

NOTICE INVITING TENDER

(Tender invited through e-Tendering mode only)

For

Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED).

No. RECPDCL/TECH/AMI-Meter Box-CED/e-Tender/2019-20/2644 Dated: 13.09.2019

REC Power Distribution Company Limited
(A wholly owned subsidiary of REC, a 'Navratna CPSE'
Under the Ministry of Power, Govt. of India)

Corporate office

REC Power Distribution Company Limited,
A-10, 4th Floor, Sector-1 Noida - 201301,
Uttar Pradesh, India
Website : www.recpdcl.in

Description of task, Pre-qualifying criteria, e-tender submission format and procedure is available on RECPDCL website (www.recpdcl.in), REC website (www.recindia.com), Central Publication Portal (www.eprocure.gov.in)

Note:

Important Dates for E-Tendering mode	
Date of Release of NIT	13.09.2019
Last date for queries / seeking clarification	19.09.2019 at 13:30 Hours
Pre Bid Meeting	19.09.2019 at 14:30 Hours
Last date of submission of Tender	30.09.2019 at 13:30 Hours
Date of Opening of Technical bid	30.09.2019 at 14:30 Hours
Date of Opening of Financial bid	To be intimated later

Online registration shall be done on e-tendering website i.e. www.tenderwizard.com/REC & in general, activation of registration may takes 24 hours subject to the submission of all requisite documents required in the process.

-Sd-
(Bhupender Gupta)
Addl. C.E.O.

[This document is meant for the exclusive purpose of Agencies participating against this bid and shall not be transferred, reproduced or otherwise used for purposes other than that for which it is specifically issued]

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SECTION-I

TENDER INFORMATION

Name of the assignment:

Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED).

Important information

Si. No.	Event	Information to the agencies
1	Date of Release of NIT	13.09.2019
2	Last date for queries / seeking clarification	19.09.2019 at 13:30 Hours
3	Pre Bid Meeting	19.09.2019 at 14:30 Hours
4	Last date of submission of Tender	30.09.2019 at 13:30 Hours
5	Date of Opening of Technical bid	30.09.2019 at 14:30 Hours
6	Date of Opening of Financial bid	To be intimated later
7	Pre- Bid Meeting Address	REC Power Distribution Company Limited, A-10, 4 th Floor, Kribhco Bhawan, Sector-1, Noida - 201301, Uttar Pradesh, India Telefax : 0120 – 4383783
8	Tender Documents	The details can be downloaded free of cost from the websites www.recpdcl.in (or) www.recindia.com (or) www.eprocure.gov.in (or) www.tenderwizard.com/REC
9	Earnest Money Deposit	Rs.5,00,000/-
10	Estimated Cost of Work	Rs.3.95Cr
11	Address for Bid submission	Shri. Bhupender Gupta, Addl. Chief Executive Officer, REC Power Distribution Company Limited, A-10, 4th Floor, Kribhco Bhawan, Sector-1 Noida - 201301, Uttar Pradesh, India. Email- ced.projects@recpdcl.in
12	Contact Person	Shri. Dheeraj Anand , Manager (Technical) REC Power Distribution Company Limited (RECPDCL) Phone:0120-4383775 Email-ced.projects@recpdcl.in

Earnest Money Deposit ("EMD") is to be submitted by all the participating bidders in the form of demand draft of an amount of Rs. 5,00,000/- (Rupees Five Lakh Only) of any schedule Indian bank in favor of REC Power Distribution Company Limited, Payable at Noida. The EMD of unsuccessful bidder will be returned within 180 (One Hundred Eighty) days from the contract and EMD of successful bidder will also be returned after acceptance of work order and submission of PBG (Performance Bank Guarantee) i.e. 10% of the Contract Value.

➤ The bid shall remain valid for a period of 180 days from the last date of bid opening.

SECTION-II

PREFACE

Chandigarh Electricity Department ("CED") has recently awarded Smart Grid Pilot Project Works under National Smart Grid Mission ("NSGM") to M/s REC Power Distribution Company Limited ("RECPDCL").

Chandigarh is a union territory in the northern part of India that serves as the capital of the states of Punjab and Haryana. The Local Distribution of electricity in Chandigarh was taken over by the Chandigarh Electricity Department from PSEB on 2nd May, 1967. Chandigarh Electricity Department is responsible for Transmission and Distribution of power supply up to consumer's door-step for making quality and continuous power supply available to each and every resident.

Distribution system at Chandigarh has AT&C losses of 14.63%. There are areas which can be improved using Smart Grid technologies:

- i. Online visualization of energy consumption up to consumer level.
- ii. Continuous two-way communication facility between utility and consumers.
- iii. Monitoring of Outage & Quality of power up to consumer level.
- iv. Online information for utilization of assets like distribution transformer, LT lines etc.
- v. Preventive maintenance of distribution transformer.
- vi. Control and monitoring of sub-station equipment.

Smart Grid technologies, which would facilitate efficient, accurate & effective online recording & monitoring of the energy exchanges in distribution system to reduce operational errors viz. reading error, bias error, typographical errors etc. caused by involvement of human element.

- i. Timely raising of bills;
- ii. Actuate empowerment of consumers to participate in the energy management process;
- iii. Implement technologies that will help in proper monitoring of assets for extended life;
- iv. Efficient system operation by better load management;
- v. Tempers and alarms monitoring.;
- vi. Online energy audit to overcome theft problem;
- vii. Enable high level of customer satisfaction and increased awareness;
- viii. Planning for new electricity connections;
- ix. Utilization of renewable resources towards sustainability & green energy benefits by net metering;

This RFP is being floated on behalf of CED to appoint Project Execution Agency (PEA) for Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED). The activities for bidder are described in the detailed scope of work.

SECTION-III

INSTRUCTIONS TO BIDDERS

3.1 Submission of Bid

Agency shall submit their responses online through e-tendering website www.tenderwizard.com/REC

A. The submission and opening of Bids will be through e-tendering process. Agency can download Bid document from the RECPDCL web site i.e. <http://www.recpdcl.in> or portal.recpdcl.in or www.recindia.com or eprocure.gov.in and e-tendering regd. link is given in RECPDCL website i.e. www.tenderwizard.com/REC

(Note: To participate in the e-Bid submission, it is mandatory for agency to have user ID & Password. For this purpose, the agency has to register them self with REC PDCL through tender Wizard Website given below. Please also note that the agency has to obtain digital signature token for applying in the Bid. In this connection vendor may also obtain the same from tender Wizard.)

Steps for Registration

- (i) Go to website <http://www.tenderwizard.com/REC>
- (ii) Click the link 'Register Me'
- (iii) Enter the details about the E-tendering as per format
- (iv) Click 'Create Profile'
- (v) E-tender will get confirmation with Login ID and Password

Note- Online registration shall be done on e-tendering website i.e. www.tenderwizard.com/REC & in general, activation of registration may takes 24 hours subject to the submission of all requisite documents required in the process. It is sole responsibility of the bidder to register in advance.

- B.** Steps for application for Digital Signature from Bid Wizard:
Download the Application Form from the website <http://www.tenderwizard.com/REC> free of cost. Follow the instructions as provided therein. In case of any assistance you may contact RECPDCL officers whose address is given at the Bid.

Bid to be submitted through online mode on website www.tenderwizard.com/REC in the prescribed form.

- C.** In case of Consortium, the bid should be submitted through Digital Signature of Lead Bidder only. Bids submitted through digital signature of any other consortium partners is liable to be rejected.
- D.** The Agency qualifying the criteria mention in Section VI should upload Bid document with duly signed scanned soft copy of the documents given below for the prequalifying response:

Pre- Qualifying Criterion Documents/Technical Bid

- 1 Form-I-----Letter of submission of Tender
- 2 Form-II -----Pre-Qualifying Criteria Details
- 3 Form-IV -----Format for No-Deviation Certificate
- 4 Form-V ----- Manufacturer Authorization Form
- 5 Form-VI ----- Format of Curriculum Vitae
- 6 Form-VII ----- Letter of Transmittal
- 7 Form-VIII ----- Format for Integrity Pact
- 8 Annexure-A ----- Performance Bank Guarantee
- 9 Annexure-B ----- Acceptance form for participation in reverse auction event
- 10 Annexure-C ----- EMD Bank Guarantee
- 11 Annexure-D ----- Consortium & OEM Structure
- 12 Annexure-E ----- Document Indexing
- 13 Annexure-F ----- Self Assessment of Technical Marks
- 14 Annexure-G ----- Mandatory Technical Compliance by the bidder
- 15 EMD of Rs. 5,00,000/- in form of DD or Bank Guarantee may be drawn from a scheduled commercial bank in favour of The "REC Power Distribution Company Ltd", Noida and scanned copy to be uploaded and original to be submitted before the last date & time of Submission of Tender.
- 16 Documents required in supporting of pre-qualification criteria details.

Financial Bid

1. Form-III-----Financial Proposal (to be submitted through online mode only)

Financial bid to be submitted in the specific format designed same may be downloaded from website www.tenderwizard.com/REC and after filling the form it is to be uploaded through digital signature.

The documents should be addressed to:

Addl. Chief Executive Officer
REC Power Distribution Company Ltd.,
A10, 4th Floor, Kribhco Bhawan, Sector-1,
Noida - 201301

(Note: All papers that comprise the Bid document of the concerned Bid must be numbered. An index of each page should also be provided)

SECTION-IV

OBJECTIVE, SCOPE OF WORK & SERVICE LEVEL AGREEMENT

Scope of work

RECPDCL envisages engaging an Project Execution Agency (PEA) with sufficient experience, technical competence & expertise and related infrastructure facilities for carrying out engineering, design, supply, replacement/installation of Energy Meter box for Advanced metering infrastructure (AMI) solution for approx. 30,000 smart electricity meters for Chandigarh Electricity Department (CED) of government of UT Chandigarh under National Smart Grid Mission (NSGM) along with all associated accessories on turnkey basis in above mentioned project area.

The broad scope of work is as follows:

- i. Supply of Polycarbonate/ SMC Meter box for Smart Energy meters, CTs, service cable, distribution boxes and other accessories as per BoQ.
- ii. Dismantling of existing meter boxes and other scrapped service cables from site.
- iii. Erection & Commissioning of service cable and meter boxes along with necessary items like CT'S, lugs etc. as per guidelines of CED.
- iv. Agency shall carried installation work of meter box, cable etc with proper safety guidelines issued by CED for work at height, work on-live etc while also meeting all quality standards.
- v. The Agency shall be responsible for coordination with the Smart meter installation agency(selected by RECPDCL) to work at site simultaneously in such a way that the consumer shall not be affected during the meter replacement process.
- vi. Agency will be responsible to provide sufficient number of teams for installation activities as per work schedule targets to complete the work. Each Team should comprise of at least one technician along with a supervisor.
- vii. All the necessary civil work, due to dismantling the existing structure and to place new, shall be carried by the agency in a professional way.
- viii. All the dismantled material shall be transferred to CED store with proper accounting such that it can be used at other site (if required). Agency shall Reconcile all removed/dismantle material at respective CED store on daily basis and will also keep record of the same.
- ix. Agency shall also keep the record of material installed at each site properly and get it approved by the Project Manager of RECPDCL/ CED officials on daily basis.
- x. Material, tool and other accessories (not covered in BoQ) required for dismantling, civil work and installation of the new, shall also be in the scope of agency.
- xi. The execution agency shall bear the transportation cost of material at site and also from site to store.
- xii. Installation practice shall be as per CED and CEA guideline and shall be carried out by professional and certified contractors.
- xiii. Agency shall take prior approval from project manager / CED officials before going at site.
- xiv. Agency shall prepare a SOP (Standard Operating Procedures) of the works carried out at site in discussion with CED and get it approved by project Manager.
- xv. Agency will responsible to take prior approvals from CED to work at site.
- xvi. Agency will be responsible to repair and rectify any damage caused at consumer site.
- xvii. Agency will submit detailed report of work carried out along with photographs (not for the site where only meter and box replacement is enough) before and after of the site.
- xviii. The payment of the work shall be made only after submitting the clearance by Project Manager of RECPDCL/ CED.
- xix. Based on the Release Order issued by RECPDCL, the bidder shall release the boxes and allied accessories at site (as per BoQ).

- xx. Agency shall submit cabinet design for cluster meters based on site conditions to RECPDCL for approval.
- xxi. All the cable requirement as BoQ shall be conform to relevant IS and of reputed manufacturers i.e. Havells, Finolex, Polycab, KEI, RR & all the remaining items as per BoQ shall be of reputed make.
- xxii. All the expenses for inspection of supply items (if required) shall be borne by the bidder.
- xxiii. Bidder shall make all efforts to use/refurbish the existing SMC/wooden boxes if possible, with consent of RECPDCL Project Manager, suitable for installation of Smart Meters.

As the work shall be executed on turnkey basis, all the associated materials shall be procured & maintained by the contractor as per the provision of tender. All the facilities required to execute the work properly shall be engaged by the contractor without any extra cost implication to RECPDCL. The contractor shall also do field survey on the basis of data/list provided by RECPDCL.

Quantity Variation:

The quantity of all equipment/materials given in the Price Schedules of the bidding documents are provisional. The variation in quantity shall be limited to plus/minus (+/-) forty percent (40%) for the individual items; total variations in all items under the contract shall be limited to thirty percent (30%) of the contract price. For quantity variation of the individual items beyond forty percent (40%), the matter shall be referred to the Employer for mutually agreed rates.

Project Timeline:

The project shall be completed within six months of award of work, while the first lot of 500 meter boxes and its allied accessories shall be supplied within 15 days of award of LoA. Further, a detailed delivery and installation schedule shall be prepared by the bidder in consultation with the meter supplier.

PAYMENT SCHEDULE

B.1 Supply:

1. **First Instalment (65%):** Sixty-five percent (65%) payments of supply portion against various items of price schedule and 100% GST shall be paid on Factory Acceptance test (FAT) and Delivery of Meter box & its allied items (as mentioned in the BoQ) at Project site. Payment against supply of BoQ items will be made on Prorata basis considering minimum lot of 5,000 Nos on receipt and acceptance of Materials on submission of MRN. Bidder shall be eligible for payment against next lot only after successful installation of minimum 50% quantity of pervious lot.

The requisite documents need to submit for payment are herein under:

- a. Evidence of dispatch (R/R or receipted L/R)
- b. Contractor's detailed invoice & packing list identifying contents of each shipment.
- c. Manufacturer's/Contractor's guarantee certificate of Quality.
- d. Material Dispatch Clearance Certificate (MDCC) / Dispatch Instructions (DI) for dispatch of materials from the manufacturer's works. MDCC/DI shall be issued by authorized officer of Employer
- e. Manufacturer's copy of challan
- f. Submission of the certificate by the RECPDCL Project manager that the item(s) have been received,
- g. Submission of certificate by Project Manager that materials have been supplied as per technical specification, scope of work & approved drawings enclosing certified copy of inspection reports and dispatch clearances.

