, and be capable of being monitored with suitable testing equipment while in operation at site. The operation indicator must be visible from front. The test output device shall be provided in the form of blinking LED. The pulse rate of output device (separate blinking LED must be provided for each parameter) which is Pulse / kWh and Pulse / kVArh(meter constant) shall be indelibly provided on the nameplate. It shall be possible to check the accuracy of active energy and reactive energy measurement of the meter on site by means of LED output. Resolution of the test shall be sufficient to enable the starting current test in less than 10 minutes and accuracy test at the lowest load shall be completed with desired accuracy within 5 minutes.
- 5.11 The meter accuracy shall not be affected by external AC / DC / permanent magnetic field as per CBIP Technical Report 325 with latest amendments. If the meter gets affected under influence of any magnetic field (AC / DC / Permanent), then the same shall be recorded as

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

magnetic tamper event with date & time stamping and the meter shall record energy maximum value current (Imax) and reference voltage at unity power factor.

- 5.12 The meter shall have CTs/Shunt with magnetic shielding and same shall be tested separately prior to assembly.
- 5.13 In meter, Power supply unit shall be micro control type (transformer less to avoid magnetic influence) instead of providing conventional transformer and then conversion to avoid magnetic influence.
- 5.14 **REAL TIME INTERNAL CLOCK (RTC):**

The real time quartz clock shall be used in the meter for maintaining time (IST) and calendar. The RTC shall be non - rechargeable and shall be pre-programmed for 30 Years Day / date without any necessity for correction. The maximum drift shall not exceed +/- 300 Seconds per year. Facility for adjustment of real time shall be provided through CMRI with proper security.

The clock day / date setting and synchronization shall only be possible through password / Key code command from CMRI or Meter testing work bench and this shall need password enabling for meter.

The RTC battery & the battery for display in case of power failure shall be separate.

- 5.15 Non-specified display parameters in the meter shall be blocked and same shall not be accessible for reprogramming at site through any kind of communication
- 5.16 Complete metering system & measurement shall not be affected by the external electromagnetic interference such as electrical discharge of cables and capacitors, harmonics, electrostatic discharges, external magnetic fields and DC current in AC supply etc. The Meter shall meet the requirements of CBIP Tech-report 325 (amended up to date).
- 5.17 A push button shall be provided for high resolution reading with two decimal digits / alternate mode of display as brought out elsewhere in this specification.

5.18 **SELF DIAGNOSTIC FEATURES:**

- (a) The meter shall keep log in its memory for unsatisfactory / non - functioning of Real Time Clock battery.
- (b) LCD Test display shall be provided for checking of all display Segments.

- 5.19 The meter shall have facility to read the default display parameters during power supply failure. An internal maintenance free battery (Ni-mh or Li-ion or NI CD) of long life of 10 years shall be provided for the same. A suitable Push Button arrangement for activation of battery

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

shall be provided. Alternatively, push button provided for displaying alternate mode (On Demand Mode) parameters shall also be acceptable for activation of battery during power OFF condition.

After activating the battery during power OFF condition, the meter shall display all default parameters only once, after which the battery shall switch OFF automatically. The battery shall be locked after 3 successive operations during one power OFF cycle. As soon as the supply is resumed to meter, the battery shall automatically come to normal.

5.20 PCB used in meter shall be made by Surface Mounting Technology.

5.21 The meter shall also be capable to withstand and shall not get damaged if phase to phase voltage is applied between phases to neutral for 5 minutes.

5.22 The meter shall record and display total energy including Harmonic energy.

5.23 COMMUNICATION CAPABILITY:

The meter shall have additional RJ11 (RS232)/ RJ45 port along with optical port for reading data through CMRI and AMR Modem Download should be possible though **optical port** in case of power failure. The baud rate while downloading data through optical port should be 9600. The meter shall be supplied with battery backup feature for displaying the parameters during power OFF condition. Battery life shall be minimum ten years.

Separate push button shall be provided for activation of battery during power OFF condition. Alternatively, push button provided for displaying alternate mode (On Demand Mode) parameters shall also be acceptable for activation of battery during power OFF condition.

After activating the battery during power OFF condition, the meter shall display all Default Display (Auto Scrolling Mode) parameters only once, after which the battery shall switch OFF automatically.

5.24 The accuracy of the meter and the measurement by meter shall not get influenced by injection of high frequency AC Voltage / chopped signal / DC signal and harmonics on the terminals of the meter. The meter accuracy shall not be affected by magnetic field from all sides of the meter i.e. front, sides, top and bottom of the meter.

5.25 The accuracy of the meter shall not be affected with the application of abnormal voltage / frequency generating device such as spark discharge of approximately 35 KV. The meter shall be tested by feeding the output of this device to meter in any of the following manner for 10 minutes:

a) On any of the phases or neutral terminals

b) On any connecting wires of the meter (Voltage discharge with 0-10 mm spark gap)

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

- c) At any place in load circuit
- d) Anywhere on meter body

The accuracy of meter shall be checked before and after the application of above device.

- 5.26 The data stored in the meters shall not be lost in the event of power failure. The meter shall have Non Volatile Memory (NVM), which does not need any battery backup. The NVM shall have a minimum retention period of 10 years.
- 5.27 Wire / cable less design: The meter PCB shall be wireless to avoid improper soldering & loose connection / contact.
- 5.28 The meter shall record and display total energy including Harmonic energy.
- 5.29 A sticker label containing warning notice in Marathi language which is to be stick up on meters front cover or printed on meter name plate with easily readable font size not less than 10 in red colour, which reads as “सावधान ! मीटरला फेरफार करण्याचा प्रयत्न केल्यास अधिकतम वेगाने बीज नोंदणी होणार.”

6.00 TOD TIMINGS

There shall be provision for at least 6 (Six) TOD time zones for energy and demand. The number and timings of these TOD time Zones shall be programmable. At present the time zones shall be programmed as below.

- Zone “A”: - 00:00 Hrs. to 06:00 Hrs. and 22:00 Hrs. to 24:00 Hrs.
- Zone “B”: - 06:00 Hrs. to 09:00 Hrs. and 12:00 Hrs. to 18:00 Hrs.
- Zone “C”: - 09:00 Hrs. to 12:00 Hrs.
- Zone “D”: - 18:00 Hrs. to 22:00 Hrs.

7.00 DEMAND INTEGRATION PERIOD

The maximum demand integration period shall be set at 30 minutes with block window method.

8.00 MD RESET:

It shall be possible to reset MD by the following options:

- a) Communication driven reset through hand held terminal (HHU).
- b) Auto reset at 24:00 hrs at the end of each billing cycle: Automatic reset at the end of certain predefined period (say, end of the month). No push button shall be provided for MD reset.

9.00 ANTI TAMPER FEATURES

The meter shall detect and correctly register energy in forward direction

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

under following tamper conditions.

9.01 Change of phase sequence:

The meter accuracy shall not be affected by change of phase sequence. It shall maintain the desired accuracy in case of reversal of phase sequence.

9.02 Reversal of line and load terminals:

Even on interchanging the load and line wires, the meter shall register correct energy passing through the meter.

9.03 Drawing of current through local Earth:

The meter shall register accurate energy even if load is drawn partially or fully through a local earth.

9.04 The three phase meter shall work in absence of any two phases i.e. it shall work on any one phase wire and neutral, to record relevant energy.

9.05 The meter shall work without earth.

9.06 The potential link shall not be provided.

9.07 Visual indication shall be provided to safeguard against wrong connections to the meter terminals.

9.08 The meter accuracy shall not be affected by external AC / DC / permanent magnetic field as per CBIP Technical Report 325 with latest amendments. If the meter gets affected under influence of any magnetic field (AC / DC / Permanent), then the same shall be recorded as magnetic tamper event with date & time stamping and the meter shall record energy maximum value current (Imax) and reference voltage at unity power factor.

10.00 TAMPER EVENTS:

The meter shall work satisfactorily under presence of various influencing conditions like External Magnetic Field, Electromagnetic Field, Radio Frequency Interference, harmonic Distortion, Voltage / Frequency Fluctuations and electromagnetic High Frequency Fields etc.

The detection of the tamper event shall be registered in the tamper event register. The no. of times the tampering has been done shall also be registered in the meter. It is the responsibility of the meter manufacturer not to use manufacturer specific codes where standard codes are available.

The meter shall have features to detect the occurrence and restoration of the following abnormal events.

10.01 **Missing potential and potential imbalance:**

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

The meter shall be capable of detecting and recording occurrence and restoration with date and time the cases of potential failure and low potential, which could happen due to disconnection of potential leads (one or two) with phase identification. Meter shall also detect and log cases of voltage unbalance (10% or more for 5 Minutes.) Higher of the 3 phase voltages shall be considered as reference for this purpose.

10.02 Current unbalance:

The meter shall be capable of detecting and recording occurrence and restoration with date and time of current unbalance (30% or more for 15 minutes) with phase identification. Higher of the 3 phase currents shall be considered as reference for this purpose.

10.03 Current Reversal:

The meter shall be capable of detecting and recording occurrence and restoration with date and time of reversal of current with phase identification for persistence time of 5 minutes. It shall also possess a current reversal counter.

10.04 Current circuit short:

The meter shall be capable of detecting and recording occurrences and restoration of shorting of any one or two phases of current, with date & time of occurrence and restoration with phase identification.

10.05 High Neutral Current. (CT bypass):

The meter shall be capable of recording incidences of excess neutral current (if it is in excess 30% of I_b for more than 5 minutes.) The meter shall record the total duration of the above abnormalities, time and date of their occurrences and restorations with snapshot of instantaneous electrical conditions viz. System Voltages, Phase Currents & System PF.

10.06 Power ON / OFF:

The meter shall be capable to record power ON/OFF events in the meter memory. All potential failure shall record as power off event. The meter shall keep records for the minimum 200 events in the meter memory for retrieval by authorized personnel. (Occurrence + Restoration with date & time).

For above abnormal conditions, the recording of events shall be on FIFO basis. The unrestored events shall be recorded separately and shall not be deleted till they get recovered (permissible upto 3 months). It shall be possible to retrieve the abnormal event data through both the meter ports with the help of HHU & downloaded the same to the base computer. All the information shall be made available in simple & easy to understand format.

10.07 In the event the meter is forcibly opened, even by 2 to 4 mm variation of

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

the meter cover, same should be recorded as tamper event with date & time stamping and the meter should continuously display that the cover has been tampered. It is suggested that the manufacturer should develop their software such that there will be some time delay for activation of this tamper feature and during that period only the meter cover should be fitted. The delay in activation of software shall be for one instance only. After the meter cover is fitted, it shall get activated immediately without any delay.

11.00 DISPLAY OF MEASURED VALUES

11.01 The meter shall have minimum 5 digits (with \pm indication), parameter identifier, permanently backlit Liquid Crystal Display (LCD) with wide viewing angle and shall be visible from the front of the meter. The display shall be electronic and when the meter is not energized, the electronic display need not be visible. The size of digit shall be minimum 8.5X3 mm The decimal units shall not be displayed in auto scroll mode. However it shall be displayed in push button mode for high resolution display for testing. LCD shall be suitable for temperature withstand of 70^o C. Adequate back up arrangement for storing of energy registered at the time of power interruption shall be provided.

In case of multiple values presented by single display, it shall be possible to display the contents of all relevant memories. When displaying the memory, the identification of each parameter applied shall be possible. The principle unit for measured values shall be the kilowatt-hour (kWh) for active energy, kVARh for reactive energy &kVAh for apparent energy.

11.02 The meter shall be pre-programmed for following details.

- (a) P. T. Ratio: 415 V
- (b) MD Integration Period: 30 Minutes real time based.
- (c) The meter shall Auto reset kVAMD at 24.00 Hrs. of last day of the month and this value shall be stored in the memory along with the cumulative kWh and cumulative kVAh reading.
- (d) No MD reset push button shall be provided.
- (e) Average power factor with 2 decimal digits shall be displayed.
- (f) The Default Display shall switch to Alternate Display (On Demand Display Mode) after pressing the push button continuously for 5 seconds.
- (g) The meter display shall return to Default Display Mode if the “On Demand” Push Button is not operated for 15 sec.
- (h) The array of data to be retained inside the meter memory shall be for the last 60 days for a capture period of 30 minutes. The load survey data shall be first in first out basis (FIFO).

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

- (i) The sequence of display of various instantaneous electrical parameters in auto scroll & On Demand mode shall be as below. Display other than specified below shall be blocked. The scroll period for auto scroll, if any, shall be 9 sec.

(A)	Default Display
1.	LCD Test
2.	Meter Sr. No.
3.	Real Time Clock – Date & Time
4.	Cumulative Energy – kWh
5.	Cumulative Energy – kWh - TOD Zone A (TZ1)
6.	Cumulative Energy – kWh - TOD Zone B (TZ2)
7.	Cumulative Energy – kWh - TOD Zone C (TZ3)
8.	Cumulative Energy – kWh - TOD Zone D (TZ4)
9.	Cumulative Energy – kVARh – Lag
10.	Cumulative Energy – kVARh - Lag- TOD Zone A (TZ1)
11.	Cumulative Energy – kVARh - Lag- TOD Zone B (TZ2)
12.	Cumulative Energy – kVARh - Lag- TOD Zone C (TZ3)
13.	Cumulative Energy – kVARh - Lag- TOD Zone D (TZ4)
14.	Cumulative Energy –kVARh – Lead
15.	Cumulative Energy – kVARh - Lead- TOD Zone A (TZ1)
16.	Cumulative Energy – kVARh - Lead- TOD Zone B (TZ2)
17.	Cumulative Energy – kVARh - Lead- TOD Zone C (TZ3)
18.	Cumulative Energy – kVARh - Lead- TOD Zone D (TZ4)
19.	Cumulative Energy – kVAh
20.	Cumulative Energy – kVAh - TOD Zone A (TZ1)
21.	Cumulative Energy – kVAh - TOD Zone B (TZ2)
22.	Cumulative Energy – kVAh - TOD Zone C (TZ3)

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

23.	Cumulative Energy – kVAh – TOD Zone D (TZ4)
24.	Current MD – kVA with occurrence date & time
25.	MD - kVA – TOD Zone A (TZ1) with occurrence date & time
26.	MD - kVA – TOD Zone B (TZ2) with occurrence date & time
27.	MD - kVA – TOD Zone C (TZ3) with occurrence date & time
28.	MD - kVA – TOD Zone D (TZ4) with occurrence date & time
29.	Number of MD – kVA reset
30.	Rising MD with elapsed time
31.	Three Phase Power Factor – PF
32.	Cumulative Tamper Count
33.	Meter Cover Opening –Occurance with date and time.
(B)	On – Demand Display (Alternate Display)
1.	Meter Sr. No.
2.	Last date & time of MD - kVA reset
3.	Current – I_R
4.	Current – I_Y
5.	Current – I_B
6.	Voltage – V_R
7.	Voltage – V_Y
8.	Voltage – V_B
9.	Signed Power Factor – R Phase
10.	Signed Power Factor – Y Phase
11.	Signed Power Factor – B Phase
12.	Frequency
13.	High resolution kWh/Wh (for calibration)

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

14.	High resolution kVAh/VAh Lag(for calibration)
15.	High resolution kVAh/VAh Lead(for calibration)
16.	High resolution kVAh/VAh (for calibration)
17.	M1 MD - kVA – TOD Zone A (TZ1) with occurrence date & time
18.	M1 MD - kVA –TOD Zone B (TZ2) with occurrence date & time
19.	M1 MD - kVA – TOD Zone C (TZ3) with occurrence date & time
20.	M1 MD - kVA – TOD Zone D (TZ4) with occurrence date & time
21.	M2 MD - kVA – TOD Zone A (TZ1) with occurrence date & time
22.	M2 MD - kVA –TOD Zone B (TZ2) with occurrence date & time
23.	M2 MD - kVA – TOD Zone C (TZ3) with occurrence date & time
24.	M2 MD - kVA – TOD Zone D (TZ4) with occurrence date & time
25.	Last Tamper Event with date and time.
26.	Active Power- kW-R phase (Instantaneous)
27.	Active Power- kW-Y phase (Instantaneous)
28.	Active Power- kW-B phase (Instantaneous)
29.	Reactive Power- kVAr- R phase (Instantaneous)
30.	Reactive Power- kVAr- Y phase (Instantaneous)
31.	Reactive Power- kVAr- B phase (Instantaneous)
32.	Apparent Power- kVA- R phase (Instantaneous)
33.	Apparent Power- kVA- Y phase (Instantaneous)
34.	Apparent Power- kVA- B phase (Instantaneous)
35.	Frequency (Instantaneous)
36.	Phase Sequence (Instantaneous)

12.00 DEMONSTRATION

The purchaser reserves the right to ask to give the demonstration of the equipment offered at the purchaser's place.

13.00 BILLING DATA, BILLING HISTORY & LOAD SURVEY

13.01 BILLING DATA

Billing parameters shall be downloaded as per table below.

(1)	Cumulative Energy –kWh
(2)	Cumulative Energy –kWh-TOD Zone A (TZ1)
(3)	Cumulative Energy –kWh-TOD Zone B (TZ2)
(4)	Cumulative Energy –kWh-TOD Zone C (TZ3)
(5)	Cumulative Energy –kWh-TOD Zone D (TZ4)
(6)	Maximum Demand- MD kVA with occurrence date & time
(7)	MD kVA- TOD Zone A (TZ1) with occurrence date & time
(8)	MD kVA- TOD Zone B (TZ2) with occurrence date & time
(9)	MD kVA- TOD Zone C (TZ3) with occurrence date & time
(10)	MD kVA- TOD Zone D (TZ4) with occurrence date & time
(11)	Cumulative Energy –kVAh
(12)	Cumulative Energy –kVAh-TOD Zone A (TZ1)
(13)	Cumulative Energy –kVAh-TOD Zone B (TZ2)
(14)	Cumulative Energy –kVAh-TOD Zone C (TZ3)
(15)	Cumulative Energy –kVAh-TOD Zone D (TZ4)
(16)	Cumulative Energy –kVArh (Lag)
(17)	Cumulative Energy –kVArh (Lead)
(18)	Voltage – V_{RN}
(19)	Voltage – V_{YN}
(20)	Voltage – V_{BN}
(21)	Current - I_R
(22)	Current – I_Y
(23)	Current – I_B

13.02 BILLING HISTORY

The meter shall have sufficient non-volatile memory for recording history of billing parameters (Cumulative kWh Total, Cumulative kVAh Total, Cumulative kVArh (Lag), Cumulative kVArh (Lead) at the

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

time of reset and kVAMD) for last 12 months.

13.03 LOAD SURVEY

The logging interval for load survey shall be 30 minutes. Load survey data shall be logged for last 60 days on non-time based basis, i.e. if there is no power for more than 24 hours, the day shall not be recorded. Whenever meter is taken out and brought to laboratory, the load survey data shall be retained for the period of actual use of meter. This load survey data can be retrieved as and when desired and load profiles shall be viewed graphically / analytically with the help of meter application software. The meter application software shall be capable of exporting / transmitting these data for analysis to other user software in spreadsheet format.