2. **Second Instalment (30%):** Thirty percent (30%) payments of supply portion against various items of price schedule on pro-rata basis considering minimum a lot of 5,000 Nos

each shall be paid after Installation of boxes & its allied item at site. The requisite documents are herein under:

- a. Submission of certificate on measurement book by Project Manager that materials under consideration have been erected, tested and commissioned as per technical specification, scope of work & approved drawings.
3. **Third Instalment (5%):** Five percent (5%) payments of supply portion against various items of price schedule on pro-rata basis considering a lot of 5,000 Nos each shall be paid on Completion of minimum 1 billing cycles (monthly) and User Acceptance by CED. The requisite documents are herein under:
- a. User Acceptance certificate by CED.
 - b. Submission of certificate on measurement book by Project Manager that materials under consideration have been erected, tested and commissioned as per technical specification, scope of work & approved drawings.

B.2 Services:

1. **First Instalment (90%):** Ninety percent (90%) payments of services portion against various items of price schedule on pro-rata basis considering a lot of 5,000 Nos each shall be paid subject to Installation of meter box along with allied items (where ever needed) and Smart meter(to be installed by meter supplier) at site. The requisite documents are herein under:
 - a. Site Acceptance test (SAT) report signed by Project Manager
2. **Second Instalment (10%):** Ten percent (10%) payments of services portion against various items of price schedule on pro-rata basis considering a lot of 5,000 Nos each shall be paid on Completion of minimum 1 billing cycles (monthly) and User Acceptance by utility.
 - a. User Acceptance certificate by CED.
 - b. Submission of certificate on measurement book by Project Manager that materials under consideration have been erected, tested and commissioned as per technical specification, scope of work & approved drawings.

Payment procedure:

Method of payment: All invoices/claims shall be raised by the bidder in the name of Chandigarh Electricity Department (CED), Chandigarh (owner) C/O RECPDCL. All the payment shall be released directly to the bidder by RECPDCL within 30 days of submission of invoices after receipt of funds from CED. Further tax will be deducted as per applicable law from the payment made on behalf of CED.

The completion time of the project shall be monitored as per milestones mentioned above. Any delay in compliance to the milestone timelines shall lead to LD, and shall be deducted from the payments due under the Contract or by invoking the Contract Performance Bank Guarantee and/or otherwise, as per the clause mentioned in Special Condition of Contracts of Section-V.

Liquidity Damage Terms:

Milestone	Timelines	% age penalty on Price
Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED).	Within 6 months	Not Applicable
	Beyond 6 months	0.5% of Contract Value (excluding Post Implementation phase Value) per week or part-thereof with maximum 5% of the contract value may be levied from the bill of the contractor.

SECTION-V

SPECIAL CONDITIONS OF CONTRACT

1. The bidder must fulfil the above eligibility criteria/pre-qualifying conditions for evaluation of their bids. Bids of bidders should be strictly in manner and mode prescribed hereunder and fulfilling the above eligibility/pre-qualifying conditions will only be evaluated by the duly constituted evaluation committee. Bids of the bidders not being submitted in the manner and mode required hereunder and/or not fulfilling the eligibility/pre-qualifying conditions given above may be summarily rejected at the sole discretion of RECPDCL. Undertaking for subsequent submission of any of the above documents will not be entertained under any circumstances.
2. RECPDCL reserves the right to conduct the reverse auction (if required) for the products/ services being asked in the tender. The terms and conditions for such reverse auction event shall be as per the Acceptance Form attached as Annexure - B of this document. The bidders shall mandatorily submit a duly signed copy of the Acceptance Form along with the tender document as a token of acceptance.
3. RECPDCL reserves the right to verify/confirm all original documents/documentary evidence against the documents/bid submitted by the bidder in support of above mentioned clauses of eligibility criteria, failure to produce the same within the period as and when required and notified in writing by RECPDCL shall result in summarily rejection of the bid.
4. RECPDCL reserves the right to accept or reject any or all bids/tender without assigning any reason.
5. Acceptance of the application(s) constitutes no form of commitment on the part of RECPDCL. Furthermore, this acceptance of the application confers neither the right nor an expectation on any application to participate in the proposed project.
6. RECPDCL reserve the right to waive off any shortfalls; accept the whole, accept part of or reject any or all responses to the Tender.
7. RECPDCL reserve the right to modify, expand, restrict, scrap, and re-float the tender without assigning any reason for the same.
8. The responder shall bear all costs associated with the preparation and submission of its response, and RECPDCL will in no case be responsible or liable for these costs, regardless of the conduct or the outcome of the tender process.
9. Consortium and joint venture responses will be acceptable given that the members of the consortium/joint ventures individually and independently meet the eligibility criteria provided hereunder or as may be prescribed by RECPDCL from time to time by corrigendum/supplemental to this NIT.
10. RECPDCL reserves the right to increase or decrease the quantity (on same rate and terms and conditions) by another $\pm 40\%$ if required.
11. For all equipment, the bidder shall provide warranty for a period of 12 months after Go-Live of complete system.
12. Performance Security: The agency need to deposit within fifteen (15) working days from the date of acceptance of work order, a Performance Security in the form of Bank Guarantee or Demand Draft (DD), for an amount of 10% (Ten per cent) of the Tender value for the due performance and fulfilment of the contract which is valid for 18 months from the date of award of LoA in the format placed at Annexure – A.
 - a The Performance Bank Guarantee may be drawn from a scheduled commercial bank in favour of "REC Power Distribution Company Ltd", New Delhi.
 - b The Performance Bank Guarantee may be discharged/ returned by the RECPDCL after the completion of the contract upon being satisfied for the performance of your obligations under the contract.
 - c Failing to comply with the above requirement, or failure to enter into contract agreement within 30 days or within such other extended period, as may be decided by the CEO, RECPDCL shall constitute sufficient grounds, among others, if any, for the annulment of the award of the tender.

- d In the event you are unable to provide the services, during the engagement period as per the contract for whatever reason, the Performance Bank Guarantee would be invoked by RECPDCL.
- e No Bank Charges/ interest shall be payable for the Performance Bank Guarantee.

13. Rates and Prices

- a Bidders should quote item-wise rates/ prices including all taxes and duties/GST as mentioned in Form-III by explicitly mentioning the breakup of basic prices and applicable taxes/GST.
 - b Price quoted by bidder shall be firm for entire contract period.
 - c Price quoted shall be firm and any variation in rates, prices or terms during validity of the offer shall lead to forfeiture of the EMD of said bidder.
 - d The quoted prices shall be for delivery and installation at Chandigarh. The prices shall be FOR destination and shall include all charges, levies and duties for delivery and installation at the specified locations in Chandigarh UT. The exact details of location address etc. shall be provided along with the release order.
14. In case of default in services or denial of services, RECPDCL, at its sole discretion, will be free to avail services of other service providers at "Risk & Cost" of the bidder.
15. All other terms and conditions of the GENERAL CONDITIONS OF CONTRACT shall be applicable.
16. All the licenses shall be procured in the name of "Chandigarh Electricity Department"
17. Sub-contracting of the work is permitted with prior written information to RECPDCL.
18. INTEGRITY PACT (Form-VIII):-The bidders have to submit integrity pact as per prescribed format on a non-judicial stamp paper of Rs. 100/- in 2 copies duly signed by the person signing the bid. The bidder shall not change the contents of "Integrity Pact".
19. In this tender either the Indian agent on behalf of the Principle /OEM or Principle / OEM itself can bid but both cannot bid simultaneously for the same item/product.
20. If an agent submits bid on behalf of the principal /OEM, the same agent shall not submit a bid on behalf of another principal /OEM in the same tender for the same item/product.
21. REC Procurement Guidelines shall be followed, wherever not specifically mentioned in the tender.
22. Timely completion is the essence of the scope of work of this NIT. In the event of failure to supply, implement, maintain with respect to all or any part of the Scope of Work within the stipulated time period or any deficiency in performance of the works under the Scope of Work, the Owner/Employer/Purchaser is entitled to charge and recover a liquidated damages at an applicable rate from the selected Bidder.
- For the Supply:** as liquidated damages a sum equal to 1% of the price of any material/store/services not delivered or total value in case where part delivery is of no use, per week or part of week subject to maximum of 10% of total order for supply.
- For Works:** as liquidated damages equal to 0.5% of the contract value per week or part thereof subject to maximum of 5% of the contract value for works in case the works are not completed within the stipulated time.
- For Services:** as liquidated damages equal to 0.5% of the contract value per week or part thereof subject to maximum of 5% of the contract value for services, in case the services are not completed within the specified time period or are unsatisfactory.
- Liquidated Damages can be recovered from any pending dues of the selected Bidder, however, in case no dues are pending the same shall be recovered by invoking the Performance Bank Guarantees.

23.GUARANTEE

All equipment shall be guaranteed for a period of 12 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or break down due to defective design, workmanship or material. The equipment's or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the RECPDCL/CED. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the RECPDCL/CED in this regard shall be final & binding on the contractor.

SECTION-VI

ELIGIBILITY CRITERIA

Qualification of bidder will be based on meeting the minimum pass/fail criteria specified in **Pre-qualifying criteria Part-A, and Pre-qualifying criteria Part-B** as demonstrated by the Bidder's responses in the corresponding Bid Schedules.

Notwithstanding anything stated herein above, the Employer reserves the right to assess the capacity and capability of the bidder to successfully execute the scope of work covered under this RFP within stipulated completion period. This assessment shall inter-alia include (i) document verification; (ii) bidders work/manufacturing facilities visit; (iii) manufacturing capacity, details of works executed, works in hand, anticipated in future & the balance capacity available for present scope of work; (iv) details of plant and machinery, manufacturing and testing facilities, manpower and financial resources; (v) details of quality control systems in place; (vi) past experience and performance; (vii) customer feedback; (viii) banker's feedback etc. The employer reserves the right to waive minor deviations if they do not materially affect the capability of the Bidder to perform the contract.

Document Indexing: Bidder will attach an Index of documents submitted with this bid mentioning following details. This index will be used to locate the document easily and correlating correct document with correct QR.

- i. QR clause as per RFP.
- ii. Title of document submitted against each QR.
- iii. Relevant page number in document.
- iv. Relevant clause no. in document.

Pre-qualification requirement – Part A

Technical & Financial

- a) The bidder can be an individual organization or a consortium of maximum two (2) organizations meeting the Eligibility & Qualification Criteria specified for its role in consortium.
- b) The Lead/individual bidder can be any of the two agencies as detailed hereunder:
 - i. **Engineering Procurement Construction (EPC) Contractor**
 - OR**
 - ii. **Meter Box Manufacturer**
- c) In case Bidder does not manufacture or produce any of major equipment or component of the overall Solution to be provided as the Scope of Work, then the Bidder is required to submit the Manufacturer's/OEM's Authorization Form (MAF) stating the required support from the Manufacturer/OEM with respect to warranty for a period of 12 months from the date of Go-Live of the system. Bidder will submit authorization letter from respective OEM for back to back support.
- d) All the individuals/consortium partners/ sub-contractors need to fulfill their respective qualification criteria individually as stipulated subsequently.
- e) The bidder shall work with the sub-contractors, declared at the time of bidding (MAF submitted along with bid). If, more than one MAF is submitted for any OEM/Services, successful bidder shall select and confirm the same to RECPDCL before execution of work. Change in sub-contractor during the execution phase is not allowed. Replacement of Sub-

contractor can only be with prior approval from RECPDCL. The new sub-contractor must fulfill all the qualifying requirements as mentioned in bid document.

- f) MSEs/Start-Ups meeting the specified requirement as per Clause 1.1.1 & 1.1.2(F2), shall be considered qualified as per Clause 1.1.2, if they meet 80% of the requirement specified in Clause 1.1.2(F1 & F3) mentioned subsequently. The relevant MSEs/ Start-Ups certificate issued by governing body shall be submitted along with the bid.

It is mandatory that UAM No.of MSE bidders is declared on CPPP(Central Public Procurement Portal), failing which such bidders will not be able to enjoy the benefits as per Public Procurement policy for MSEs Order, 2012.

- g) "Consortium" means firms jointly and severally bound to the Employer for the fulfilment of the provisions of the Contract and such firms shall designate one of such firms to act as a Lead Bidder with authority to bind the consortium. The composition or constitution of the consortium shall not be altered without the prior consent of the Client.
- h) In case of consortium, the Consortium and its Members shall comply with the following conditions:
 - i. The number of Members in such Consortium shall not exceed 2.
 - ii. All partners shall meet the financial requirement given at clause (F.2) individually.
 - iii. Lead partner shall meet not less than 65% of the financial requirement given at clause (F.1)
 - iv. Each of other member/ partners(s) individually shall meet not less than 25% of the financial requirement given at clause (F.1).
 - v. Provide clarity on the roles and responsibility of each consortium member.
 - vi. The Consortium will nominate one of the Members as the Lead Member. Such nomination will be supported by a power of attorney from each Member of the Consortium. The Lead Member will have the authority to represent and bind all the Members during the Bid Process and, if the Consortium is identified as the Selected Bidder, execute the Agreement on behalf of the Consortium.
 - vii. Ensure that a company can be a member of only one consortium (either as lead or as a consortium member) for this project.
 - viii. Enforce that all the members are part of the contractual arrangement between themselves before submitting the bid. The Consortium is required to submit a binding and enforceable joint bidding agreement duly notarized by Indian notary, and the Members will not be permitted to amend or terminate the joint bidding agreement, at any time during the validity of the Bid without the prior consent of RECPDCL.
 - ix. Consortium Partners shall be Jointly & Severally Liable for the complete project deliverables
- i) The Bidder has to submit detailed roles and responsibilities of Consortium/ Sub-contractor partners to RECPDCL along with bid documents.
- j) All partner of the consortium shall be liable jointly and severally for the execution of the contract in accordance with the contract terms and a copy of the agreement entered into

by the consortium partners having such a provision shall be submitted with the bid, although successful and on-time execution of the project is responsibility of lead bidder, only.

- k) If a Bidder (individual, consortium partner & subcontractor), whose Technical Capacity is being relied upon to qualify for award of the Project, has been barred by the GoI, any state government, or any of its instrumentalities from participating in any project or being awarded any contract and the bar subsists on the Bid Due Date, then such Bidder will not be eligible to submit a Bid.
- l) Bidder will submit all the documents in English (India) or English (US) language. In case, document is submitted other than English language, Equivalent English translation shall be submitted by bidder.

Qualification Requirement (General)

Sub Clause	Qualification Criteria	Supporting Documents Required
General Qualification Criteria		
G.1	Bidder shall be a Company incorporated under the Companies Act 1956/ 2013. <i>[In case of consortium or Sub-contractor, all need to satisfy this condition]</i>	• Self-attested copy of certificate of incorporation.
G.2	The bidder shall not be blacklisted by any Central/State Govt/PSU or any entity controlled by them under any Central/State Govt/PSU act/rule as on date of bidding. <i>[In case of consortium or Sub-contractor, all need to satisfy this condition]</i>	• Self-declaration for no blacklisting on appropriate non-judicial stamp paper duly notarized.

Note: Lead bidder/ consortium partner/ Sub-Contractor all need to fulfill above general requirements.

Qualification Requirement (Financial)

Sub Clause	Qualification Criteria	Supporting Documents Required
Financial Qualification Criteria		
F.1	Minimum Average annual turnover for the last three financial years ending 31st March 2019 shall not be less than ₹ 2.77 Cr. <i>[In case of consortium, all partners can jointly satisfy this condition subject to conditions mentioned in clause (h) of Pre-Qualification requirement Part (A)]</i>	• Copy of audited statement of account duly certified by CA along with certificate stating the turnover and net worth shall be submitted as proof.
F.2	Net Worth for the last financial year should be positive. Net worth means sum total of the paid up capital and free reserves (excluding reserves created out of revaluation) reduced by aggregate value of accumulated losses (including debit balance in profit and loss account for current year) and intangible assets.	

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Qualification Requirement (Technical) for Meter Box Manufacturer

Sub Clause	Qualification Criteria	Supporting Documents Required
T.1	Make in India experience: Meter box manufacturer(s) should be in the business of manufacturing of Meter Box and should have state of the art facility in India for at least two years as on last date of bid submission.	<ul style="list-style-type: none"> • Factory License Certificate mentioning nature of Business.
T.2	Manufacturing capability: The Meter box manufacturer must have manufactured & Supplied meters box to any one of the state discoms made out of engineering Polycarbonate/SMC boxes for housing single phase/three phase energy meter in last 2 years in India, as on last date of bid submission of following quantity: <ol style="list-style-type: none"> a) Single work order of 20,000 meter boxes b) Two work order of 12,500 meter boxes each. c) Three work order of 10,000 meter boxes each. 	<ul style="list-style-type: none"> • Client's PO/ WO/ LOA/ Contract Agreement and Completion Certification/Go-live certificate/Part-commissioning certificate for required number of meters (incase the complete project has not been declared Go-Live) on client Letter head with contact details of clients for verification.
T.3	Quality Assurance: The Meter box manufacturer should have quality certifications for its manufacturing and services function. <ul style="list-style-type: none"> • ISO 9001:2015. 	<ul style="list-style-type: none"> • A valid ISO certificate on or before the date of publication of the tender.
T.4	Testing facilities: Meter box manufacturer should have complete testing facilities to carry out all the routine tests and acceptance test.	<ul style="list-style-type: none"> • A valid registration certificate mentioning issue / renewal / expiry date
T.5	Product certification: Meter box manufacturer should have complete volume of valid type test reports from CPRI/NABL accredited test Laboratory or Sameer, EMC Division, Chennai.	<ul style="list-style-type: none"> • The type test report need to submit and it should not be older than 5 years as on the date of opening of tender.

Qualification Requirement (Technical) for EPC Contractor

Sub Clause	Qualification Criteria	Supporting Documents Required
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T.6	License of work: The EPC contractor should possess "A" Class license issued by the Electrical inspectorate of CED Administration /Central Inspectorial organization of Govt. of India. In case bid submitted in consortium, any of partner should possess "A" class electrical license as stated above.	<ul style="list-style-type: none"> • License/ Certificate issued by authorized agency.
T.7	Experience in Power Sector: The EPC contractor shall have experience of projects execution of Meter/Meter boxes installation (Single phase, three phase , LTCT, HTCT all type) in the last 7 years ending last day of bid submission in which bids are invited as below: i. Experience in single completed work not less than the meter/meter box quantity of 20000. Or ii. Experience in two completed work not less than the meter/meter box quantity of 12500 each. Or iii. Experience in three completed work not less than the meter/meter box quantity of 10000 each.	<ul style="list-style-type: none"> • Client's PO/ WO / LOI/ LOA/ Contract/ Certification on client letterhead • Execution / Performance Certificate

Note: 1. Work experiences of the bidder as per above shall be considered only if the works have been executed under Govt./semi-Govt./autonomous body of Central/State Govt./Electricity Power Utility/ Power Dept. in India only

2. EPC contractor must fulfil the QR of EPC as lead bidder along with QR of Meter Box Manufacturer, either individually, consortium or through sub-contractor.

Pre-qualification requirement – Part B

The technical qualified bidder shall also furnish following documents/details with its bid:

a) Sample

Technical qualified bidder has to submit two samples of meter boxes(1-ph PC, 3-ph PC, LTCT PC and LTCT SMC and distribution boxes mentioned in BoQ) which is in-line with the technical specification along with the bid, within next 3 working days from intimation to technically qualified bidders. Samples shall be tested for compliance to design & fitment of meters by RECPDCL.

b) Litigation History:

- The bidder should provide detailed information on any litigation or arbitration arising out of contracts completed or under execution by it over the last five years. A consistent history of awards involving litigation against the Bidder or any partner of consortium may result in rejection of Bid.
- Notwithstanding anything stated, hereinabove, the Employer reserves the right to assess the capacity and capability of the bidder, should the circumstances warrant such assessment in an overall interest of the Employer. The Employer

reserves the right to waive minor deviations if they do not materially affect the capability of the Bidder to perform the contract.

FINANCIAL EVALUATION:

Bidders qualified in Part-A and Part-B shall be considered for opening of Commercial bid.

Bids shall be evaluated on the basis of the total evaluated value as per the quoted rates for the services mentioned in Scope of Work. The total evaluated price as per the evaluation methodology mentioned as under at Form - III of this tender document and the other details mentioned therein will be the basis for the evaluation purposes and for arriving at inter-se ranking of the various bidders of the tender.

Bidders should quote their rates/prices in Indian Rupees only which shall be inclusive of GST and other applicable taxes, duties, levies, insurance, transportation etc., applicable for entire scope of work as per Price Schedule included to Form - III of this tender document.

Bid shall be evaluated as per the "Total Price of the Bidder for this tender" as mentioned in Form-III, which shall be filled by the bidder as a Financial Bid.

REC PDCL reserves the right to postpone and/or extend the date of receipt/opening of Financial Bids or to withdraw the tender notice, without assigning any reason thereof. In any such cases, the bidders shall not be entitled to any form of compensation from the Company. RECPDCL also reserves right to conduct reverse auction as per Clause No. 2 of Section-V at its sole discretion, if required.

1. AWARD CRITERIA

The contract shall be awarded to the bidder whose Total price including GST and other applicable taxes etc. will be the lowest (L1), and whose bid has been determined to be in full conformity to the bid documents.

In case of Reverse Auction, all Technically Qualified bidders after Stage-II evaluation, as detailed under Clause 1 in Section VII, shall be allowed to participate in the reverse Auction and the bidder with lowest price after reverse auction shall be considered as the successful bidder.

2. COMMERCIAL TERMS & CONDITIONS

A. Taxes and duties

Notwithstanding anything contained herewith, with respect to taxes and duties following clauses shall be applicable:

A.1. If any supply of goods or services under or in respect of this contract is subject to GST, and if the bidder is liable to GST in relation to any supply under this contract, the parties agree that the amount of GST applicable on any supply from the bidder to the Employer under or in respect of this contract shall be reimbursed by the Employer on actual basis as applicable on the supply by the bidder in pursuance of the contract provided that the total payment made by Employer to the bidder including the reimbursement shall not in any case exceed the Contract Price. The same would be subject to the following:

- a) The bidder shall also indicate the possible locations and respective GSTIN's from where the supply is proposed to be made by him. Any exemptions/ tax benefits, if applicable to the bidder on the date of submitting the price bid shall be indicated by him and for the purpose of calculation of the amount of GST to be reimbursed, the Employer shall factor such exemptions/ tax exemptions irrespective of withdrawal of such exemptions/ tax benefits to the bidder during the execution of the Contract.
- b) Invoice/Debit Note containing particulars specified under the GST Act and related Rules, Notifications, etc as prescribed by the Government in this regard, shall be

considered as appropriate and necessary for taking reimbursement of the GST so charged.

- c) In the event that the bidder fails to provide the invoice in the form and manner prescribed under the GST Act and Rules, the Employer shall not be liable to make any payment against such invoice.

A.2. Notwithstanding anything contained anywhere in the Contract, in the event that the input tax credit of the GST charged by the bidder is denied by the tax authorities to the Employer for reasons associated with non-compliance/ incorrect compliance by the bidder, the Employer shall be entitled to recover such amount from the bidder by way of adjustment from any of the subsequent invoices issued by the bidder on the Employer or in case no subsequent invoice is pending, the Employer shall recover such amount from the Performance Security. In addition to the amount of GST, the Employer shall also be entitled to recover interest at the rate of applicable SBI base interest rate and penalty, in case any penalty is imposed by the tax authorities. The Employer shall determine whether the denial of credit is linked to the non-compliance/ incorrect compliance of the bidder and the said determination shall be binding on the bidder.

Change in Law

- A.3. Subject to clause A.2 above, if any rates of Tax are decreased or any change in interpretation or application of any Tax which entails a decrease in the Taxes declared by the bidder in the Price Schedule, which was or will be assessed on the bidder in connection with performance of the Contract (i.e. during scheduled completion period as per contract), an equitable adjustment of the Contract price shall be made to fully take into account any such change by deduction therefrom. However, if any rates of Tax are increased, which was or will be assessed on the bidder in connection with performance of the Contract, no change shall be made in the Contract Price and the Employer shall not reimburse any additional amount payable thereto.
- A.4. Subject to clause A.2 and A.3 above, if a new Tax is introduced or an existing Tax is abolished, which was or will be assessed on the bidder in connection with performance of the Contract, an equitable adjustment of the Contract price shall be made to fully take into account any such change by addition to the Contract price or deduction therefrom.
- A.5. These adjustment shall not be applicable on procurement of raw materials, intermediary components etc. and In respect of raw materials, intermediary components etc., neither Employer nor the bidder shall be entitled to claim arising due to increase or decrease in the rate of tax, introduction of new tax or abolition of an existing tax in the course of the performance of the contract.

B. Anti-profiteering measure

As per Section 171 of the Central Goods and Services Tax Act, 2017, any reduction in rate of tax on any supply of goods or services or the benefit of input tax credit shall be passed on to the recipient by way of commensurate reduction in prices. In pursuance of the above provision, bidder is required to factor in the credit efficiencies available under GST and benefit due to reduction in tax rate to the employer and accordingly, declare the prices in the Price Schedule.

- C. Rate quoted by the bidder shall remain firm & fixed and shall be binding on the Successful Bidder till completion of work irrespective of actual cost of execution of the project. No escalation in rate quoted by the bidder will be granted on any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.
- D. The offer must be kept valid for a period of 180 days from the last date of bid submission. No escalation clause would be accepted. The validity can be further extended as per

requirement of RECPDCL. In case of requirement RECPDCL reserves right to ask bidder regarding extension of bid validity.

SECTION-VIII

TENDER FORMATS**FORM-I****Letter for Submission of Tender**

To,
Addl. Chief Executive Officer
REC Power Distribution Company Ltd.,
A10, 4th Floor, Kribhco Bhawan,
Sector-1, Noida – 201301

Sub.: Engagement of Service Agency

Sir,

1. With reference to your Tender No. -----dated ----- for Rate Contract for Supply, Implementation and Maintenance of Smart Meters and AMI Communication System (AMI) for Smart Grid Pilot Project at Chandigarh Electricity Department (CED) under NSGM, I wish to apply for engagement with RECPDCL as service provider for **"Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED)"**.

Further, I hereby certify that

I have read the provisions of the all clauses and confirm that notwithstanding anything stated elsewhere to the contrary, the stipulation of all clauses of Tender are acceptable to me and I have not taken any deviation to any clause.

2. I further confirm that any deviation to any clause of Tender found anywhere in my Bid, shall stand unconditionally withdrawn, without any cost implication whatsoever to the REC PDCL.
3. Our bid shall remain valid for period of 180 days from the last date of bid submission.

Date:
Place:

Signature.....
Full Name
Designation
Address.....

Note: In absence of above declaration/certification, the Bid is liable to be rejected and shall not be taken into account for evaluation.

Form-II
PRE QUALIFICATION CRITERIA

Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED).

1. Name(s) of the company/companies
2. Regd. Address
3. Corporate identity number _____ Address of Office at Delhi/NCR _____
4. Contact Person's
 - i) Name & Design. _____
 - ii) Address _____
 - iii) Tel No. Landline _____ Mobile _____
 - iv) Email ID _____
5. Type of Company: _____ Private Ltd./ Public Ltd.
(Please tick)
6. PAN _____
7. GST Reg. No.:
8. E.M.D. Details Rs. _____
DD No. _____
Name & Address of Bank _____

Please upload duly signed copies by authorized signatory of documentary evidence e.g. work order, corresponding satisfactory job completion certificates from clients with amount of work order in support of above and any other document indicated in prequalifying criteria)

Signature.....
Full Name.....
Designation.....
Address

Form-III

Financial Bid (To be submitted through online mode only)

PROFORMA OF SCHEDULE OF RATES

Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED).