Sr. No.	Parameters
1.	Real Time Clock – Date & Time
2.	Current - I _R
3.	Current – I _Y
4.	Current – I _B
5.	Voltage – V _{RN}
6.	Voltage – V _{YN}
7.	Voltage – V _{BN}
8.	Block Energy – kWh
9.	Block Energy – kVArh – lag
10.	Block Energy – kVArh – lead
11.	Block Energy – kVAh

14.00 HAND HELD UNIT (HHU)

- 14.01 To enable local reading of meters data, a DLMS (Device Language Message Specification) compliant HHU shall be provided.
- 14.02 The HHU shall be as per specification given of IS: 15959 / 2011.
- 14.03 It shall be compatible to the DLMS compliant energy meters that are to be procured / supplied on the basis of this specification.
- 14.04 There shall be a provision for auto power save on HHU, which shall force the instrument in the power saving mode in case of no-activity within 5 minutes. The data shall not be lost in the event the batteries are drained or removed from the HHU.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

- 14.05 The HHU shall have a memory capacity of 512 MB SRAM (Static RAM) with battery backup & upgradeable and BIOS / OS on FLASH / EEPROM Memory of 256 KB (RAM-512 MB, FLASH-2GB, SD Card- 8GB with USB facility).
- 14.06 The manufacturer / supplier shall modify the compatibility of HHU with the meter and the base computer system due to any change in language or any other reasons at their own cost within guarantee period.
- 14.07 The HHU shall be type tested for (a) Tests of Mechanical requirement such as Free fall test, Shock Test, Vibration test, (b) Tests of Climatic influences such as Tests of Protection against Penetration of Dust and Water (IP 6X), Dry Heat test, Cold Test, Damp Heat Cyclic Test, (c) Tests for Electromagnetic Compatibility (EMC), (d) Test of Immunity to Electromagnetic HF Fields and (e) Radio Interference Measurement.
- 14.08 The equipment's offered shall be fully type tested at approved laboratory by National Accreditation Board for Testing and Calibration Laboratories (NABL) as per relevant standards within last 5 years from the date of opening of tender & the type test reports shall be enclosed with the offer.

15.00 COMPUTER SOFTWARE

- 15.01 For efficient and speedy recovery of data downloaded through HHU on base computer, licensed copies of base computer software shall be supplied free of cost.
- 15.02 This BCS software shall be password protected.
- 15.03 The computer software shall be "Windows" based of latest version & user friendly & shall support all versions of "Windows". Also whenever there is new upgrade version operating system is released, the computer software compatible to that version should be provided within 3 months free of cost.
- 15.04 The data transfer from meter to HHU & from HHU to laptop computer or PC shall be highly reliable and fraud proof.
No editing shall be possible on base computer as well as on HHU by any means.
- 15.05 This software shall be used at number of places up to Division / Sub Division level. Hence as many copies of base computer software as required up to Division / Sub Division level shall be provided by supplier.
- 15.06 Every report shall have the facility to print/export as text, pdf.
- 15.07 Exporting of meter number from BCS to HHU shall be selective on meter number or group of meters of particular MR-Route-Sequence or DTC code.
- 14.8 The software shall have capability to convert all the data into ASCII

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

Format as per MSEDCL requirement.

Load Survey as per clause 14.03 above.

a) Tamper Data:

Sr. No.	Tamper Event name as per Cl. No. 11.00	Occurrence	Restoration
1)	Missing potential		
2)	Potential imbalance		
3)	Current unbalance		
4)	Current Reversal		
5)	Current circuit short		
6)	High Neutral Current (CT bypass)		
7)	Power ON / OFF		
8)	Magnetic Tamper		
9)	Meter cover Open with date & time	Only occurrence	

Each latest tamper shall be displayed by meter on FIFO basis except tamper feature at sr. no. (9).

- 15.08 BCS shall maintain the audit log for connection and disconnection of HHU to BCS. The BCS shall have the option of downloading audit log.
- 15.09 BCS shall maintain the downloaded meter data including energy parameters, billing history, tampers, TOD data and load profile data.
- 15.10 BCS shall store the data to database in encrypted format. Encryption used shall be provided free of cost to MSEDCL.
- 15.11 BCS shall generate following exceptional reports
- (i) List of newly downloaded meters i.e. Meters not available in consumer master uploaded in HHU initially, but reading present in HHU.
 - (ii) List of Meters not downloaded i.e. Meter number available in consumer master uploaded in HHU, but reading not present in HHU.
- 15.12 It shall be possible to upload the HHU data to any PC having HHU software. A consumer based data uploading facility is required so that HHU shall upload data only in that PC which has the concerned consumers' data. The consumer number + meter number + make code

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

shall be the key for creating consumers' files or overwriting consumers' files in PC.

- 15.13 The BCS software shall create one single file for the uploaded data, e.g. if HHU contains the meter readings of 2,000 consumer meters and the said data is uploaded to BCS, then the BCS shall create a single file containing separate records for each consumer meter reading. Also there shall be a provision to give filenames while creating the file.
- 15.14 Bidder has to provide any new additional reports from BCS software, if required by MSEDCL in future and the same shall be made available free of cost.
- 15.15 The meter manufacturer shall have to depute Hardware and Software Engineers on call basis who shall have thorough knowledge of meter hardware / software used for downloading and converting so as to discuss the problems, if any, or new development in the hardware / software with Chief General Manager (IT) / Chief Engineer, Testing & Quality Control Cell, MSEDCL, Prakashgad, Bandra (E), Mumbai – 400 051 without any additional charge.
- 15.16 BCS shall support all current operating system versions and shall provide new version of BCS wherever the new version of operating system released.
- 15.17 As and when the meter manufacturer releases new or latest or advanced versions of meter hardware / firmware / software, the same shall be made available to purchaser immediately on the release date free of cost. The latest version shall support all existing hardware / meters in the field.

16.00 COMMUNICATION PROTOCOL

DMLS Category “C2” as per IS 15959/2011.

17.00 CONNECTION DIAGRAM AND TERMINAL MARKINGS

The connection diagram of the meter shall be clearly shown on inside portion of the terminal cover and shall be of permanent nature. Meter terminals shall also be marked and this marking shall appear in the above diagram. The diagram & terminal marking on sticker will not be allowed.

18.00 NAME PLATE AND MARKING

Meter shall have a purple colored name plate clearly visible, effectively secured against removal and indelibly and distinctly marked with all essential particulars as per relevant standards. Meter Serial Number shall be Bar Coded along with numeric number. The size of bar coded number shall not be less than 25 x5 mm. It should be easily readable through a bar code reader. The manufacturer's meter constant shall be

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

marked on the name plate. Meter serial number & bar code on sticker will not be allowed. In addition to the requirement as per IS, following shall be marked on the name plate.

- a) Purchase order No & date
- b) Month and Year of manufacture
- c) Name of purchaser, i.e. MSEDCL
- d) Guarantee Five Years
- e) ISI mark
- f) Communication capability : DLMS Compliant
- g) A sticker label containing warning notice in Marathi language which is to be stick up on meters front cover or printed on meter name plate with easily readable font size not less than 10 in red colour, which reads as

“सावधान ! मीटरला फेरफार करण्याचा प्रयत्न केल्यास अधिकतम वेगाने वीज नोंदणी होणार.१

19.00 TESTS:

19.01 TYPE TESTS:

Meter shall be fully type tested as per IS: 13779 / 2020 (amended up to date) and external AC / DC magnetic influence tests as per CBIP Tech-Report 325 with latest amendments. The Type Test Reports shall clearly indicate the constructional features of the type tested meters. Separate Type Test Reports for each offered type of meters shall be submitted. All the Type Tests shall have been carried out from Laboratories which are third party accredited by the National Board of Testing and Calibration Laboratories (NABL) of Govt. of India such as CPRI, Bangalore / Bhopal, ERDA Vadodara, YMPL, to prove that the meters meet the requirements of the specification.

Type Test Reports conducted in manufacturers own laboratory and certified by testing institute shall not be acceptable.

Type test reports shall be submitted along with offer. The purchaser reserves the right to demand repetition of some or all the type tests in presence of purchaser's representative at purchaser's cost.

Additional acceptance test shall be submitted before commencement of supply and shall be get approved by C.E. (Testing & QC).

- 19.02 The meter shall pass all the acceptance and routine tests as laid down in IS: 13779 / 2020(amended up to date) and also additional acceptance tests as prescribed in this specification. (3 to 8 meters from a lot more than 1,000 will be sealed randomly in the factory and will be tested for tamper events).

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

19.03 ADDITIONAL ACCEPTANCE TESTS:

The following additional tests shall be carried out in addition to the acceptance tests specified in IS: 13779/2020 (amended up to date)

(a) Other Acceptance Tests:

- i. The meter shall withstand continuously for a period of at least 5 minutes at a voltage of 440 V between phase and neutral without damage / problems.
- ii. Meter shall be tested for tamper conditions as stated in this specification.
- iii. Glow wire testing for poly-carbonate body.
- iv. Power consumption tests shall be carried out.
- v. The meter shall comply all the tests for external AC / DC magnetic field as per IS 13779/2020 CBIP Tech Report 325 with latest amendments. Moreover, the magnetic influence test for permanent magnet of 0.5 T for minimum period of 15 minutes shall be carried out by putting the magnet on the meter body. If, during the test, the accuracy of the meter gets affected, then the same shall be recorded as magnetic tamper event with date & time stamping and the meter shall record energy considering I_{max} and reference voltage at unity power factor in all the three phases. After removal of magnet, meter shall be subjected to accuracy test as per IS: 13779 /2020 (amended up to date). No deviation in error is allowed in the class index as per IS: 13779 /2020 (amended up to date) & this specification.
- vi. The meter shall withstand impulse voltage at 10 kV.
- vii. The meter shall remain immune for the test of electromagnetic HF/RF defined under the test no. 4.0 for EMI/EMC of IS 13779:2020 amended up to date. The meter shall remain immune for any higher signals than the present standards and MSEDCL technical specifications as indicated above.