Bidder Name:

FORM III - Financial Bid (To be submitted through online mode only)

				Section A						Section B	Section C	
Sl. No	Item Description	Unit	Quantity	Per Unit Ex-Works Cost/services	GST percentage		GST Amount		Total Unit Price incl. all taxes & duties	Freight, IN-Transit, Insurance Loading & Un-Loading Charges including all taxes	Total Price - Supply/Service including all Taxes/Duties	Total Price - Supply, Service, Freight, IN-Transit, Insurance Loading & Un-Loading Charges including all Taxes/Duties
					CGST & SGST	IGST	CGST & SGST	IGST				
A	Hardware Supply, Installation, Commissioning & other services											
A.1	1-ph PC Meter Box suitable for Smart Meter	Nos	16764				₹ -	₹ -	₹ -		₹ -	₹ -
A.2	3-ph PC Meter Box suitable for Smart Meter	Nos	6244				₹ -	₹ -	₹ -		₹ -	₹ -
A.3	LTCT PC Meter Boxes with single/dual door arrangement(w/o busbar), along with mounting arrangement	Nos	575				₹ -	₹ -	₹ -		₹ -	₹ -

A.4	LTCT SMC Meter Boxes with dual door arrangement(w/o busbar), along with mounting arrangement	Nos	430				₹ -	₹ -	₹ -		₹ -	₹ -
A.5	LTCT SMC Meter Boxes with dual door arrangement(with busbar), along with mounting arrangement	Nos	34				₹ -	₹ -	₹ -		₹ -	₹ -
A.6	3-ph PC Distribution box	Nos	1999				₹ -	₹ -	₹ -		₹ -	₹ -
A.7	12*1 SMC Meter box closet	Nos	75				₹ -	₹ -	₹ -		₹ -	₹ -
A.8	2C*10 sq.mm PVC Unarmoured cable	mtr	75435				₹ -	₹ -	₹ -		₹ -	₹ -
A.9	4C*25 sq.mm PVC unarmoured cable	mtr	26500				₹ -	₹ -	₹ -		₹ -	₹ -
A.10	3½C*50 Sq.mm PVC unarmoured cable	mtr	700				₹ -	₹ -	₹ -		₹ -	₹ -
A.11	3½*120 sq.mm PVC Armoured cable	mtr	1050				₹ -	₹ -	₹ -		₹ -	₹ -
A.12	3½ * 400 sq.mm PVC Armoured cable	mtr	5200				₹ -	₹ -	₹ -		₹ -	₹ -
A.13	200/5, 0.5S Ring Type CT for LTCT consumers	Nos	518				₹ -	₹ -	₹ -		₹ -	₹ -
A.14	600/5, 0.5S Bar Type CT	Nos	1290				₹ -	₹ -	₹ -		₹ -	₹ -
A.15	800/5, 0.5S Ring Type CT	Nos	63				₹ -	₹ -	₹ -		₹ -	₹ -
A.16	1600/5, 0.5S Ring type CT	Nos	39				₹ -	₹ -	₹ -		₹ -	₹ -
A.17	CT secondary connection wire	mtr	7162				₹ -	₹ -	₹ -		₹ -	₹ -
A.18	Miscellaneous items required for installation i.e. end-termination, MS clamps jointing kits,Mounting angles, PVC tapes, Nut bolt, washers, lugs, fuse wires civil items etc.											
	Sub Total (A) Hardware cost											₹ -
B	Meter Box Supply, Installation, Commissioning & other services											

B.1	1ph meter-box installation with cables & accessories	Nos	16764				₹	₹	₹		₹	₹
B.2	3ph meter-box installation with cables & accessories	Nos	6244				₹	₹	₹		₹	₹
B.3	LT-CT meter box installation with cables & accessories	Nos	430				₹	₹	₹		₹	₹
B.4	Metal cabinet box installation	Nos	75				₹	₹	₹		₹	₹
B.5	1ph meter-box dismantling & transport to CED store	Nos	16764				₹	₹	₹		₹	₹
B.6	3ph meter-box dismantling & transport to CED store	Nos	6244				₹	₹	₹		₹	₹
B.7	LTCT/DT meter box dismantling & transport to CED store	Nos	430				₹	₹	₹		₹	₹
B.8	Metal cabinet box dismantling & transport to CED store	Nos	50				₹	₹	₹		₹	₹
Total Cost of Services (B)											₹	-
28.	Miscellaneous item, if any											
Total project cost											₹	-

Note:

> Bidder to quote prices of Supply & Service portion wherever applicable. The Final evaluation will be based on Total price of Supply & Service portion

>The quoted rates must be inclusive of all taxes as applicable at the time of bidding.

>Bidders are to quote their rates strictly as per above format.

>Bidders has to quote the rate inclusive of all rates & Charges.

>Any increase or decrease in applicable GST rates shall be paid or deducted accordingly

- > Above Bill of Material and Bill of Quantity is indicative. Bidder to quote price of items considering the overall solution requirement after assessing the utility requirement.*
- > All the itemized price break up of lot supply to be provided after price bid opening.*
- > The successful bidder shall submit the itemised price break-up of Miscellaneous items at the time of award of contract*

FORM IV

FORMAT FOR NO-DEVIATION CERTIFICATE

We shall abide by all specifications and terms and conditions of the tender.

By signing this document, we hereby accept and comply to all the terms and conditions, technical specifications, scope of work etc. as mentioned in the bid document.

Seal of the Company:

Signature

Name

Note: In absence of above declaration/certification, the Bid is liable to be rejected and shall not be taken into account for evaluation.

MANUFACTURER AUTHORIZATION FORM

(To be submitted on OEM's Letter Head)

Date:

ICB No.:

Invitation for Bid No.:

Alternative No.:

To,

The Nodal Officer (Smart Grid Pilot Project)

Electricity 'OP' Division No. 2,

Opp. Transport Area, New Power House

Industrial Area Phase – 1, UT Chandigarh

Sir,

WHEREAS M/s. *[name of OEM]*, who are official manufacturers of having factories at *[address of OEM]* do hereby authorize M/s *[name of bidder]* to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us

.....

and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Special Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s *[name of OEM]* shall provide standard warranty on the machines supplied against the contract. The warranty period and inclusion / exclusion of parts in the warranty shall remain same as defined in the contract issued to their channel partner against this tender enquiry.

Yours Sincerely,

For

Authorized Signatory

Note: In absence of above declaration/certification, the Bid is liable to be rejected and shall not be taken into account for evaluation.

FORM-VII

LETTER OF TRANSMITTAL

To: [Name and address of Client]

.....

.....

.....

Dear Sir/s,

I/We, the undersigned, have examined the details given in your NIT dated [Insert Date] for Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED).

We accept all the terms & conditions of the bid document without any deviation and submit the Bid. We hereby certify that M/s _____ and its consortium partners or its group companies have not been awarded any work for **Supply & Installation of Meter Boxes, Distribution Box and allied accessories for Smart Metering Project at Chandigarh Electricity Department (CED)**.

Also, M/s _____ and its consortium partners or its group companies is not executing or providing any type of services either directly or as a sub-contractor for the particular work for which Bid is submitted.

It is confirmed that M/s. _____ and its consortium partners is not banned or blacklisted by any Govt./Pvt. Institutions in India.

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Firm:

Address:

FORM-VIII

(To be executed on non-judicial paper)
INTEGRITY PACT

Between
REC Power Distribution Company Ltd (REC PDCL) hereinafter referred to as "The Principal",
And

.....hereinafter referred to as "Bidder "

Preamble

The Principal intends to award, under laid down organization procedures, contract/s for
.....The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s, agency/s.

In order to achieve these goals, the Principal cooperates with the renowned international Non-Governmental Organisation "Transparency International" (TI). Following TI's national and international experience, the Principal will appoint an Independent External Monitor who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - a) No employee of the Principal, personally or through family members, will in connection with the tender, or the execution of the contract, demand, take a promise for or accept, for himself/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.
 - b) The Principal will, during the tender process, treat all Bidders with equity and reason. The Principal will, in particular, before and during the tender process, provide to all Bidders the same information and will not provide to any Bidder confidential / additional information through which the Bidder could obtain an advantage in relation to the tender process or the contract execution.
 - c) The Principal will exclude from the process all known prejudiced persons.
- (2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder / agency.

- (1) The Bidder / agency commits itself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - a) The Bidder /agency will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person, any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange, any advantage of any kind whatsoever during the tender process or during the execution of the contract.
 - b) The Bidder / agency will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the bidding process.
 - c) The Bidder / agency will not commit any offence under the relevant Anti-Corruption Laws of India; further the Bidder / agency will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder / agency will, when presenting his bid, disclose any and all payments he has made, is committed to, or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- (2) The Bidder / agency will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Agency, before contract award, has committed a transgression through a violation of Section 2 or in any other form such as to put his reliability or credibility as Bidder into question, the Principal is entitled to disqualify the Bidder from the tender process or to terminate the contract, if already signed, for such reason.

(1) If the agency has committed a transgression through a violation of Section 2 such as to put his reliability or credibility into question, the Principal is also entitled to exclude the agency from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a minimum of 6 months and maximum of 3 years.

(2) A transgression is considered to have occurred if the Principal after due consideration of the available evidences, concludes that no reasonable doubt is possible.

(3) The Bidder accepts and undertakes to respect and uphold the Principal's absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

(4) If the agency can prove that he has restored / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely.

Section 4 – Compensation for Damages

(1) If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover from the Bidder liquidated damages equivalent to Earnest Money Deposit/Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Consulting agency/Architect/Supplier liquidated damages equivalent to Security Deposit / Performance Bank Guarantee.

(3) The Bidder agrees and undertakes to pay the said amounts without protest or demur subject only to condition that if the agency can prove and establish that the exclusion of the Bidder from the tender process or the termination of the contract after the contract award has caused no damage or less damage than the amount of the liquidated damages, the agency shall compensate the Principal only to the extent of the damage in the amount proved.

Section 5 – Previous Transgression

(1) The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in any country conforming to the TI approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all agency

(1) The agency undertakes to demand from all sub-consulting agency a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

(2) The Principal will enter into agreements with identical conditions as this one with all agency and Sub-consulting agency.

(3) The Principal will disqualify from the tender process all Bidders who do not sign this Pact or violate its provisions.

Section 7 – Punitive Action against violating agency /Sub-consulting agency/

If the Principal obtains knowledge of conduct of a agency or Sub-consulting agency, or of an employee or a representative or an associate of a agency, Sub-consulting agency\ which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 – Independent External Monitors

- (1) The Principal has appointed competent and credible Independent External Monitors for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- (2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chairperson of the Board of the Principal.
- (3) The agency accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the agency. The agency will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to this project documentation. The same is applicable to Sub-consulting agency. The Monitor is under contractual obligation to treat the information and documents of the agency or Sub-consulting agency with confidentiality.
- (4) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the agency. The parties offer to the Monitor the option to participate in such meetings.
- (5) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or heal the violation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendation. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action. However, the Independent External Monitor shall give an opportunity to the agency to present its case before making its recommendations to the Principal.
- (6) The Monitor will submit a written report to the Chairperson of the Board of the Principal within 8 to 10 weeks from the date of reference or intimation to him by the 'Principal' and, should the occasion arise, submit proposals for correcting problematic situations.
- (7) If the Monitor has reported to the Chairperson of the Board a substantiated suspicion of an offence under relevant Anti-Corruption Laws of India, and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- (8) The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

This Pact begins when both parties have legally signed it. It expires for the agency 12 months after the last payment under the respective contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Chairperson of the Principal.

Section 10 – Other provisions

- (1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi. The Arbitration clause provided in the main tender document / contract shall not be applicable for any issue / dispute arising under Integrity Pact.
- (2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- (3) If the Bidder is a consortium, this agreement must be signed by all consortium members.
- (4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

.....

For the Principal for the Bidder

Place

Witness1: (Signature/Name/Address)

Date

Witness2: (Signature/Name/Address)

Annexure A

PERFORMANCE BANK GUARANTEE

M/s. REC Power Distribution Company Ltd.
A10, 4th Floor, Kribhco Bhawan,
Sector-1, Noida – 201301
(With due Rs.100/- stamp duty, if applicable)

OUR LETTER OF GUARANTEE No. : Date:

Amount:

Valid Date:

Bank Name & Address:

In consideration of REC Power Distribution Company Ltd. having its office at A10, 4th Floor, Kribhco Bhawan, Sector-1, Noida – 201301(hereinafter referred to as "RECPDCL" which expression shall unless repugnant to the content or meaning there of include all its successors, administrators and executors) and having entered into an agreement dated _____/issued Work Order No. _____ dated _____ with/on as _____ (hereinafter referred to as "The service" which expression unless repugnant to the content or meaning thereof, shall include all the successors, Administrators and executors).

WHEREAS the Agency having unequivocally accepted to supply the materials as per terms and conditions given in the Agreement accepted to providing service as per terms and conditions given in the Agreement dated _____ /Work Order No. _____ dated _____ and RECPDCL having agreed that the Agency shall furnish to RECPDCL a Performance Guarantee for the faithful performance of the entire contract, to the extent of 10% (ten percent) (or the percentage as per the individual case) of the value of the Work Order i.e. for _____.

We, _____(The Bank) which shall include OUR successors, administrators and executors herewith establish an irrevocable and unconditional Letter of Guarantee No. _____ in your favour for account of _____ (The Agency) in cover of performance guarantee in accordance with the terms and conditions of the Agreement/work Order.

Hereby, we undertake to pay upto but not exceeding _____ (say _____ only) upon receipt by us of your first written demand accompanied by your declaration stating that the amount Claimed is due by reason of the Agency having failed to perform the Agreement and despite any contestation on the part of above named Agency.

This Letter of Guarantee will expire on _____ plus 60 days of claim period and any claims made hereunder must be received by us on or before expiry date after which date this Letter of Guarantee will become of no effect whatsoever whether returned to us or not.

Authorized Signature
Chief Manager/Manger
Seal of Bank

Annexure B

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder)

In a bid to make our entire procurement process more fair and transparent, RECPDCL intends to use the reverse auctions as an integral part of the entire tendering process. All the bidders who are found as technically qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are accepted by the bidder on participation in the bid event:

- 1.** RECPDCL shall provide the user id and password to the authorized representative of the bidder. *(Authorization Letter in lieu of the same shall be submitted along with the signed and stamped Acceptance Form).*
- 2.** RECPDCL decision to award the work would be final and binding on the supplier.
- 3.** The bidder agrees to non-disclosure of trade information regarding the purchase, identity of RECPDCL, bid process, bid technology, bid documentation and bid details to any other party.
- 4.** The bidder is advised to fully make aware themselves of auto bid process and ensure their participation in the event of reverse auction and failing to which RECPDCL will not be liable in any way.
- 5.** In case of bidding through Internet medium, bidders are further advised to ensure availability of the infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, internet response issues, software or hardware hangs, power failure or any other reason shall not be the responsibility of RECPDCL.
- 6.** In case of intranet medium, RECPDCL shall provide the infrastructure to bidders. Further, RECPDCL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case an auction event is restarted, the best bid as already available in the system shall become the basis for determining start price of the new auction.
- 7.** In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be out rightly rejected by RECPDCL.
- 8.** The bidder shall be prepared with competitive price quotes on the day of the bidding event.
- 9.** The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR at site.
- 10.** The prices submitted by a bidder during the auction event shall be binding on the bidder.
- 11.** No requests for time extension of the auction event shall be considered by RECPDCL.
- 12.** The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all-inclusive prices offered during conclusion of the auction event for arriving at Contract amount.

Signature & Seal of the Bidder

Annexure C

BID BANK GUARANTEE (EARNEST MONEY)

(To be stamped in accordance with Stamp act)

This deed of Guarantee made this _____ day of _____ 2017

by _____

((Name of the Bank)

having one its branch at _____ acting through its Manager (hereinafter called the "Bank")

which expression shall wherever the context so requires includes its successors and permitted assigns in favour of REC Power Distribution Company Ltd., registered under the Companies Act, 1956, having its office at _____

_____ (hereinafter called) ("RECPDCL")

which expression shall include its successors and assigns.

WHEREAS RECPDCL has invited tender vide their Tender Notice No.

_____ Dated _____ to be opened on AND WHEREAS

M/s _____

((Name of Tenderer)

having its office at _____ (hereinafter called

the "Tenderer"), has/have in response to aforesaid tender notice offered to supply/ do the job _____ as contained in the tender.

AND WHEREAS the Tender is required to furnish to RECPDCL a Bank Guarantee for a sum of Rs.

_____ (Rupees _____

_____ Only) as Earnest Money for participation in the Tender aforesaid.

AND WHEREAS, we _____

((Name of Bank) have at the request of the tenderer agree to give RECPDCL this as hereinafter contained.

NOW, THEREFORE, in consideration of the promises we, the undersigned, hereby covenant that, the aforesaid Tender shall remain open for acceptance by RECPDCL during the period of validity as mentioned in the Tender or any extension thereof as RECPDCL and the Tenderer may subsequently agree and if the Tenderer for any reason back out, whether expressly or impliedly, from his said Tender during the period of its validity or any extension thereof as aforesaid or fail to furnish Bank Guarantee for performance as per terms of the aforesaid Tender, we hereby undertake to pay RECPDCL, New Delhi on demand without demur to the extent of Rs. _____ (Rupees _____ only).