Jammer test for sample meters shall be carried out for immunity at MSEDCL's Testing Division

The test 20.03 (b) (i) to (v) shall be carried out at factory for each inspected lot at the time of pre dispatch inspection.

The tests 20.03 b) (vi), (vii) & (viii) shall be carried out on one sample from first lot as per procedure laid down in IS: 13779 / 2020 (amended up to date) and CBIP Tech Report 325 (with latest amendments) in NABL LAB. The test report shall be got approved from Chief Engineer, MSEDCL, Testing & Quality Control Cell, 5th Floor, Prakashgad, Bandra (East), Mumbai – 400 051 before commencement of supply

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

Jammer test for sample meters shall be carried out at MSEDCL's Testing Division

(b) Limits of error:

(i) Limits of variation in percentage error due to change in voltage shall not exceed the values given in the following table:

Sr. No.	Influence quantities	Value of current (Balanced, unless otherwise stated)	Power factor	Limits of variation in % error for class 1 meter
(a)	Voltage variation between - 15% to +10%	I _b	1 0.5 lag	0.7 1.0
(b)	Voltage variation between - 40%, + 20% and + 10%	I _b	1 0.5 lag	1.1 1.5

(ii) The meter shall be tested at (-) 15% and at (-) 40% of reference voltage as well as (+) 10% and (+) 20% of reference voltage and shall record energy within limits of variation indicated above.

(iii) For other influence quantities like frequency variation, voltage unbalance etc. the limits of variation in percentage error will be as per IS: 13779 / 2020. (Amended up to date).

20.00 GUARANTEED TECHNICAL PARTICULARS:

The tenderer shall also furnish the particulars giving specific required details of Meters in schedule 'A' attached. The offers without the details in Schedule 'A' stand rejected.

21.00 PRE DESPATCH INSPECTIONS:

All Acceptance tests and inspection shall be carried out at the place of manufacturer unless otherwise specially agreed upon by the manufacturer and purchaser at the time of purchase. 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 material is being supplied in accordance with this specification.

The MSEDCL's representative / Engineer attending the above testing will carry out testing on suitable number of meter as per sampling procedure laid down in IS 13779/2020 (amended up to date) and

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

additional acceptance test as per this specification and issue test certificate approval to the manufacturer and give clearance for dispatch. The meter shall be sealed after inspection at works.

The first lot of meter may be jointly inspected by the Executive Engineer, Testing Division.

22.00 JOINT INSPECTION AFTER RECEIPT AT STORES (Random Sample Testing):

For carrying out Random Sample Testing (RST), the sample meters & CMRI shall be drawn from any one of the stores against inspected lot and same shall be tested at any of the Testing and Quality Assurance Units at Aurangabad, Bhandup, Kolhapur, Nagpur, Nashik and Pune.

Sample meters shall be drawn as per Annex H (Recommended Sampling Plan) of IS: 13779 / 2020 (amended upto date).

Sample meters shall be tested by MSEDCL Testing Engineer in presence of supplier's representative jointly for (i) Starting Current, (ii) Limits of error, (iii) Repeatability of error, (iv) No Load Test as per IS: 13779 / 2020 (amended upto date), (v) tamper conditions as per technical specifications and (vi) data downloading time as per specifications.

The 5 days advanced intimation shall be given to the supplier and if the supplier fails to attend the joint inspection on the date informed, the testing shall be carried out by our Testing Engineer in absence of supplier's representative. If the meters failed in above Random Sample Testing, the lot shall be rejected.

23.00 GUARANTEE:

The meter shall be guaranteed for the period of five years from the date of commissioning or five and half year from the date of dispatch whichever is earlier. The equipment's found defective within above guarantee period shall be replaced / repaired by the supplier free of cost, within one month of receipt of intimation. If defective equipment's are not replaced / repaired within the specified period as above, the MSEDCL shall recover an equivalent amount plus 15% supervision charges from any of the bills of the supplier.

24.00 PACKING:

24.01 The meters shall be suitably packed in order to avoid damage or disturbance during transit or handling. Each meter may be suitably packed in the first instance to prevent ingress of moisture and dust and then placed in a cushioned carton of a suitable material to prevent damage due to shocks during transit. The lid of the carton may be suitably sealed. A suitable number of sealed cartons may be packed in a case of adequate strength with extra cushioning, if considered necessary. The cases may then be properly sealed against accidental

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

opening in transit. The packing cases may be marked to indicate the fragile nature of the contents.

24.02 The following information shall be furnished with the consignment:

- Name of the consignee
- Details of consignment
- Destination
- Total weight of the consignment
- Sign showing upper / lower side of the crate
- Sign showing fragility of the material
- Handling and unpacking instructions
- Bill of Materials indicating contents of each package & spare material

25.00 TENDER SAMPLE

Tender Samples shall be as per tender documents. Samples of offered type as per technical specifications on or before the time & date stipulated for submission of offer for testing the sample meters in third party NABL Lab like ERDA, CPRI, CIPET, ERTL, YMPL etc.

The offer of those eligible bidders shall only be considered if the sample passes the tests at NABL Lab. The required information such as Manufacturer's Name or Trade Name, Sr. No, ISI Certification No., API specification No. etc. shall be provided on inner/outer portion of sample meters being submitted along with the offer.

Out of these, two samples shall be without Ultrasonic welding / Chemical Welding to confirm constructional features.

26.00 QUALITY CONTROL

The purchaser has a right to send a team of experienced engineers for assessing the capability of the firm for manufacturing and testing of meter as per this specification.

The team shall be given all assistance and cooperation for inspection and testing at the bidder's work.

27.00 MANUFACTURING ACTIVITIES

27.01 Meters shall be manufactured using latest and 'state of the art' technology and methods prevalent in electronics industry. The meter shall be made from high accuracy and reliable surface mount technology (SMT) components. All inward flow of major components and sub assembly parts (CT, PT, RTCs/Crystal, LCDs, LEDs, power circuit electronic components etc.) shall have batch and source identification. Multilayer 'PCB' assembly with 'PTH' (Plated through Hole) using surface mounted component shall have adequate track clearance for power

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

circuits. SMT component shall be assembled using automatic ‘pick-and-place’ machines, Reflow Soldering oven, for stabilized setting of the components on ‘PCB’. For soldered PCBs, cleaning and washing of cards, after wave soldering process is to be carried out as a standard practice. Assembly line of the manufacturing system shall have provision for testing of sub-assembled cards. Manual placing of components and soldering, to be minimized to items, which cannot be handled by automatic machine. Handling of ‘PCB’ with ICs/C-MOS components, to be restricted to bare minimum and precautions to prevent ‘ESD’ failure to be provided. Complete assembled and soldered PCB should undergo functional testing using computerized Automatic Test Equipment.

Test points should be provided to check the performance of each block / stage of the meter circuitry. RTC shall be synchronized with NPL time at the time of manufacture. Meters testing at intermediate and final stage shall be carried out with testing instruments, duly calibrated with reference standard, with traceability of source and date.

27.02 The manufacturer shall submit the list of plant and machinery along with the offer.

27.03 Meter shall be manufactured using SMT (Surface Mount Technology) components and by deploying automatic SMT pick and place machine and reflow solder process.

Further, the Bidder shall own or have assured access (through hire, lease or sub-contract, documentary proof shall be attached with the offer) of above facilities.

27.04 The calibration of meter shall be done in-house.

27.05 Quality shall be ensured at the following stages.

27.05.01 At PCB manufacturing stage, each Board shall be subjected to Computerized bare board testing.

27.05.02 At insertion stage, all components shall undergo computerized Testing for conforming to design parameter and orientation.

27.05.03 Complete assembled and soldered PCB shall undergo functional Testing using Automatic Test Equipment’s (ATEs).

27.05.04 Prior to final testing and calibration, all meter shall be subjected To ageing test (i.e. Meter will be kept in ovens for 72 hours at 55 deg C temperature & at full load current. After 72 hours meter shall work satisfactory) to eliminate infant mortality.

27.06 The bidders shall submit the list of all imported and indigenous components separately used in meter along with the offer.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

27.07 Bought out items:

A detailed list of bought out items which are used in the manufacturing of the meter shall be furnished indicating the name of firms from whom these items are procured. The bidder shall also give the details of quality assurance procedures followed by him in respect of the bought out items.

27.08 List of Plant and Machinery used for production of energy meter:

SN	List of Plant and Machinery used for Energy meter Production	
1	Fully automatic testing Bench with ICT for testing link less meter	Routine Testing and Calibration of Meter
2	Semi-automatic testing Bench with MSVT	Routine Testing and Calibration of Meter
3	IR Tester	Insulation testing
4	HV Tester	Insulation testing
5	Error calculators	Error testing
6	Long duration Running test set ups	Reliability Testing
7	Reference Meter Class 0.1 accuracy	Error calculation
8	Ultrasonic/Chemical welding Machines	Welding of meter
9	Automatic Pick and Place Machines	Automatic placing of SMT components
10	Solder Paste Printing Machine	SMT soldering
11	Soldering Furnace IR reflow	SMT soldering
12	PCB Scanner	For testing of PCBs
13	ATE functional tester	For testing of Components
14	Programmeters and Program Loaders	Chip Programming Tools
15	CAD PCB designing setups	PCB designing
16	Furnace IR type for Hybrid Micro Circuits	Resistance network and HMC manufacturing
17	Laser Trimming Machines	Trimming of resistances for higher accuracy

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

		measurement
18	Wave Soldering Machines	Wave soldering of PCBs
19	Humidity Chamber	Accelerated testing for Life cycle
20	Dry Heat Test Chamber	Accelerated testing for Life cycle
21	Thermal Shock Chamber	Accelerated testing for Life cycle
22	PRO - E Mechanical Design Stations	Mechanical CAD stations
23	Spark Erosion Tool fabricating Machine	Tool fabrication and Die manufacturing
24	CNC wire Cut Tool Fabrication machine	Tool fabrication and Die manufacturing
25	CNC Milling Machine for composite tool fabrication	Tool fabrication and Die manufacturing
26	Injection Molding Machine	Molding of plastic parts
27	Vibration testing Machine	Vibration testing of Meter
28	Glow Wire Test machine	Testing of Plastic Material
29	Fast transient burst testing setup	Type testing of Meter
30	Short term over Current testing setup	Type testing of Meter
31	Magnetic and other tamper testing setups	Tamper Testing
32	Impulse Voltage Testing Setup	Type testing of Meter
33	Composite Environmental testing chambers	Type testing of Meter

28.00 QUALITY ASSURANCE PLAN:

28.01 The tenderer shall invariably furnish QAP as specified in Annexure - I along with his offer the QAP adopted by him in the process of manufacturing.

28.02 Precautions taken for ensuring uses of quality raw material and subcomponents shall be stated in QAP.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

29.00 COMPONENT SPECIFICATION:

As per Annexure - II enclosed.

30.00 SCHEDULES:

The tenderer shall fill in the following schedules, which are part and partial of the tender specification and offer. If the schedules are not submitted duly filled in with the offer, the offer shall be liable for rejection.

Schedule 'A' Guaranteed technical particulars. (As per GTP uploaded on e - tendering site)

The discrepancies if any between the specification and the catalogs and / or literatures submitted as part of the offer by the bidders, the same shall not be considered and representations in this regard shall not be entertained.

ANNEXURE - I

Quality Assurance Plan

- A) The bidder shall invariably furnish the following information along with his bid, failing which his bid shall be liable for rejection. Information shall be separately given for individual type of material offered.
- (i) Statement giving list of important raw materials, names of sub- suppliers for the raw materials, list of standards according to which the raw materials are tested. List of test normally carried out on raw materials in presence of Bidder's representative, copies of test certificates:
 - (ii) Information and copies of test certificates as in (i) above in respect of bought out accessories.
 - (iii) List of manufacturing facilities available.
 - (iv) Level of automation achieved and list of areas where manual processing exists.
 - (v) List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.
 - (vi) List of testing equipment available with the bidder for final testing of equipment specified and test plan limitation. If any, vis-a-vis the type, special acceptance and routine tests specified in the relevant standards. These limitations shall be very clearly bought out in schedule of deviation from specified test requirements.
- B) The successful bidder shall within 30 days of placement of order, submit following information to the purchaser.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 - 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

- (i) List of raw materials as well as bought out accessories and the names of sub-suppliers selected from those furnished along with offers.
- (ii) Type test certificates of the raw materials and bought out accessories if required by the purchaser.
- (iii) Quality assurance plan (QAP) with hold points for purchaser's inspection.
The quality assurance plan and purchasers hold points shall be discussed between the purchaser and bidder before the QAP is finalized.
- C) The contractor shall operate systems which implement the following:
- (i) Hold point: A stage in the material procurement or workmanship process beyond which work shall not proceed without the documental approval of designated individuals organizations. The purchaser's written approval is required to authorise work to progress beyond the hold points indicated in quality assurance plans.
- (ii) Notification point: A stage in the material procurement or workmanship process for which advance notice of the activity is required to facilitate witness. If the purchaser does not attend after receiving documented notification in accordance with the agreed procedures and with the correct period of notice then work may proceed.
- D) The successful bidder shall submit the routine test certificates of bought out accessories and central excise passes for raw material at the time of routine testing if required by the purchaser and ensure that Quality Assurance program of the contractor shall consist of the quality systems and quality plans with the following details.
- (i) The structure of the organization.
The duties and responsibilities assigned to staff ensuring quality of work.
The system for purchasing, taking delivery and verification of material.
The system for ensuring quality workmanship.
The system for retention of records.
The arrangement by contractor for internal auditing.
A list of administration and work procedures required to achieve and verify contract's quality requirements shall be made readily available to the project manager for inspection on request.
- (ii) Quality Plans:
An outline of the proposed work and programme sequence.
The structure of the contractor's organization for the contract.
The duties and responsibilities assigned to staff ensuring quality of work.
Hold and notification points.
Submission of engineering documents required by the specification.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

The inspection of materials and components on receipt.

Reference to the contractor's work procedures appropriate to each activity.

Inspection during fabrication / construction.

Final inspection and test.

ANNEXURE – II

COMPONENT SPECIFICATION

The make/grade and the range of the components should be from the following list makes or equivalent reputed makes

SN	Component Function	Requirement	Makes & Origin
1.	Current Transformers/ Shunt	The Meters shall be with the current transformers as measuring elements. The current transformer shall withstand for the clauses under 5 & 9 of IS: 13779 / 2020	
2.	Measurement or computing chips	The measurement or computing chips used in the Meter shall be with the Surface mount type along with the ASICs.	USA: Teridian, Analog Devices, Cyrus Logic, Atmel, Philips, Dallas, ST, Motorola, Texas Instruments, Maxim, Freescale, National Semiconductor, Onsemiconductors. Germany: Siemens. South Africa: SAMES. Japan: NEC, Toshiba, Renasas, Hitachi. Austria: AMS. Holland: Philips (N X P) Taiwan: Prolific
3.	Memory chips	Memory chips shall not be affected by external parameters like sparking, high voltage spikes or	USA: Teridian, Atmel, Philips, ST, National Semiconductors, Texas

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

		<p>electrostatic discharges.</p> <p>Meter shall have nonvolatile memory (NVM). No other type of memory shall be used for data recording and programming. (The life of the NVM is highest). There shall be security isolation between metering circuit, communication circuit, and power circuit.</p>	<p>Instruments, Microchip, Spason (Fujitsu), Ramtron.</p> <p>Japan: Hitachi, Renesas.</p> <p>Germany: Siemens</p>
4.	Display modules	<p>a) The display modules shall be well protected from the external UV radiations.</p> <p>b) The display visibility shall be sufficient to read the Meter mounted at a height of 0.5 meter as well as at the height of 2 meters (refer 3.2 d for viewing angle).</p> <p>c) The construction of the modules shall be such that the displayed quantity shall not disturb with the life of display (PIN Type).</p> <p>d) It shall be Tran-reflective HTN or STN type industrial grade with extended temperature range.</p>	<p>Singapore: Bonafied Technologies, Displaytech, E-smart</p> <p>Korea: Advantek, Jebon, Union Display Inc.</p> <p>Hong Kong: Genda</p> <p>China: Success, Truly, Tianma</p> <p>Japan: Hitachi, Sony, L & G.</p> <p>Malaysia: Crystal Clear Technology.</p>
5.	Communication Modules	<p>Communication modules shall be compatible for the two ports (one for optical port for communication with meter reading instruments & the other for the hardwired RS-232 port to communicate with various modems for AMR)</p>	<p>USA: Agilent, HP, Fairchild, National Semiconductors, Optonica.</p> <p>Holland: Philips.</p> <p>Korea: Phillips.</p> <p>Japan: Hitachi.</p> <p>Taiwan: Ligitek</p>
6.	Optical port	<p>Optical port shall be used to transfer the meter data to meter reading instrument. The mechanical construction of the port shall be such to facilitate the data transfer easily.</p>	<p>USA: HP, National Semiconductors, Maxim.</p> <p>Holland: Philips.</p> <p>Korea: Phillips.</p> <p>Japan: Hitachi</p>

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

			Taiwan: Ligitek, Everlight Germany: Osram
7.	Power supply	The power supply shall be with the Capabilities as per the relevant standards. The power supply unit of the meter shall not be affected in case the maximum voltage of the system appears to the terminals due to faults or due to wrong connections. It shall not also be affected by magnet	SMPS Type
8.	Electronic Components	The active & passive components shall be of the surface mount type & are to be handled & soldered by the state of art assembly processes.	USA: Atmel, National Semiconductors, BC Component, Philips, Texas Instruments, Analog Devices. ST, Onsemiconductors, Maxim, Muruta, Kemet, Freescale, AVX, Intersil, Raltron, Fox, Fairchild, Agilent, Abracon, Diode Inc., Honeywell, Sipex Power Integration, R-ohm. Japan: Hitachi, Oki, AVZ, Ricon, Toshiba, Epson, Kemet, Alps, Muruta, TDK, Sanyo, Samsung. India: RMC, VEPL, KELTRON, Incap, PEC, Cermet, Gujarat Polyavx, Prismatic, MFR Electronic Components Pvt. Ltd., CTR. Korea: Samsung Japan: Panasonic Germany: Kemet, Vishay, Epcos, Diotech, Infineon.

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

			Taiwan: Yageo
9.	Mechanical parts	<p>a) The internal electrical components shall be of electrolytic copper & shall be protected from corrosion, rust etc.</p> <p>b) The other mechanical components shall be protected from rust, corrosion etc. by suitable plating / painting methods.</p>	
10.	Battery	Maintenance free battery (Ni-mh or Li-ion) of long life of 10 years.	<p>USA: Varta, Tedirun, Sanyo or National, Maxell, Renata.</p> <p>Japan: Panasonic, Sony, Mitsubishi.</p> <p>France: Saft.</p> <p>Korea: Tekcell.</p> <p>Germany: Varta.</p>
11.	RTC & Micro controller.	The accuracy of RTC shall be as per relevant IEC / IS standards.	<p>USA: ST, Teridian, Philips, Dallas, Atmel, Motorola, Microchip.</p> <p>Japan: NEC, Oki, Epson.</p>
12.	P.C.B.	Glass Epoxy, fire resistance grade FR4, with minimum thickness 1.6 mm.	