We further agree as follows:-

01. That RECPDCL may without affecting this guarantee extend the period of validity of the said Tender or grant other indulgence to or negotiate further with the Tenderer in regard to the conditions contained in the said tender or thereby modify these conditions or add thereto any further conditions as may be mutually agreed to in between RECPDCL and the Tender AND the said Bank shall not be released from its liability under these presents by an exercise by RECPDCL of its liberty with reference to the matters aforesaid or by reason of time being given to the Tenderer or any other forbearance, act or omission on the part of the RECPDCL or any indulgence by RECPDCL to the said Tenderer or any other matter or thing whatsoever.
02. The Bank hereby waive all rights at any time in consistent with the terms of this Guarantee and the obligations of the Bank in terms thereof shall not be otherwise affected or suspended by reason of any dispute or dispute having been raised by the Tenderer (whether or not pending before any arbitrator, tribunal or court) or any denial of liability by the Tenderer stopping or preventing or purporting to stop or prevent any payment by the Bank to RECPDCL in terms thereof.

03. We the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of RECPDCL in writing and agree that any charges in the constitution, winding up, dissolution or insolvency of the Tenderer, the said Bank shall not be discharged from their liability.

NOTWITHSTANDING anything contained above, the liability of the Bank in respect of this Guarantee is restricted to the said sum of Rs. _____ (Rupees

_____ only) and this Guarantee shall remain in force till _____ unless a claim under this guarantee is filed with the bank within 30 (thirty) days from this date or the extended date, as the case may be i.e. upto _____ all rights under Guarantee shall lapse and the Bank be discharged from all liabilities hereunder.

In witness whereof the Bank has subscribed and set its name and seal here under.

Note: - The date shall be thirty (30) days after the last date for which the bid is valid.

Annexure D

BoQ items & Make

1. Bid Structure

In case of consortium, the bidder shall clearly specify the Structure of consortium as detailed below
The bidder shall clearly specify the OEMs of various components of AMI as attached below:

S.No	AMI Component	OEM Name
1	Smart Meter boxes	
2	Cables	
3	CTs	
4	Item1	
5	Item2	
6		

Annexure E

Technical Specification of Current Transformer

1.0 GENERAL

- 1.1 This specification covers manufacture, test, & supply of LT Current transformers of class 0.5 accuracy.
- 1.2 The CTs shall be suitable for metering purpose.

2.0 TYPE:

- 2.1 The CTs shall be of ring type and bar type as per requirement.
- 2.2 The secondary leads shall be terminated with Tinned Cooper rose contact terminals with arrangements for sealing purposes.
- 2.3 Polarity (both for primary and second leads) shall be marked.
- 2.4 The CTs shall be varnished, fiberglass tape insulated or cast resin, air-cooled type. Only super enameled electrolytic grade copper wires shall be used.
- 2.5 The CTs shall conform to IS 2705:Part-I & II/IEC:185 with latest amendments.

3.0 TECHNICAL DETAILS:

- 3.1 Technical details shall be as given below:

1.	Class of Accuracy	0.5
2.	Rated Burden	5.00 VA
3.	Power Frequency Withstand Voltage	3KV
4.	Highest System Voltage	433 V
5.	Nominal System Voltage	400 V
6.	Frequency	50 Hz
7.	Supply System	3 Ph. Solidly grounded Neutral System

- 3.2 Transformation ratio shall be specified from the following standard ratings as per requirement:

Ratio	200/5	600/5	800/5	1600/5
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(Secondary with 1 A may be specified by the utility incase the same is desired.)

- 3.3 Bore diameter of the CT shall not be less than 40 mm. Ring type CTs shall have suitable clamp to fix the CT to panel Board, wherever required.

- 3.4 The limits of current error and phase angle displacement as per IS:2705 at several defined percentage of rated current are:

Accuracy Class	% Ratio error at % of rated current	Phase displacement in minutes at % of rated current
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	5	20	100	120	5	20	100	120
0.5	1.5	0.75	0.5	0.5	90	45	30	30

Note : Current error and phase displacement at rated frequency is required to be as above when the secondary burden from 25% to 100% of the rated burden i.e. 50 V A.

3.5 Rated extended primary current shall be 120% of rated primary Current in accordance with IS:2705 Pt-II.

3.6 Rated ISF (Instrument Security Factor) shall be declared by the manufacturer & marked on the CT.

3.7 CT's shall be made with good engineering practices. Core winding shall evenly spread stress & avoid stress concentration at any one point. Cast resin CT's shall be processed by hot curing method under controlled vacuum conditions.

3.8 The base shall be of hot dip galvanized steel.

4.0 TESTS

4.1. TYPE TESTS:

4.1.1 Copies of all type tests as per IS.2705 Part-I and II including short time current & temperature rise tests in NABL accredited laboratory shall be submitted and got approved before commencement of supply.

4.2 ROUTINE TESTS:

4.2.1 The supplier shall conduct all the routine tests such as Ratio test, phase angle error test for 0.5 accuracy class as per IS 2705 Part I & II.

4.3 COMMISSIONING TEST :

4.3.1 In accordance with IS:2705, Power frequency test on primary winding shall be carried out after erection on site on sample basis.

5.0 MARKING:

5.1 The CTs shall have marking and nameplate as per IS 2705 in addition to class of insulation & ISF. The markings shall be indelible. The nameplate shall be securely fixed to the body of the CT.

6.0 PACKING:

6.1 Each CT shall be securely packed so as to withstand rough handling during transit and storage.

7.0 QUALITY ASSURANCE PLAN:

7.1 Immediately on award of contract, the bidder shall prepare detailed quality assurance plan / test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc.

7.2 Purchaser reserve the right to send any material out of the supply to any recognized laboratory for testing and the cost of testing shall be borne by the Purchaser. In case the material is found not in order with the technical requirement / specification, the charges along with any other penalty which may be levied is to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of bidder's representative.

GUARANTEED TECHNICAL PARTICULARS FOR CURRENT TRANSFORMERS

S.No.	DESCRIPTION	150/5A
1.	Maker's Name & address	
2.	Type and capacity	
3.	Rated voltage	
a)	Highest system Voltage	
b)	Rated Primary Current	
c)	Rated Secondary Current	
e)	Rated Output	
f)	Rated continuous thermal current Temperature rise over ambient Power Frequency Withstand Voltage	
4.	Class of Accuracy	
5.	Material	
a)	Core	
b)	Conductor	
c)	Insulation	
d)	Base MS Zinc plated	
6.	Dimension in mm	
a)	Inner Dia. of CT	
b)	Outer Dia. of CT	
c)	Height of center of CT from base	
7.	Secondary termination	
8.	ISF	
9.	Extended primary current	

Annexure F

Technical Specification of Single Phase Smart meter Box

CONTENTS

- 1.0 SCOPE**
- 2.0 APPLICABLE STANDARDS**
- 3.0 CLIMATIC CONDITIONS OF THE INSTALLATION**
- 4.0 GENERAL TECHNICAL REQUIREMENTS**
- 5.0 GENERAL CONSTRUCTIONS**
- 6.0 NAME PLATE AND MARKING**
- 7.0 TESTS**
- 8.0 TYPE TEST CERTIFICATES**
- 9.0 PRE-DESPATCH INSPECTION**
- 10.0 INSPECTION AFTER RECEIPT AT STORE**
- 11.0 GUARANTEE**
- 12.0 PACKING**
- 13.0 TENDER SAMPLE**
- 14.0 QUALITY CONTROL**
- 15.0 MINIMUM TESTING FACILITIES**
- 16.0 MANUFACTURING ACTIVITIES**
- 17.0 SPARES, ACCESSORIES AND TOOLS**
- 18.0 DRAWING AND DOCUMENTS**
- 19.0 GUARANTEED TECHNICAL PARTICULARS**
- 20.0 SCHEDULE OF DEVIATIONS**

1.0	SCOPE	This specification covers the technical requirements of design, manufacture, testing at manufacturer's works, packing, forwarding, supply and unloading at store/site and performance of single phase meter box with all accessories for trouble free and efficient operation.		
2.0	APPLICABLE STANDARDS	The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with the latest editions of the following Indian/International standards and shall conform to the regulations of the local statutory authorities.		
		IS: 14772-2000	General requirements for enclosure for accessories for household and similar fixed electrical installations-Specification	
		IS: 8623(Part 1)-1993	Specification for low-voltage switchgear and control gear assemblies Part 1 for type tested and partially type tested assemblies	
		IS: 11731(Part II)-1992	Methods of test for determination of Flammability of solid electrical insulating materials when exposed to an igniting source	
		IS 4249-1967	Specification for classification and method of test for non-ignitable and self-extinguishing properties of solid electrical insulating materials	
		IS 8828-1996	Electrical Accessories- Circuit Breakers for Over Current Protection for Household and Similar Installations	
		IS 5133(Part II)-1969	Specification for boxes for the enclosure of electrical accessories	
		IS 2500(Part 1)-2000	Sampling procedure for inspection by attributes part 1 sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection	
		UL 746-C	Polymeric materials in electrical equipments	
3.0	CLIMATIC CONDITIONS OF THE INSTALLATION	The atmosphere is generally laden with mild acid and dust suspended during dry months and subjected to fog in cold months. The design of the equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.1g.		
		a)	Max. Ambient Température	: 50 deg.C
		b)	Max. Daily average ambient temp.	: 40 deg.C
		c)	Min Ambient Temp	: 0 deg C
		d)	Maximum Humidity	: 95%
		e)	Minimum Humidity	: 10%
		f)	Average No. of thunderstorm days per annum	: 50
		g)	Average Annual Rainfall	: 750 mm
		h)	Average No. of rainy days per annum	: 60
		i)	Rainy months	: June to Oct.
		j)	Altitude above MSL not exceeding	: 300 meters
		k)	Wind Pressure elevation of	: 126kg/sq m up to an 10mtrs
		The atmosphere is generally laden with mild acid and dust suspended during dry months and subjected to fog in cold months. The design of the equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.1g		

4.0

GENERAL TECHNICAL REQUIREMENTS

S. NO.	DESCRIPTION	REQUIREMENT
1	Application	Outdoor
2	Degree of ingress protection	IP 55
3	Flammability requirement	FVO
4	Grade of material	Fire Retardant Polycarbonate, Self-Extinguishing, UV stabilized and anti-oxidation properties
5	Material a) Base : b) Cover :	a) Polycarbonate equivalent to Lexan 943 A/ Makrolon 6457 with dark grey color b) Polycarbonate equivalent to Lexan 943 A/ Makrolon 6457 with clear transparent (no color)
6	Thickness of box	2 mm (minimum)
7	Gasket material	Rubber
8	Material withstand temperature	125 deg. C +/- 2 deg. C
9	Dielectric withstand for the box	5 kV for 1 min
10	Size of the box HxLxD in mm (Internal)*-	350x250x120 (Internal box dimension) (Tolerance + 2%)

*The size/dimensions of the meter box in the NIT is indicative. Bidder to propose dimensions as best fit for the meter design. The fitment shall be verified during sample testing.

5.0

GENERAL CONSTRUCTIONS

	<p>5.1-The meter box shall be weather proof, tamper proof and shall be made of Injection moulded reinforce polycarbonate material having FVO fire retardant, self-extinguishing, UV stabilization and Anti oxidation properties. Base shall be dark grey color whereas the cover shall be completely transparent for polycarbonate material. The material for base and cover shall be Lexan 943 A/ Makrolon 6457 or equivalent with 2 mm thickness.</p> <p>5.2- The meter box shall have a taper corner for easy flow of rain water and shall have degree of IP55 for protection against dust and water.</p> <p>5.3-The box shall be provided with meter mounting arrangement along with MS plate on top for mounting the meter from different manufacturers, having different mounting dimensions. The top plate shall be fixed on the base taking care of the alignment with the fixing holes provided in the base. The detail drawing of the mounting arrangement of all the meters to be provided by the bidders.</p> <p>5.4- The meter shall be mounted with the help of MS plate such that it is centrally placed in the box and there shall be clearance of 25 mm between the meter and top of the box. A minimum clearance of 50 mm shall be maintained on both sides, between meter and box.</p> <p>5.5- The design of the meter box shall be such as to easy facilitate easy wiring and access to meter terminals. Nylon gland of internal diameter of around 25 mm shall be provided for I/C and O/G cables of size 2Cx16 & 25 sq.mm. The holes for I/C and O/G cables shall be provided in left and right side of meter box at around 30-35mm from bottom corner.</p> <p>5.6- The number of pillars to be provided in box as per DISCOM different type of meters. If there is any change in existing meter design or new meter introduced, bidder shall provide meter mounting pillar accordingly in meter box with modification in their mould without any extra cost.</p>
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		<p>5.7- The box cover shall be fixed to the base through two nos. GI Hinges having Minimum length 40 mm with three screws. The arrangement of the hinges shall be provided on left side of the box. The screws shall not be fixed from outside so that it cannot be visible from outside to avoid any manipulation. The overlapping on hinges should be such that its metallic portion should not be accessible from outside when closed, to achieve this the overlapping should be provided. The box cover shall be openable by more than 120 degrees.</p> <p>5.8- For holding and sealing the box, four U-shaped latches of approx. size 25 mm shall be provided on three sides of box (two on right side and one each on top and bottom side). The latch shall be GI with minimum thickness of 1.2 mm. The latch shall be provided along with suitable clamp assembly in base as well as cover, such that these are fully covered by the latch after closing. The clamp along with the latch shall be provided with a sealing hole such as to provide a sealing arrangement in the assembly and alignment of holes should be perfect so that seal wire may be easily installed.</p> <p>5.9- Suitable rubber gasket of suitable size (properly fixed throughout the periphery in groove without any white marks) for protection all around the cover shall be provided.</p> <p>5.10. The box shall be provided with four mounting (fixing) holes of 8 mm size. The screws and gaskets of 6mm size with around 50mm length to be provided for mounting of box in each box in packed in a separate pack.</p> <p>5.11- After closing and sealing the meter box, it shall not be possible to forcefully enter any sharp object inside the box without breaking base/cover. The material should not be flexible to allow any deformation for any object entry like screwdriver. Suitable overlapping (20 mm) shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.</p> <p>5.12- Box shall be provided with 1 no. earthing nut and bolt of size M8x35 mm on the left hand side in the base of meter box for providing earth connection. The earth terminal shall be identified by means of the sign, marked in a legible manner on or adjacent to the terminal.</p> <p>5.13 The box size should be such that it should accommodate the smart meter with size of approx. 263x149x98mm having top opening hinged terminal cover</p> <p>5.14 The earthing bolt and the gland shall be connected with metallic GI plate of 1.2mm thick. This plate shall be placed inside of the box.</p> <p>5.15 The glands should be of 25 mm diameter and without inclined length but should have extended threads of 15mm inside box and a gland cap should be fixed on this gland from inside. The inside gland cap shall have opening of 18mm on the side of the earthing bolt incoming side and other side gland cap (outgoing) shall have 16mm opening.</p> <p>5.16 The box cover and base should have overlapping of more than 22mm long from inside and outside (Cover design should ensure the same) Such that the cover and the base once fixed one should not force insert any sharp object or screwdriver etc. This shall be tested at any sample during tendering, pre-manufacturing or during supply.</p>
6.0	NAME PLATE AND MARKING	<p>The meter box shall be provided with durable and legible name plate, effectively secured against removal. Name plate shall be embossed with "PO No with date", "PROPERTY OF Chandigarh Electricity Department", "ITEM CODE NUMBER", The name plate shall be indelibly and distinctly marked with all essential particulars as per the relevant standards along with the following information :</p> <ul style="list-style-type: none"> a) Manufacturer's name b) Serial number c) Month and Year of manufacturing d) Property of 'Chandigarh Electricity Department' e) Voltage 440V Danger

		f) PO no. and date Danger logo/icon on the cover																					
7.0	TESTS	All routine, acceptance & type tests shall be carried out in accordance with the relevant IS/IEC. All routine & acceptance tests shall be witnessed by the purchaser/his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted on the meter box in addition to others specified in IS/IEC standards.																					
7.1	Type Test	<table border="1"> <thead> <tr> <th>S.no.</th><th>Tests/ Standard</th><th>Requirements</th></tr> </thead> <tbody> <tr> <td>1</td><td>Protection against electric shock (IS : 14772 - 2000)</td><td>Enclosure shall be so designed that when they are mounted as for normal use, the live parts of any correctly installed accessories or any parts of these accessories which may become live due to a fault shall not be accessible.</td></tr> <tr> <td>2</td><td>Provision for earthing (IS : 14772-2000)</td><td>Enclosure shall be provided with a facility for permanent and reliable connection to earthing</td></tr> <tr> <td>3</td><td>Resistance to ageing, humid conditions, Ingress of solid objects and to harmful ingress of water (IS : 14772-2000)</td><td> <p>Resistance to Ageing : Enclosure shall be kept in a heating cabinet with temp 70 ± 2 deg C for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks.</p> <p>Humid conditions : Enclosure shall be kept in a cabinet with humidity between 91 to 95 % for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks.</p> <p>Resistance against ingress of solid objects and to harmful ingress of water : Enclosure shall be subjected to test for degree of protection (IP 55) as per IS 12063/ IS 60529</p> </td></tr> <tr> <td>4</td><td>Mechanical strength/ Impact Resistance Test (IS : 14772-2000)/(UL : 746 C)</td><td>The sample shall be subjected to Impact resistance test as per the respective standards and shall not show occurrence of any of the following: making uninsulated live parts accessible to contact, producing a condition that might affect the mechanical performances of the enclosure, producing a condition that would increase the likelihood of an electric shock</td></tr> <tr> <td>5</td><td>Resistance to heat / Ball Pressure Test (IS : 14772-2000)</td><td>The test shall be made on a sample in a heating cabinet at a temp of 125 ± 2 deg C for 1 per IS. After completion of test, the diameter of the impression caused by the ball shall be measured and should not exceed 2 mm.</td></tr> <tr> <td>6</td><td>Resistance to Abnormal heat and fire/ Glow wire</td><td>Parts of insulating materials which might be exposed to thermal</td></tr> </tbody> </table>	S.no.	Tests/ Standard	Requirements	1	Protection against electric shock (IS : 14772 - 2000)	Enclosure shall be so designed that when they are mounted as for normal use, the live parts of any correctly installed accessories or any parts of these accessories which may become live due to a fault shall not be accessible.	2	Provision for earthing (IS : 14772-2000)	Enclosure shall be provided with a facility for permanent and reliable connection to earthing	3	Resistance to ageing, humid conditions, Ingress of solid objects and to harmful ingress of water (IS : 14772-2000)	<p>Resistance to Ageing : Enclosure shall be kept in a heating cabinet with temp 70 ± 2 deg C for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks.</p> <p>Humid conditions : Enclosure shall be kept in a cabinet with humidity between 91 to 95 % for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks.</p> <p>Resistance against ingress of solid objects and to harmful ingress of water : Enclosure shall be subjected to test for degree of protection (IP 55) as per IS 12063/ IS 60529</p>	4	Mechanical strength/ Impact Resistance Test (IS : 14772-2000)/(UL : 746 C)	The sample shall be subjected to Impact resistance test as per the respective standards and shall not show occurrence of any of the following: making uninsulated live parts accessible to contact, producing a condition that might affect the mechanical performances of the enclosure, producing a condition that would increase the likelihood of an electric shock	5	Resistance to heat / Ball Pressure Test (IS : 14772-2000)	The test shall be made on a sample in a heating cabinet at a temp of 125 ± 2 deg C for 1 per IS. After completion of test, the diameter of the impression caused by the ball shall be measured and should not exceed 2 mm.	6	Resistance to Abnormal heat and fire/ Glow wire	Parts of insulating materials which might be exposed to thermal
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		test (IS : 14772-2000)	stresses due to electric effects shall not be affected by abnormal heat and by fire. The compliance shall be checked by means of the glow wire test performed at 960 deg C, according to IS 11000(Part 2/sec 1) with no flame and glowing.
		7 Resistance to Tracking (IS 14772-2000)	The sample when tested as per clause no 17 of IS: 14772, shall show no flashover after completion.
		8 Flammability test (IS : 11731 (Part II)-1986)/UL :94)	The sample shall comply to flammability requirements of category FV0/V0 as per respective standards
		9 Test for self-extinguishing property (IS:4249-1967)	The sample when tested as per clause 3.5.1 of IS 4249, shall comply to the specified requirements.
		10 Test for water absorption (IS: 5133 (Part II)-1969)	The sample shall be heated to a temperature of 50 ± 3 deg. C for 24 h, as per IS and after completion, the water absorbed should not be more than 1%.
		11 Verification of Dielectric properties (IS :8623 (Part I)-1993)	The enclosure shall be tested as per clause no 8.2.2 of IS 8623(Part 1), with test voltage of 5 kV for 1 minute and withstand it satisfactorily.
		12 UV Light Exposure (UL-746C)	The sample when exposed to UV light as per the defined test method, shall comply to following a) Physical Properties: The average value of physical properties after the UV light exposure shall not be lower than 70% of its initial value (without UV aging) i.e. the variation shall not be more than 30%. b) Flammability Test : After the UV light exposure, the flammability requirement of FV0 shall remain unchanged. c) Flexural Strength: After the UV light exposure, Flexural strength shall not be lower than 70% of its initial value (without UV aging) i.e. the variation shall not be more than 30 %.
7.2	Routine tests	1. Marking 2. Visual Examination and Dimensions 3. Protection against electric shock 4. Provision for earthing	
7.3	Acceptance Tests	1. Marking 2. Visual Examination and Dimensions 3. Protection against electric shock	

		<ol style="list-style-type: none"> 4. Provision for earthing 5. Mechanical strength/Impact Resistance Test 6. Resistance to Abnormal heat and fire/ Glow wire test 7. Flammability test 8. Verification of Die-electric properties 9. Finishing of box 10. Screw Driver penetration test
8.0	TYPE TEST CERTIFICATES	<p>The bidder shall furnish the type test certificates for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI/ERDA/UL or equivalent as per the relevant standards. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports, i.e. any test report not acceptable, same shall be carried out without any cost implication to the Purchaser.</p>
9.0	PRE-DISPATCH INSPECTION	<p>The successful bidder shall submit two pre-manufacturing sample samples (non-returnable) for further testing and compliance as per specifications and should get approval from Discom before mass manufacturing. The sample to be submitted at RECPDCL office</p> <p>Inspection may be made at any stage of manufacture at the option of the purchaser and the equipment if found unsatisfactory as to workmanship or material, the same is liable to rejection. Bidder shall grant free access to the places of manufacture to the Purchaser's representatives at all times when the work is in progress. Inspection by the Purchaser or it's authorized representatives shall not relieve the supplier of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by the Purchaser.</p> <p>Following documents shall be sent along with material :</p> <ol style="list-style-type: none"> a) Test reports b) MDCC issued by Purchaser c) Invoice in duplicate d) Packing list e) Drawings & catalogue f) Guarantee / Warrantee card g) Delivery Challan h) Other Documents (as applicable)
10.0	INSPECTION AFTER RECEIPT AT STORE	<p>The material received at Purchaser's store shall be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection</p> <p>DISCOM can send any of the supplied material for further testing at any lab for compliance of material in line with the specifications and the material shall be liable for rejection, if test results are found different from the reports of the pre-dispatch inspection or tender test reports.</p>
11.0	GUARANTEE	<p>Bidder shall stand guarantee towards design, materials, workmanship & quality of process/manufacturing of items under the contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Purchaser up to a period of 12 months from the date of commissioning. Bidder shall be liable to undertake to replace/rectify such defects at his own costs, within mutually agreed timeframe, and to the entire satisfaction of the Purchaser, failing which the Purchaser will be at liberty to get it replaced/rectified at Bidder's risks and costs and recover all such expenses plus the Purchaser's own charges (@ 20% of expenses incurred), from the Bidder or from the "Security cum</p>

POWER DISTRIBUTION

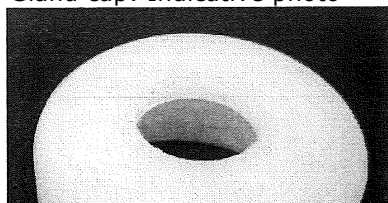
		<p>performance Deposit” as the case may be. In case box fails within the guarantee period, the purchaser will immediately inform the bidder who shall take back the failed box within 15 days from the date of intimation at his own cost and replace/repair the box within forty five days of date of intimation with a roll over guarantee.</p> <p>Bidder shall further be responsible for ‘free replacement’ for another period of THREE years from the end of the guarantee period for any ‘Latent Defects’ if noticed and reported by the Purchaser.</p>															
12.0	PACKING	Bidder shall ensure that all the equipment covered under this specification shall be prepared for rail/road transport in a manner so as to protect the equipment from damage in transit. The material used for packing shall be environmentally friendly.															
13.0	TENDER SAMPLE	Bidders are required to manufacture two sample boxes best fit for meter size and submit sample boxes along with the bid one sample at Meter test Lab, for further testing and approval of samples. These samples shall be retained till the final PO placed against tender and for successful bidder these shall be retained till final supply against order.															
14.0	QUALITY CONTROL	The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. The Purchaser’s engineer or its nominated representative shall have free access to the manufacturer’s/sub-supplier’s works to carry out inspections.															
15.0	MINIMUM TESTING FACILITIES	Bidder shall have adequate in house testing facilities for carrying out all routine tests, acceptance tests as per Indian/International standards.															
16.0	MANUFACTURING ACTIVITIES	The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart should be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.															
17.0	SPARES, ACCESSORIES AND TOOLS	04 nos M6 screws with Gitti															
18.0	DRAWING AND DOCUMENTS	<p>Following drawings and documents shall be prepared based on Purchaser specifications and statutory requirements and shall be submitted with the bid :</p> <p>a) Completely filled in Technical Particulars b) General description of the equipment and all components including brochures c) General arrangement for meter box d) Experience List e) Type test certificates</p> <p>After the award of the contract, soft copies of following drawings, drawn to scale, describing the equipment in detail shall be forwarded for approval.</p> <table><tr><th>Sr. No.</th><th>Description</th><th>For Approval</th><th>For Review Information</th><th>Final Submission</th></tr><tr><td>1</td><td>Technical Parameters</td><td>✓</td><td></td><td>✓</td></tr><tr><td>2</td><td>GA Drawing</td><td>✓</td><td></td><td>✓</td></tr></table>	Sr. No.	Description	For Approval	For Review Information	Final Submission	1	Technical Parameters	✓		✓	2	GA Drawing	✓		✓
Sr. No.	Description	For Approval	For Review Information	Final Submission													
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2	GA Drawing	✓		✓													

			of meter box			
		3	Installation Instruction			✓
		4	Manual/Catalogues		✓	
		5	Transport/Shipping dimension drawing		✓	✓
		6	QA & QC Plan	✓	✓	✓
		7	Test Certificates	✓	✓	✓
		<p>Bidder shall subsequently provide of all the drawing, GTP, Test certificates shall be submitted after RC for the final approval of DISCOM.</p> <p>All the documents & drawings shall be in English language.</p>				
19.0	GUARANTEED TECHNICAL PARTICULARS					
		Sl. No	Description /Requirements	Unit	Offered by Bidder	
		1	Application			
		2	Degree of protection			
		3	Flammability requirement			
		4	Grade of material			
		5	Material a) Base : b) Cover :			
		6	Thickness of box (Base and Cover)	mm		
		7	Material of the gasket			
		8	Material withstand temperature	Deg c		
		9	Dielectric withstand capacity			
		10	Construction features of the box			
		a)	Clear inside dimensions i. Length ii. Width iii. Depth (Should be 350x250x120 with 2% tolerance)	mm		
		b)	Minimum clearance between meter and box on 4 sides	mm		
		c)	Minimum clearance from meter on front	mm		
		d)	Minimum clearance from back of meter	mm		
		e)	Earthing arrangement	Numbers		
		f)	Sealing Arrangement (with length)	Numbers		

		g)	Colour of Meter Box (base & cover)		
		h)	Box mounting arrangement with four screws provided	YES/No	
		i)	A. Size of incoming & outgoing cable hole is 25mm B.location of hole from bottom base (30-40mm)	YES/No	
		j)	Weight of complete box in kg with +/- tolerance	Kg	
		k)	Cover is overlapping the base more than 22 mm from inside and outside of box base	YES/No	
		l)	4 Number Gitti and screws provided with M6 Screw with min. length 50mm	YES/No	
		m)	MS plate for meter mounting provided on Top side (without sharp corners)		
		n)	MS plate for meter mounting provided on Top side (without sharp	Number & mm	
		o)	Angle of Box opening	degree	
		P)	Number of U-shaped GI clamp & latches — 4	Number	
		q)	GI U clamp with 1.2mm thickness on three sides having min.25mm length	Yes/No	
		r)	Sealing hole to be provided in clamp and latches		
		s)	Overlapping of cover on base inside and outside	mm	
		t)	Number and size of earthing M8 bolt with 35mm length	Number & Mm	
		U)	Location of earthing bolt on Sides above side gland		
		v)	Earthing sign with green background on GI sheet to be provided near earth bolt		
		w)	A. Gland size -25 mm diameter on i/c and o/g as per annexure-1 B. Gland type — straight with 15mm treading inside for cap fixing C. Gland cap from Inside on both glands D. Gland cap opening size - 1. 18mm diameter on incoming side gland cap 2.16mm diameter on outgoing side gland cap		
		11	Name plate and marking as per Cl. no- 6.0		