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

ANNEXURE - III
MAKE CODE OF METERS

Make Code	Description
002	ANDHRA PRADESH ELECTRIC EQUIPMENT COR. LTD.
003	A.E.G.
004	BARODA ELECTRIC METERS LTD., VALLABH VIDYANAGAR
006	CHAMBERLAIN & HOOKHAM LTD.
008	DASS HITACHI PVT. LTD., NEW DELHI
010	ELECTRIC CONSTRUCTION & EQUIPMENT CO., SONEPAT
014	ELECTRICAL INSTRUMENTS MFG.CO.LTD. AHMEDABAD
015	HAVELLS ELECTRICALS
016	INDIA METERS LIMITED, MADRAS
018	INDUSTRIAL METERS PRIVATE LIMITED
020	JAIPUR METERS & ELECTRICALS LIMITED, JAIPUR
022	LANDIES & GYR LIMITED
023	LINKWELL TELESYSTEMS, HYDERABAD
024	MALIK METERS PRIVATE LIMITED, BOMBAY
026	METERS & INSTRUMENTS PVT. LTD., NEW DELHI
028	RADIO & ELECTRICALS MFG.CO.LTD., BANGALORE
030	SIMCO METERS LIMITED, TIRUCHIRAPALLI
034	UNITED ELECTRICAL INDUSTRIES LTD.,CALCUTTA
035	VOLTAS

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 - 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

036	AEC COMPANY
038	ARON
039	ALLIED ENGGINEERING WORKS LTD.
040	BUXLELS
041	DELHI CONTROL DEVICES PVT. LTD.
042	C.R.E. WOD CO. PVT. LTD.
043	GENUS INNOVATION LTD.
044	CONTIMENTS
045	NAINA POWER PVT. LTD.
046	GANG & CO. LTD., BUDAPEST
048	KRIZIC
050	SIEMENS
052	SCLUMBER
053	L & T
054	Datapro
055	Secure
056	DUKE ARNIES
057	A.B.B
058	ROLEX
059	L&G
061	ELYMER
062	AVENER
063	ELSTER METERING
064	ACCURATE
065	GENUS

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
 10 - 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

066	CAPITAL POWER SYSTEMS PVT LTD
067	VAN ELECTRO DEVICES PVT LTD
068	GEC ALSTHOM INDIA LTD
069	GILBERT ELECTRICALS AND ELECTRONICS PVT LTD
070	KEI ELECTRICALS PVT LTD
071	MODEN INSTUMENTS PVT LTD
072	POWERTEC METERS
074	EMCO
075	HIMACHAL ENERGY
076	HPL
078	SHENZEN
079	SEMICONDUCTOR COMPLEX LTD
080	LOTUS WIRES AND CABLES
081	OMNI AGATE SYSTEM
082	PALMOHAN
083	SYNERGY
084	RC ENERGY METERING PVT. LTD
086	MOTWANI MANUFACTURE
087	MODERN INSTRUMENTS PVT LTD
088	AVON METERS
089	KELTRON COUNTERS LTD
091	TERANA INFOTECK
092	NATIONAL TELECOM
093	TTL LTD
094	TOWERS AND TRANSFORMERS
095	ESPRITE SWITCHGEAR PVT LTD
096	BENTEX ELECTRICALS
097	BHARAT HEAVY ELECTRICAL LTD

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE DLMS COMPLAINT
10 - 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER.**

098	FLASH
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**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE 10 – 40 AMPS STATIC TOD
 TRI-VECTOR ENERGY METER WITH 6LoWPAN BASED LPRF AS COMMUNICATION CAPABILITY.**
SCHEDULE 'A'
GUARANTEED TECHNICAL PARAMETERS

SR. NO.	PARAMETERS	GTP VALUES
1.0	MANUFACTURER'S / SUPPLIER'S NAME AND ADDRESS WITH WORKS ADDRESS	TO BE FILLED BY MANUFACTURER
2.0	MAKE & TYPE	TO BE FILLED BY MANUFACTURER
3.0	APPLICABLE STANDARD	IS 13779:2020, CBIP 325
4.0	METER BEARS ISI MARK	YES
5.0	ACCURACY CLASS 1.00	1.00
6.0	RATED VOLTAGE RANGE	+ 20 % TO – 40 % OF RATED VOLTAGE.
7.0	RATED VOLTAGE	3 X 240 VOLTS PH-N
8.0	RATED BASIC CURRENT I_b	10 AMPS PER PHASE
9.0	MAXIMUM CURRENT	4 TIMES (400%) OF I_B
10.0	STARTING CURRENT	0.2% OF I_B
11.0	FREQUENCY RANGE	50 HZ \pm 5%
12.0	POWER SUPPLY IS SMPS	SMPS (SWITCHED MODE POWER SUPPLY)
13.0	POWER FACTOR ZERO TO UNITY (ALL LAG OR LEAD)	ZERO LAG TO UNITY TO ZERO LEAD TO UNITY
14.0	STANDARD REFERENCE TEMPERATURE FOR PERFORMANCE IS 27°C	27°C
15.0	MEAN TEMPERATURE CO-EFFICIENT DOES NOT EXCEED 0.07%	0.07%

TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER WITH 6LoWPAN BASED LPRF AS COMMUNICATION CAPABILITY.

16.0	TEMPERATURE RISE IS AS PER IS: 13779 / 2020 (AMENDED UP TO DATE)	YES
17.0	OPAQUE METER BASE & TRANSPARENT TOP COVER MADE OF UNBREAKABLE, TOUGH, HIGH GRADE, FIRE RESISTANT POLYCARBONATE MATERIAL	YES
18.0	METER BODY TYPE TESTED FOR IP 51 DEGREE OF PROTECTION AS PER IS 12063	YES
19.0	MOULDED TERMINAL BLOCK CONFORMS TO IS: 13779 / 2020 (AMENDED UP TO DATE)	YES
20.0	EXTENDED TRANSPARENT TERMINAL COVER AS PER CLAUSE NUMBER 6.5.2 OF IS: 13779 / 2020 (AMENDED UP TO DATE) IS PROVIDED	YES
21.0	TRANSPARENT TERMINAL COVER IS SEALABLE INDEPENDENTLY	YES
22.0	PROPER SIZES OF GROOVES/U CUT ARE PROVIDED AT BOTTOM OF TERMINAL COVER	YES
23.0	METER BASE & COVER ARE ULTRASONICALLY/CHEMICALLY WELDED (CONTINUOUS WELDING)	YES
24.0	THICKNESS OF MATERIAL FOR METER 2 MM MINIMUM	2 MM MINIMUM
25.0	RTC PRE-PROGRAMMED FOR 30 YEARS DAY / DATE	30 YEARS DAY / DATE
26.0	TIME ACCURACY OF RTC AS PER CBIP TECH REPORT 325	YES
27.0	PROVISION TO PUT AT LEAST TWO SEALS BY UTILITY USER	YES

**TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE 10 – 40 AMPS STATIC TOD
 TRI-VECTOR ENERGY METER WITH 6LoWPAN BASED LPRF AS COMMUNICATION CAPABILITY.**

28.0	COMPLETE METERING SYSTEM & MEASUREMENT NOT AFFECTED BY EXTERNAL ELECTROMAGNETIC INTERFERENCE AS PER CL. NO. 6.16 OF TECH. SPECS.	YES
29.0	METER ACCURACY NOT AFFECTED BY AC / DC MAGNETIC FIELD AS PER CBIP 325	YES
30.0	METER ACCURACY DOES NOT GET INFLUENCED BY INJECTION OF HIGH FREQUENCY AC VOLTAGE / CHOPPED SIGNAL / DC SIGNAL AND HARMONICS ON THE TERMINALS OF THE METER	YES
31.0	METER RECORDS AND DISPLAYS TOTAL ENERGY INCLUDING HARMONIC ENERGY.	YES
32.0	METER DISPLAYS UNSATISFACTORY FUNCTIONING OR NONFUNCTIONING OF REAL TIME CLOCK BATTERY	YES
33.0	METER PCB IS WIRELESS	YES
34.0	BATTERY BACK UP WITH MINIMUM 10 YEARS LIFE IS PROVIDED	YES
35.0	METER WITHSTANDS PHASE TO PHASE VOLTAGE (440 V) IF APPLIED BETWEEN PHASE TO NEUTRAL FOR MINIMUM 5 MIN	YES
36.0	POWER SUPPLY UNIT IS TRANSFORMER LESS	YES
37.0	PUSH BUTTON PROVIDED FOR SCROLLING THE PARAMETERS IN ALTERNATE DISPLAY (ON DEMAND) MODE	YES
38.0	OPERATION INDICATOR PROVIDED IN THE FORM OF BLINKING LED / LCD	YES
39.0	METER CONSTANT INDELIBLY PROVIDED ON THE NAMEPLATE	YES
40.0	METER MANUFACTURED USING SMT	YES
41.0	TOD TIME ZONES PROVIDED	YES
42.0	ALL ANTI-TAMPER FEATURES AS PER CLAUSE 10.00 ARE PROVIDED	YES

TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER WITH 6LoWPAN BASED LPRF AS COMMUNICATION CAPABILITY.

43.0	IF THE METER GETS AFFECTED UNDER INFLUENCE OF ANY MAGNETIC FIELD (AC / DC / PERMANENT), THEN THE SAME SHALL BE RECORDED AS MAGNETIC TAMPER EVENT WITH DATE & TIME STAMPING AND THE METER SHALL RECORD ENERGY MAXIMUM VALUE CURRENT AND REFERENCE VOLTAGE AT UNITY POWER FACTOR	YES
44.0	LCD CHECK IS PROVIDED TO DISPLAY HEALTHINESS OF ALL SEGMENTS	YES
45.0	BACKLIT LCD TYPE DISPLAY IS PROVIDED	YES
46.0	NUMBER OF DIGITS FOR ENERGY DISPLAY PROVIDED	5 DIGITS
47.0	MINIMUM SIZE OF DIGITS	8.5X 3 MM
48.0	DISPLAY PARAMETERS PREPROGRAMMED AT FACTORY AS PER CL. 12.00	YES
49.0	PERIOD FOR AUTO SCROLL IS 9 SEC.	9 SEC
50.0	POWER CONSUMPTION IN VOLTAGE CIRCUIT	SHALL NOT EXCEED 1.5 W AND 10 VA
51.0	POWER CONSUMPTION IN CURRENT CIRCUIT	SHALL NOT EXCEED 4 VA
52.0	CONVENTIONAL TRANSFORMER LESS POWER SUPPLY IS PROVIDED	YES
53.0	PUSH BUTTON IS PROVIDED FOR HIGH RESOLUTION READINGS OF DISPLAY WITH TWO DECIMAL POINTS FOR KWH AND ONE DECIMAL POINT FOR WH	YES
54.0	PUSH BUTTON ARRANGEMENT FOR ACTIVATION OF BATTERY IS PROVIDED	YES
55.0	KVAMD PROVIDED	YES

TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER WITH 6LoWPAN BASED LPRF AS COMMUNICATION CAPABILITY.

56.0	INTEGRATION PERIOD OF KVAMD	15 MINUTES BY BLOCK WINDOW METHOD
57.0	COMMUNICATION CAPABILITY AS PER CL. NO. 15.00 OF SPECIFICATION	YES
58.0	BASE COMPUTER SOFTWARE PROVIDED IS USER FRIENDLY & WINDOWS BASED & SUPPORTS ALL VERSIONS OF “WINDOWS”.	YES
59.0	BCS SUPPORTS ALL CURRENT OPERATING SYSTEM VERSIONS.	YES
60.0	IMPORT / EXPORT OF DATA THROUGH BCS CAN BE THROUGH ANY USB PORT OF PC / LAPTOP.	YES
61.0	BCS SOFTWARE HAS CAPABILITY TO CONVERT ALL THE DATA INTO ASCII FORMAT AS PER MSEDCL REQUIREMENT.	YES
62.0	BCS MAINTAINS AUDIT LOG FOR CONNECTION AND DISCONNECTION OF HHU TO BCS.	YES
63.0	BCS HAS OPTION OF DOWNLOADING AUDIT LOG.	YES
64.0	BCS MAINTAINS DOWNLOADED BILLING HISTORY.	YES
65.0	BCS STORES DATA TO DATABASE IN ENCRYPTED FORMAT.	YES
66.0	TOTAL TIME TAKEN FOR DOWNLOADING ALL DATA FOR 60 DAYS	UP TO 26 MINUTES
67.0	METER IS TYPE TESTED	BOOLEAN
68.0	TYPE TEST REPORT NUMBER & DATE OF METER	TO BE FILLED BY MANUFACTURER
69.0	GUARANTEE 5 YEARS FROM INSTALLATION OR FIVE & HALF YEARS FROM DATE OF DESPATCH	YES

TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER WITH 6LoWPAN BASED LPRF AS COMMUNICATION CAPABILITY.

70.0	IN HOUSE TESTING FACILITIES ARE AVAILABLE FOR (a) INSULATION RESISTANCE MEASUREMENT	YES
71.0	(b) NO LOAD CONDITION	YES
72.0	(c) STARTING CURRENT TEST	YES
73.0	(d) ACCURACY TEST REQUIREMENT	YES
74.0	(e) POWER CONSUMPTION	YES
75.0	(f) FULLY COMPUTERISED METER TEST BENCH SYSTEM FOR CARRYING OUT ROUTINE AND ACCEPTANCE TEST IS AVAILABLE	YES
76.0	(g) MANUFACTURER HAS CALIBRATED STANDARD METER OF 0.1 CLASS ACCURACY	YES
77.0	(h) GLOW WIRE TESTING	YES
78.0	FURNISH PRINCIPLE OF OPERATION OF METER OUTLINING METHODS AND STAGES OF COMPUTATIONS OF VARIOUS PARAMETERS STARTING FROM INPUT VOLTAGE AND CURRENT SIGNALS INCLUDING SAMPLING RATE IF APPLICABLE	YES
79.0	MANUFACTURING ACTIVITIES ARE AS PER CLAUSE 28.00	YES
80.0	QAP SUBMITTED AS PER ANNEXURE-I	YES
81.0	METER COMPLIES WITH ANNEXURE IV, V & VI OF TECHNICAL SPECIFICATION	YES
82.0	PERMANENT NATURE CONNECTION DIAGRAM OF METER IS SHOWN ON INSIDE PORTION OF THE TERMINAL COVER.	YES

TECHNICAL SPECIFICATION OF LT AC THREE PHASE, FOUR WIRE 10 – 40 AMPS STATIC TOD TRI-VECTOR ENERGY METER WITH 6LoWPAN BASED LPRF AS COMMUNICATION CAPABILITY.

83.0	METER TERMINALS ARE MARKED AND THIS MARKING APPEARS IN THE ABOVE PERMANENT NATURE CONNECTION DIAGRAM.	YES
84.0	NAME PLATE & MARKING AS PER CLAUSE NO. 18.00	YES
85.0	SPARK DISCHARGE TEST AT 35 KV IS CARRIED OUT AS PER TECHNICAL SPECIFICATION	YES
86.0	FURNISH PHYSICAL WATER ABSORPTION VALUE	TO BE FILLED BY MANUFACTURER
87.0	AGEING TEST IS CARRIED OUT AS PER CLAUSE 29.04.04 OF TECHNICAL SPECIFICATION	YES

THREE PHASE 10-40A DLMS METER

GTP Order Sequence	GTP Parameters	Date Type
1	MANUFACTURER'S / SUPPLIER'S NAME AND ADDRESS WITH WORKS	TEXT
2	MAKE & TYPE	TEXT
3	APPLICABLE STANDARD	TEXT
4	METER BEARS ISI MARK	BOOLEAN
5	ACCURACY CLASS 1.00	TEXT
6	RATED VOLTAGE RANGE	TEXT
7	RATED VOLTAGE	TEXT
8	RATED BASIC CURRENT Ib	TEXT
9	MAXIMUM CURRENT	TEXT
10	STARTING CURRENT	TEXT
11	FREQUENCY RANGE	TEXT
12	POWER SUPPLY IS SMPS	TEXT
13	POWER FACTOR ZERO TO UNITY (ALL LAG OR LEAD)	TEXT
14	STANDARD REFERENCE TEMPERATURE FOR PERFORMANCE IS 27OC	TEXT
15	MEAN TEMPERATURE CO-EFFICIENT DOES NOT EXCEED 0.07%	TEXT
16	TEMPERATURE RISE IS AS PER IS: 13779 / 2020 (AMENDED UP TO DATE)	BOOLEAN
17	OPAQUE METER BASE & TRANSPARENT TOP COVER MADE OF UNBREAKABLE, TOUGH, HIGH GRADE, FIRE RESISTANT POLYCARBONATE	BOOLEAN
18	METER BODY TYPE TESTED FOR IP 51 DEGREE OF PROTECTION AS PER	BOOLEAN
19	MOULDED TERMINAL BLOCK CONFORMS TO IS: 13779 / 2020 (AMENDED UP TO DATE)	BOOLEAN
20	EXTENDED TRANSPARENT TERMINAL COVER AS PER CLAUSE NUMBER 6.5.2 OF IS: 13779 / 2020 (AMENDED UP TO DATE) IS PROVIDED	BOOLEAN
21	TRANSPARENT TERMINAL COVER IS SEALABLE INDEPENDENTLY	BOOLEAN
22	PROPER SIZES OF GROOVES/U CUT ARE PROVIDED AT BOTTOM OF TERMINAL COVER	BOOLEAN
23	METER BASE & COVER ARE ULTRA-SONICALLY/CHEMICALLY WELDED (CONTINUOUS WELDING)	BOOLEAN
24	THICKNESS OF MATERIAL FOR METER 2 MM MINIMUM	BOOLEAN
25	RTC PRE-PROGRAMMED FOR 30 YEARS DAY / DATE	BOOLEAN
26	TIME ACCURACY OF RTC AS PER CBIP TECH REPORT 325	BOOLEAN
27	PROVISION TO PUT AT LEAST TWO SEALS BY UTILITY USER	BOOLEAN
28	COMPLETE METERING SYSTEM & MEASUREMENT NOT AFFECTED BY EXTERNAL ELECTROMAGNETIC INTERFERENCE AS PER CL. NO. 6.16 OF	BOOLEAN
29	METER ACCURACY NOT AFFECTED BY AC / DC MAGNETIC FIELD AS PER	BOOLEAN