		<table><tr><td>12</td><td>Type test as per cI. No-7.1</td><td></td><td></td></tr><tr><td>13</td><td>The both gland provided with inside gland cap</td><td></td><td></td></tr><tr><td>14</td><td>The earth connectivity plate between incoming gland and earth bolt provided with 1.2mm thick GI</td><td></td><td></td></tr><tr><td>15</td><td>Gland cap thickness 3mm and design per annexure-1 having 15mm threading width for fixing on gland from inside box</td><td></td><td></td></tr><tr><td>16</td><td>Mounting pillars as per annexure 2 and agreed to provide any changes in future as per prevailing meters & DISCOM requirements</td><td></td><td></td></tr><tr><td>17</td><td>The box size is suitable for smart meter with size of 263x149x98mm having top opening hinged terminal cover (Suitability shall be tested on samples)</td><td></td><td></td></tr></table>	12	Type test as per cI. No-7.1			13	The both gland provided with inside gland cap			14	The earth connectivity plate between incoming gland and earth bolt provided with 1.2mm thick GI			15	Gland cap thickness 3mm and design per annexure-1 having 15mm threading width for fixing on gland from inside box			16	Mounting pillars as per annexure 2 and agreed to provide any changes in future as per prevailing meters & DISCOM requirements			17	The box size is suitable for smart meter with size of 263x149x98mm having top opening hinged terminal cover (Suitability shall be tested on samples)		
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20.0	SCHEDULE OF DEVIATION	<p>The bidders shall set out all deviations from this specification, Clause by Clause in this schedule. Unless specifically mentioned in this schedule, the tender shall be deemed to confirm the purchaser’s specifications.</p> <p style="text-align: center;"><u>(TO BE ENCLOSED WITH THE BID)</u></p> <p>All deviations from this specification shall be set out by the bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser’s specifications:</p> <table><tr><th>S.No.</th><th>Clause No.</th><th>Details of deviation with justifications</th></tr><tr><td></td><td></td><td></td></tr></table> <p>We confirm that there are no deviations apart from those detailed above.</p>		S.No.	Clause No.	Details of deviation with justifications																				
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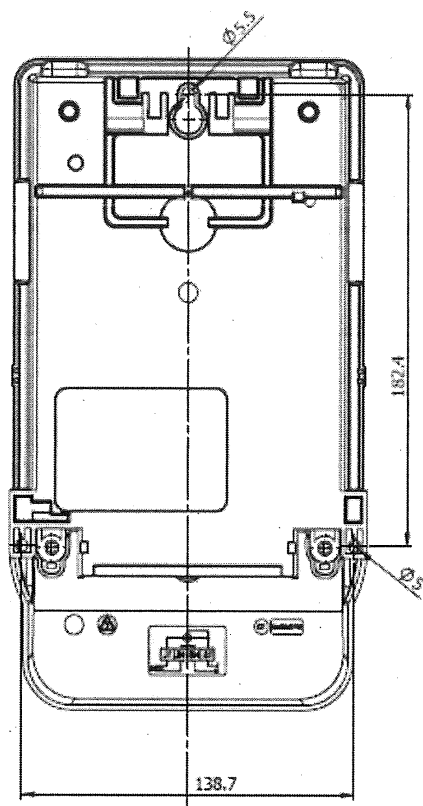
Gland cap: Indicative photo



Gland and cap arrangement:



Annexure-2 (Meter Mounting Drawing for provision in Box)



Annexure G

Technical Specification of Three Phase Direct Connected Smart meter Box

CONTENTS

21.0	SCOPE
22.0	APPLICABLE STANDARDS
23.0	CLIMATIC CONDITIONS OF THE INSTALLATION
24.0	GENERAL TECHNICAL REQUIREMENTS
25.0	GENERAL CONSTRUCTIONS
26.0	NAME PLATE AND MARKING
27.0	TESTS
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29.0	PRE-DESPATCH INSPECTION
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33.0	TENDER SAMPLE
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35.0	MINIMUM TESTING FACILITIES
36.0	MANUFACTURING ACTIVITIES
37.0	SPARES,ACCESSORIES AND TOOLS
38.0	DRAWING AND DOCUMENTS
39.0	GURANTEED TECHNICAL PARTICULARS
40.0	SCHEDULE OF DEVIATIONS

1.0	SCOPE	This specification covers the technical requirements of design, manufacture, testing at manufacturer's works, packing, forwarding, supply and unloading at store/site and performance of three phase meter box with all accessories for trouble free and efficient operation.		
2.0	APPLICABLE STANDARDS	The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with the latest editions of the following Indian/International standards and shall conform to the regulations of the local statutory authorities.		
		IS: 14772-2000	General requirements for enclosure for accessories for household and similar fixed electrical installations-Specification	
		IS: 8623(Part 1)-1993	Specification for low-voltage switchgear and control gear assemblies Part 1 for type tested and partially type tested assemblies	
		IS: 11731(Part II)-1992	Methods of test for determination of Flammability of solid electrical insulating materials when exposed to an igniting source	
		IS 4249-1967	Specification for classification and method of test for non-ignitable and self-extinguishing properties of solid electrical insulating materials	
		IS 8828-1996	Electrical Accessories- Circuit Breakers for Over Current Protection for Household and Similar Installations	
		IS 5133(Part II)-1969	Specification for boxes for the enclosure of electrical accessories	
		IS 2500(Part 1)-2000	Sampling procedure for inspection by attributes part 1 sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection	
	UL 746-C	Polymeric materials in electrical equipments		
3.0	CLIMATIC CONDITIONS OF THE INSTALLATION	The atmosphere is generally laden with mild acid and dust suspended during dry months and subjected to fog in cold months. The design of the equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.1g.		
		a)	Max. Ambient Température	: 50 deg.C
		b)	Max. Daily average ambient temp.	: 40 deg.C
		c)	Min Ambient Temp	: 0 deg C
		d)	Maximum Humidity	: 95%
		e)	Minimum Humidity	: 10%
		f)	Average No. of thunderstorm days per annum	: 50
		g)	Average Annual Rainfall	: 750 mm
		h)	Average No. of rainy days per annum	: 60
		i)	Rainy months	: June to Oct.
		j)	Altitude above MSL not exceeding	: 300 meters
		k)	Wind Pressure	: 126kg/sq m up to an
			elevation of	

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	5.4	provided on Top side (without sharp corners)	
	m)	Meter mounting Screws	Minimum 3 number of 13mm length
	n)	Hinges	Three nos. GI Hinges having 1.2 mm thickness and Minimum length 30 mm
	n)	Angle of Box opening	120 degree
	o)	Polycarbonate hinges on base are covered with box cover material such that tampering is not possible from outside	Yes/No
	p)	Antenna mounting provision	GI square piece of around 30x30mm to be riveted/ fixed inside on bottom face of box at around 60mm distance from right side
	s)	Location of earthing bolt	On left Sides (when viewed from front) & bolt is fixed & engaged within gland through GI sheet 1.2mm from inside.
	u)	Earthing sign	A tag with green background on GI sheet to be provided on earth bolt outside box
	v)	A. Gland size – inside diameter-around 29mm on i/c and o/g B. Gland type – straight	Yes/no
	11	The earth connectivity plate between incoming gland and earth bolt provided with 1.2mm thick GI	Yes/no
##The size/dimensions of the meter box in the NIT is indicative. Bidder to propose dimensions as best fit for the meter design. The fitment shall be verified during sample testing.			
5.0 GENERAL CONSTRUCTIONS			
		<p>5.1-The meter box shall be weather proof, tamper proof and shall be made of Injection moulded reinforce polycarbonate material with FV0 fire retardant, self-extinguishing, UV stabilization and Anti oxidation properties. The box shall be of adequate strength ,unbreakable and shall be made in two pieces(base and cover). The base shall be dark grey color whereas the cover shall be completely transparent for polycarbonate material .The material for base and cover shall be polycarbonate with minimum cover thickens of 2.5mm & base -3 mm thickness.</p> <p>5.2- The meter box shall have a taper roof for easy flow of rain water and shall have degree of IP55 for protection against dust and water.</p> <p>5.3-The box shall be provided with meter mounting arrangement along with MS plate on top for mounting the meter from different manufacturers, having different mounting dimensions. The top MS plate shall be fixed on the base taking care of the alignment with the fixing holes provided in the base of the box. The box shall have suitable modem mounting arrangement on the right hand side in the base of meter box for mounting the modem from different manufacturers with the help of base plate. The location of the same shall be 100mm below the top of the box base (as measured from inside) and 35 mm away from right side of the box. The detail drawing of the mounting arrangement of all the meters to be provided by the bidder.</p> <p>5.4- The meter shall be mounted with the help of MS plate such that there is clearance of 50 mm between the meter box and top of the cover. A minimum clearance of 50 mm shall be maintained on both sides, between meter and box. The overall dimensions(indicative) of meter box shall be</p> <p>Length- 460 mm, Width- 340 mm ,Depth- 170 mm with 2% tolerance.</p>	

		<p>5.5- The design of the meter box shall be such as to easy facilitate easy wiring and access to meter terminals. Nylon gland of internal diameter of approx. 30 mm shall be provided for I/C and O/G cables of size 4Cx25 sq.mm or as approved by purchaser. The holes for I/C and O/G cables shall be provided in left and right side of meter box at bottom.</p> <p>5.6- The number of pillers to be provided in box as per different type of meters. If there is any change in existing meter design or new meter introduced, bidder shall provide meter mounting piller accordingly in meter box with modification in their mould without any extra cost.</p> <p>5.7- The box cover shall be fixed to the base through three nos Hinges. The arrangement of the hinges shall be provided on left side of the box and shall be such as to avoid entry inside of the box. The screws shall not be fixed from outside so that it can not be visible from outside to avoid any manipulation. The box cover shall be open able by more than 120 degrees.</p> <p>5.8- For holding and sealing the box, four U-shaped latches of approx..size 30 mm shall be provided on three side of box(two on right side and one each on top and bottom side).The latch shall be GS with minimum thickness of 1.2 mm. The latch shall be provided along with suitable clamp assembly in base as well as cover,such that these are fully covered by the latch after closing.The clamp along with the latch shall be provided with a sealing hole such as to provide a sealing arrangement in the assembly and alignment of holes should be perfect so that seal wire may be easily install.</p> <p>5.9- Suitable rubber gasket of round shape (properly provided throughout the periphery) for protection all around the cover shall be provided. The box shall be provided with four fixing holes of M6 screws. The four nos M6 screw with gitti to be provided with each box.</p> <p>5.10- After closing and sealing the meter box, it shall not be possible to forcefully enter any sharp object inside the box without breaking base/cover. Suitable overlapping as mentioned in GTP shall be provided between base and cover to avoid access to the meter or its accessories inside the meter box by any means after sealing the box.</p> <p>5.11- Box shall be provided with 1 no. earthing nut and bolt of size M8x35 mm on the left hand side in the base of meter box for providing earth connection. The earth terminal shall be identified by means of the earth sign, marked in a legible manner on or adjacent the terminal.</p>
6.0	NAME PLATE AND MARKING	<p>The meter box shall be provided with durable and legible name plate, effectively secured against removal. Name plate shall be embossed with "PO No with date" , "PROPERTY OF Chandigarh Electricity Department " , "ITEM CODE NUMBER" , The name plate shall be indelibly and distinctly marked with all essential particulars as per the relevant standards along with the following information :</p> <p style="text-align: center;">g) Manufacturer's name</p>

		h) Serial number i) Month and Year of manufacturing j) Property of ' Chandigarh Electricity Department ' k) Voltage 440V Danger l) PO no. and date Danger logo/icon on the cover																		
7.0	TESTS	All routine, acceptance & type tests shall be carried out in accordance with the relevant IS/IEC. All routine & acceptance tests shall be witnessed by the purchaser/his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted on the meter box in addition to others specified in IS/IEC standards.																		
7.1	Type Test	<table border="1"> <thead> <tr> <th>S.no.</th><th>Tests/ Standard</th><th>Requirements</th></tr> </thead> <tbody> <tr> <td>1</td><td>Protection against electric shock (IS : 14772 - 2000)</td><td>Enclosure shall be so designed that when they are mounted as for normal use, the live parts of any correctly installed accessories or any parts of these accessories which may become live due to a fault shall not be accessible.</td></tr> <tr> <td>2</td><td>Provision for earthing (IS : 14772-2000)</td><td>Enclosure shall be provided with a facility for permanent and reliable connection to earthing</td></tr> <tr> <td>3</td><td>Resistance to ageing, humid conditions, Ingress of solid objects and to harmful ingress of water (IS : 14772-2000)</td><td> Resistance to Ageing : Enclosure shall be kept in a heating cabinet with temp 70 ± 2 deg C for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks. Humid conditions : Enclosure shall be kept in a cabinet with humidity between 91 to 95 % for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks. Resistance against ingress of solid objects and to harmful ingress of water : Enclosure shall be subjected to test for degree of protection (IP 55) as per IS 12063/ IS 60529 </td></tr> <tr> <td>4</td><td>Mechanical strength/ Impact Resistance Test (IS : 14772-2000)/(UL : 746 C)</td><td>The sample shall be subjected to Impact resistance test as per the respective standards and shall not show occurrence of any of the following: making uninsulated live parts accessible to contact, producing a condition that might affect the mechanical performances of the enclosure, producing a condition that would increase the likelihood of an electric shock</td></tr> <tr> <td>5</td><td>Resistance to heat / Ball Pressure Test (IS : 14772-2000)</td><td>The test shall be made on a sample in a heating cabinet at a temp of 125 ± 2 deg C for 1 per IS. After</td></tr> </tbody> </table>	S.no.	Tests/ Standard	Requirements	1	Protection against electric shock (IS : 14772 - 2000)	Enclosure shall be so designed that when they are mounted as for normal use, the live parts of any correctly installed accessories or any parts of these accessories which may become live due to a fault shall not be accessible.	2	Provision for earthing (IS : 14772-2000)	Enclosure shall be provided with a facility for permanent and reliable connection to earthing	3	Resistance to ageing, humid conditions, Ingress of solid objects and to harmful ingress of water (IS : 14772-2000)	Resistance to Ageing : Enclosure shall be kept in a heating cabinet with temp 70 ± 2 deg C for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks. Humid conditions : Enclosure shall be kept in a cabinet with humidity between 91 to 95 % for 7 days as per IS. After completion of the test, the enclosure shall not show any cracks. Resistance against ingress of solid objects and to harmful ingress of water : Enclosure shall be subjected to test for degree of protection (IP 55) as per IS 12063/ IS 60529	4	Mechanical strength/ Impact Resistance Test (IS : 14772-2000)/(UL : 746 C)	The sample shall be subjected to Impact resistance test as per the respective standards and shall not show occurrence of any of the following: making uninsulated live parts accessible to contact, producing a condition that might affect the mechanical performances of the enclosure, producing a condition that would increase the likelihood of an electric shock	5	Resistance to heat / Ball Pressure Test (IS : 14772-2000)	The test shall be made on a sample in a heating cabinet at a temp of 125 ± 2 deg C for 1 per IS. After
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				completion of test, the diameter of the impression caused by the ball shall be measured and should not exceed 2 mm.	
		6	Resistance to Abnormal heat and fire/ Glow wire test (IS : 14772-2000)	Parts of insulating materials which might be exposed to thermal stresses due to electric effects shall not be affected by abnormal heat and by fire. The compliance shall be checked by means of the glow wire test performed at 960 deg C, according to IS 11000(Part 2/sec 1) with no flame and glowing.	
		7	Resistance to Tracking (IS 14772-2000)	The sample when tested as per clause no 17 of IS: 14772, shall show no flashover after completion.	
		8	Flammability test (IS : 11731 (Part II)-1986)/UL :94)	The sample shall comply to flammability requirements of category FV0/V0 as per respective standards	
		9	Test for self-extinguishing property (IS:4249-1967)	The sample when tested as per clause 3.5.1 of IS 4249, shall comply to the specified requirements.	
		10	Test for water absorption (IS: 5133 (Part II)-1969)	The sample shall be heated to a temperature of 50 ± 3 deg. C for 24 h, as per IS and after completion, the water absorbed should not be more than 1%.	
		11	Verification of Dielectric properties (IS :8623 (Part I)-1993)	The enclosure shall be tested as per clause no 8.2.2 of IS 8623(Part 1), with test voltage of 5 kV for 1 minute and withstand it satisfactorily.	
		12	UV Light Exposure (UL-746C)	The sample when exposed to UV light as per the defined test method, shall comply to following d) Physical Properties: The average value of physical properties after the UV light exposure shall not be lower than 70% of its initial value (without UV aging) i.e. the variation shall not be more than 30%. e) Flammability Test : After the UV light exposure, the flammability requirement of FV0 shall remain unchanged. f) Flexural Strength: After the UV light exposure, Flexural strength shall not be lower than 70% of its initial value (without UV aging) i.e. the variation shall not be more than 30 %.	
7.2	Routine tests	1. Marking			