30	METER ACCURACY DOES NOT GET INFLUENCED BY INJECTION OF HIGH FREQUENCY AC VOLTAGE / CHOPPED SIGNAL / DC SIGNAL AND HARMONICS ON THE TERMINALS OF THE METER	BOOLEAN
31	METER RECORDS AND DISPLAYS TOTAL ENERGY INCLUDING HARMONIC ENERGY.	BOOLEAN
32	METER DISPLAYS UNSATISFACTORY FUNCTIONING OR NONFUNCTIONING OF REAL TIME CLOCK BATTERY	BOOLEAN
33	METER PCB IS WIRELESS	BOOLEAN
34	BATTERY BACK UP WITH MINIMUM 10 YEARS LIFE IS PROVIDED	BOOLEAN
35	METER WITHSTANDS PHASE TO PHASE VOLTAGE (440 V) IF APPLIED BETWEEN PHASE TO NEUTRAL FOR MINIMUM 5 MIN	BOOLEAN
36	POWER SUPPLY UNIT IS TRANSFORMER LESS	BOOLEAN
37	PUSH BUTTON PROVIDED FOR SCROLLING THE PARAMETERS IN ALTERNATE DISPLAY (ON DEMAND) MODE	BOOLEAN
38	OPERATION INDICATOR PROVIDED IN THE FORM OF BLINKING LED / LCD	BOOLEAN
39	METER CONSTANT INDELIBLY PROVIDED ON THE NAMEPLATE	BOOLEAN
40	METER MANUFACTURED USING SMT	BOOLEAN
41	TOD TIME ZONES PROVIDED	BOOLEAN
42	ALL ANTI-TAMPER FEATURES AS PER CLAUSE 10.00 ARE PROVIDED	BOOLEAN
43	IF THE METER GETS AFFECTED UNDER INFLUENCE OF ANY MAGNETIC FIELD (AC / DC / PERMANENT), THEN THE SAME SHALL BE RECORDED AS MAGNETIC TAMPER EVENT WITH DATE & TIME STAMPING AND THE METER SHALL RECORD ENERGY MAXIMUM VALUE CURRENT AND REFERENCE VOLTAGE AT UNITY POWER FACTOR	BOOLEAN
44	LCD CHECK IS PROVIDED TO DISPLAY HEALTHINESS OF ALL SEGMENTS	BOOLEAN
45	BACKLIT LCD TYPE DISPLAY IS PROVIDED	BOOLEAN
46	NUMBER OF DIGITS FOR ENERGY DISPLAY PROVIDED	TEXT
47	MINIMUM SIZE OF DIGITS	TEXT
48	DISPLAY PARAMETERS PREPROGRAMMED AT FACTORY AS PER CL. 12.00	BOOLEAN
49	PERIOD FOR AUTO SCROLL IS 9 SEC.	TEXT
50	POWER CONSUMPTION IN VOLTAGE CIRCUIT	TEXT
51	POWER CONSUMPTION IN CURRENT CIRCUIT	TEXT
52	CONVENTIONAL TRANSFORMER LESS POWER SUPPLY IS PROVIDED	BOOLEAN
53	PUSH BUTTON IS PROVIDED FOR HIGH RESOLUTION READINGS OF DISPLAY WITH TWO DECIMAL POINTS FOR KWH AND ONE DECIMAL POINT	BOOLEAN
54	PUSH BUTTON ARRANGEMENT FOR ACTIVATION OF BATTERY IS	BOOLEAN
55	KVAMD PROVIDED	BOOLEAN
56	INTEGRATION PERIOD OF KVAMD	TEXT
57	COMMUNICATION CAPABILITY AS PER CL. NO. 15.00 OF SPECIFICATION	BOOLEAN
58	BASE COMPUTER SOFTWARE PROVIDED IS USER FRIENDLY & WINDOWS BASED & SUPPORTS ALL VERSIONS OF "WINDOWS".	BOOLEAN
59	BCS SUPPORTS ALL CURRENT OPERATING SYSTEM VERSIONS.	BOOLEAN

60	IMPORT / EXPORT OF DATA THROUGH BCS CAN BE THROUGH ANY USB PORT OF PC / LAPTOP.	BOOLEAN
61	BCS SOFTWARE HAS CAPABILITY TO CONVERT ALL THE DATA INTO ASCII FORMAT AS PER MSEDCL REQUIREMENT.	BOOLEAN
62	BCS MAINTAINS AUDIT LOG FOR CONNECTION AND DISCONNECTION OF HHU TO BCS.	BOOLEAN
63	BCS HAS OPTION OF DOWNLOADING AUDIT LOG.	BOOLEAN
64	BCS MAINTAINS DOWNLOADED BILLING HISTORY.	BOOLEAN
65	BCS STORES DATA TO DATABASE IN ENCRYPTED FORMAT.	BOOLEAN
66	TOTAL TIME TAKEN FOR DOWNLOADING ALL DATA FOR 60 DAYS	TEXT
67	METER IS TYPE TESTED	BOOLEAN
68	TYPE TEST REPORT NUMBER & DATE OF METER	TEXT
69	GUARANTEE 5 YEARS FROM INSTALLATION OR FIVE & HALF YEARS FROM DATE OF DESPATCH	BOOLEAN
70	IN HOUSE TESTING FACILITIES ARE AVAILABLE FOR (a) INSULATION RESISTANCE MEASUREMENT	BOOLEAN
71	(b) NO LOAD CONDITION	BOOLEAN
72	(c) STARTING CURRENT TEST	BOOLEAN
73	(d) ACCURACY TEST REQUIREMENT	BOOLEAN
74	(e) POWER CONSUMPTION	BOOLEAN
75	(f) FULLY COMPUTERISED METER TEST BENCH SYSTEM FOR CARRYING OUT ROUTINE AND ACCEPTANCE TEST IS AVAILABLE	BOOLEAN
76	(g) MANUFACTURER HAS CALIBRATED STANDARD METER OF 0.1 CLASS ACCURACY	BOOLEAN
77	(h) GLOW WIRE TESTING	BOOLEAN
78	FURNISH PRINCIPLE OF OPERATION OF METER OUTLINING METHODS AND STAGES OF COMPUTATIONS OF VARIOUS PARAMETERS STARTING FROM INPUT VOLTAGE AND CURRENT SIGNALS INCLUDING SAMPLING RATE IF	BOOLEAN
79	MANUFACTURING ACTIVITIES ARE AS PER CLAUSE 28.00	BOOLEAN
80	QAP SUBMITTED AS PER ANNEXURE-I	BOOLEAN
81	METER COMPLIES WITH ANNEXURE IV, V & VI OF TECHNICAL	BOOLEAN
82	PERMANENT NATURE CONNECTION DIAGRAM OF METER IS SHOWN ON INSIDE PORTION OF THE TERMINAL COVER.	BOOLEAN
83	METER TERMINALS ARE MARKED AND THIS MARKING APPEARS IN THE ABOVE PERMANENT NATURE CONNECTION DIAGRAM.	BOOLEAN
84	NAME PLATE & MARKING AS PER CLAUSE NO. 18.00	BOOLEAN
85	SPARK DISCHARGE TEST AT 35 KV IS CARRIED OUT AS PER TECHNICAL SPECIFICATION	BOOLEAN
86	FURNISH PHYSICAL WATER ABSORPTION VALUE	TEXT
87	AGEING TEST IS CARRIED OUT AS PER CLAUSE 29.04.04 OF TECHNICAL SPECIFICATION	BOOLEAN

Required Documents (To be uploaded online)

Sr. No.	NAME	SECTION	ITEM	DESCRIPTION
1	Annexure-E Consent for supplying the Material as per MSEDCL Standard Technical Specifications	Technical Section	THREE PHASE 10-40A DLMS	Annexure-E Consent for supplying the Material as per MSEDCL Standard Technical Specifications
2	Documentary evidence for QAP of Technical Specification i.e. Annexure-D	Technical Section	THREE PHASE 10-40A DLMS	Documentary evidence for QAP of Technical Specification i.e. Annexure-D
3	Notarized power of attorney in favor of appointed agent / representative.	Commercial Section		Notarized power of attorney in favor of appointed agent / representative.
4	List of year wise, item wise orders executed and under execution duly certified by C.A.	Commercial Section		List of year wise, item wise orders executed and under execution duly certified by C.A.
5	Doc. Evid. in respect of classification of your unit as per Micro, Small and Medium Enterprises	Commercial Section		Doc. Evid. in respect of classification of your unit as per Micro, Small and Medium Enterprises Development Act 2006
6	SCHEDULE-C: Quantity Offered at Column No. 6 of Annexure-'B' (Price Schedule)	Commercial Section		SCHEDULE-C: Quantity Offered at Column No. 6 of Annexure-'B' (Price Schedule)
7	Certificate duly certified by C.E./C.A. that the person/entity does not have controlling stake in mo	Commercial Section		Certificate duly certified by C.E./C.A. that the person/entity does not have controlling stake in more than one entity applied for the Tender/Bid
8	The bidder shall submit the declaration Annexure-I.	Commercial Section		The bidder shall submit the declaration Annexure-I.
9	Doc. evid. from NSIC/DIC of not crossed prescribed monetary limit/limit for invest. in plant & m/c f	Commercial Section		Doc. evid. from NSIC/DIC of not crossed prescribed monetary limit/limit for invest. in plant & m/c for mfg. entrp. resp. & are entitled for Tender fee/EMD exmpn(MSE cert /Notarized valid NSIC cert)
10	ISO & BIS Certificates	Commercial Section		ISO & BIS Certificates
11	Copy of latest turnover certificate for the product offered for last 3 years duly certified by Chart	Commercial Section		Copy of latest turnover certificate for the product offered for last 3 years duly certified by Chartered engineer/accountant
12	The bidder shall submit the undertaking certifying that you have not approached any one for undue in	Commercial Section		The bidder shall submit the undertaking certifying that you have not approached any one for undue influence
13	Annexure U-II Form of Authorized Nominee / Assignee to be submitted on the letter head of the foreig	Commercial Section		Annexure U-II Form of Authorized Nominee / Assignee to be submitted on the letter head of the foreign bidder / manufacturer

Sr. No.	NAME	SECTION	ITEM	DESCRIPTION
14	Undertaking U-I to be submitted by the parent company situated abroad in case of the participant bid	Commercial Section		Undertaking U-I to be submitted by the parent company situated abroad in case of the participant bidder who is an India based subsidiary on General Stamp Paper of Rs. 200
15	Doc. Evidence as per Cl. 2 of Section I i.e. Q.R.	Commercial Section		Doc. Evidence as per Cl. 2 of Section I i.e. Q.R.