		<p>2. Visual Examination and Dimensions</p> <p>3. Protection against electric shock</p> <p>4. Provision for earthing</p>
7.3	Acceptance Tests	<p>11. Marking</p> <p>12. Visual Examination and Dimensions</p> <p>13. Protection against electric shock</p> <p>14. Provision for earthing</p> <p>15. Mechanical strength/Impact Resistance Test</p> <p>16. Resistance to Abnormal heat and fire/ Glow wire test</p> <p>17. Flammability test</p> <p>18. Verification of Die-electric properties</p> <p>19. Finishing of box</p> <p>20. Screw Driver penetration test</p>
8.0	TYPE TEST CERTIFICATE S	<p>The bidder shall furnish the type test certificates for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI/ERDA/UL or equivalent as per the relevant standards. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports, i.e. any test report not acceptable, same shall be carried out without any cost implication to the Purchaser.</p>
9.0	PRE-DISPATCH INSPECTION	<p>The successful bidder shall submit two pre-manufacturing sample samples (non-returnable) for further testing and compliance as per specifications and should get approval from Discom before mass manufacturing. The sample to be submitted at RECPDCL office .</p> <p>Equipment shall be subject to inspection by a duly authorized representative of the Purchaser.</p> <p>Inspection may be made at any stage of manufacture at the option of the purchaser and the equipment if found unsatisfactory as to workmanship or material, the same is liable to rejection. Bidder shall grant free access to the places of manufacture to the Purchaser's representatives at all times when the work is in progress. Inspection by the Purchaser or it's authorized representatives shall not relieve the supplier of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by the Purchaser.</p> <p>Following documents shall be sent along with material :</p> <ul style="list-style-type: none"> i) Test reports j) MDCC issued by Purchaser k) Invoice in duplicate l) Packing list m) Drawings & catalogue n) Guarantee / Warrantee card o) Delivery Challan p) Other Documents (as applicable)
10.0	INSPECTION AFTER RECEIPT AT	<p>The material received at Purchaser's store shall be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection and one copy of the report shall be sent to Engineering department.</p>

	STORE	DISCOM can send any of the supplied material for further testing at any lab for compliance of material in line with the specifications and the material shall be liable for rejection, if test results are found different from the reports of the pre-dispatch inspection or tender test reports.
11.0	GUARANTEE	<p>Bidder shall stand guarantee towards design, materials, workmanship & quality of process/manufacturing of items under the contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Purchaser up to a period of 12 months from the date of commissioning. Bidder shall be liable to undertake to replace/rectify such defects at his own costs, within mutually agreed timeframe, and to the entire satisfaction of the Purchaser, failing which the Purchaser will be at liberty to get it replaced/rectified at Bidder's risks and costs and recover all such expenses plus the Purchaser's own charges (@ 20% of expenses incurred), from the Bidder or from the "Security cum performance Deposit" as the case may be. In case box fails within the guarantee period, the purchaser will immediately inform the bidder who shall take back the failed box within 15 days from the date of intimation at his own cost and replace/repair the box within forty five days of date of intimation with a roll over guarantee.</p> <p>Bidder shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Purchaser.</p>
12.0	PACKING	Bidder shall ensure that all the equipment covered under this specification shall be prepared for rail/road transport in a manner so as to protect the equipment from damage in transit. The material used for packing shall be environmentally friendly.
13.0	TENDER SAMPLE	Bidders are required to manufacture two sample boxes as per the DISCOM specification and submit sample boxes along with the bid one sample at Meter test Lab, for further testing and approval of samples. These samples shall be retained till the final PO placed against tender and for successful bidder these shall be retained till final supply against order.
14.0	QUALITY CONTROL	The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. The Purchaser's engineer or its nominated representative shall have free access to the manufacturer's/sub-supplier's works to carry out inspections.
15.0	MINIMUM TESTING FACILITIES	Bidder shall have adequate in house testing facilities for carrying out all routine tests, acceptance tests as per Indian/International standards.
16.0	MANUFACTURING ACTIVITIES	The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart should be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.
17.0	SPARES, ACCESSORIE	04 nos M6 screws with Gitti

S AND TOOLS																																														
18.0	DRAWING AND DOCUMENTS	Following drawings and documents shall be prepared based on Purchaser specifications and statutory requirements and shall be submitted with the bid :																																												
		f) Completely filled in Technical Particulars																																												
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		h) General arrangement for meter box																																												
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19.0	GUARANTEE D TECHNICAL PARTICULARS	<table><tr><th>Sl. No</th><th>Description /Requirements</th><th>Requirements</th><th>Offered by Bidder</th></tr><tr><td>1</td><td>Application</td><td>Outdoor</td><td></td></tr><tr><td>2</td><td>Degree of protection</td><td>IP55</td><td></td></tr><tr><td>3</td><td>Flammability requirement</td><td>FV0</td><td></td></tr><tr><td>4</td><td>Grade of material</td><td>fire retardant, self-extinguishing, UV stabilization and Anti oxidation properties</td><td></td></tr><tr><td>5</td><td>Material c) Base : d) Cover :</td><td>a. Dark Gray-Polycarbonate b. Clear transparent-Polycarbonate</td><td></td></tr><tr><td>6</td><td>Thickness of box (Base and Cover)</td><td>Base-3 mm (minimum) Cover-2.5mm (Minimum)</td><td></td></tr></table>				Sl. No	Description /Requirements	Requirements	Offered by Bidder	1	Application	Outdoor		2	Degree of protection	IP55		3	Flammability requirement	FV0		4	Grade of material	fire retardant, self-extinguishing, UV stabilization and Anti oxidation properties		5	Material c) Base : d) Cover :	a. Dark Gray-Polycarbonate b. Clear transparent-Polycarbonate		6	Thickness of box (Base and Cover)	Base-3 mm (minimum) Cover-2.5mm (Minimum)														
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			Tolerance $\pm 0.02\text{mm}$	
7	Material of the gasket		Rubber or better	
8	Glow wire tested at		960 °C	
9	Dielectric withstand capacity		5kV for 1 min.	
10	Construction features of the box			
a)	Clear inside dimensions iv. Length v. Width vi. Depth		460mm 340mm 170mm With 2% tolerance (With minimum clear space of 450x330 without any tolerance)	
b)	Minimum clearance between meter and box on all sides		50 mm	
c)	Min. Clearance from meter on Top of meter mounting plate		35mm	
d)	Minimum clearance from back of meter to base		10 mm	
e)	Earthing arrangement Nut & bolt		1 Numbers with M8x 35 or 40mm long	
f)	Sealing Arrangement polycarbonate extension for sealing and latch with concentric sealing holes on U shaped latches		4 Numbers of Min. 30mm length (Two on opening side and one at top and bottom side) Sealing hole diameter 3mm	
g)	U shaped GI latches		4 number GI U shape latches having 1.2mm thick and Min. 25mm long with sealing hole	
h)	Box mounting arrangement		Provision for four number screws at four corners provided	
i)	Box Mounting Screw		4 Number Gitti and screws provided with M6 Screw with min. length 40mm	
j)	Cover overlapping on base base		a) Inside- 25 mm overlapping at hinges sides, top and bottom side and 20 mm overlapping at pad lock side. b) Outside overlapping 20mm through out border	
k)	A. Size of incoming & outgoing gland hole B. location of hole from bottom side		A. 35mm B. around 40mm	
l)	Meter mounting plate as per clause no. 5.4		GI plate of 1.2m thick for meter mounting provided on Top side (without sharp corners)	
m)	Meter mounting Screws		Minimum 3 number of 13mm length	
n)	Hinges		Three nos. GI Hinges having 1.2 mm thickness and	

			Minimum length 30 mm	
		n)	Angle of Box opening	120 degree
		o)	Polycarbonate hinges on base are covered with box cover material such that tampering is not possible from outside	Yes/No
		p)	Antenna mounting provision	GI square piece of around 30x30mm to be riveted/ fixed inside on bottom face of box at around 60mm distance from right side
		s)	Location of earthing bolt	On left Sides (when viewed from front) & bolt is fixed & engaged within gland through GI sheet 1.2mm from inside.
		u)	Earthing sign	A tag with green background on GI sheet to be provided on earth bolt outside box
		v)	A. Gland size – inside diameter-around 29mm on i/c and o/g B. Gland type – straight	Yes/no
		11	Name plate and marking as per Cl.no-6.0 with danger icon	Yes/no
		12	Type test as per cl. No-7.1	Yes or undertaking to conduct before supply
		14	The earth connectivity plate between incoming gland and earth bolt provided with 1.2mm thick GI	Yes/no
		16	Mounting pillars as per attached drawings Annex-1 to provided. And any mounting pillar changes in future as per prevailing meters & DISCOM requirements will be provided.	Yes/no
		17	The prototype samples shall be approved before mass manufacturing	Yes/no
		18	Screw driver test shall be performed in acceptance test to ensure no entry of external object.	Acceptance
20.0	SCHEDULE OF DEVIATION	The bidders shall set out all deviations from this specification, Clause by Clause in this schedule. Unless specifically mentioned in this schedule, the tender shall be deemed to confirm the purchaser's specifications.		

(TO BE ENCLOSED WITH THE BID)

All deviations from this specification shall be set out by the bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:

S.No.	Clause No.	Details of deviation with justifications

We confirm that there are no deviations apart from those detailed above.

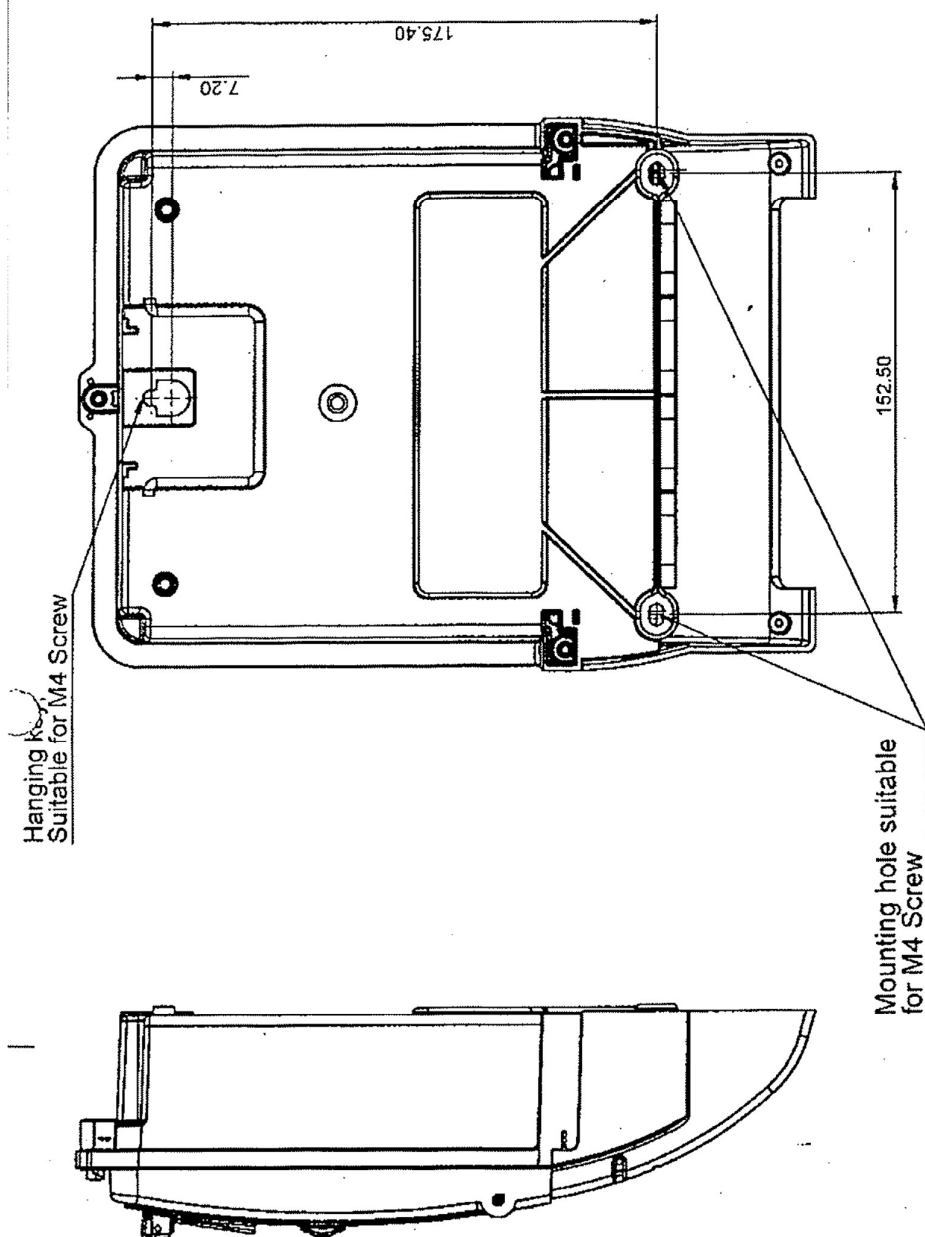
Seal of the Company

Signature :

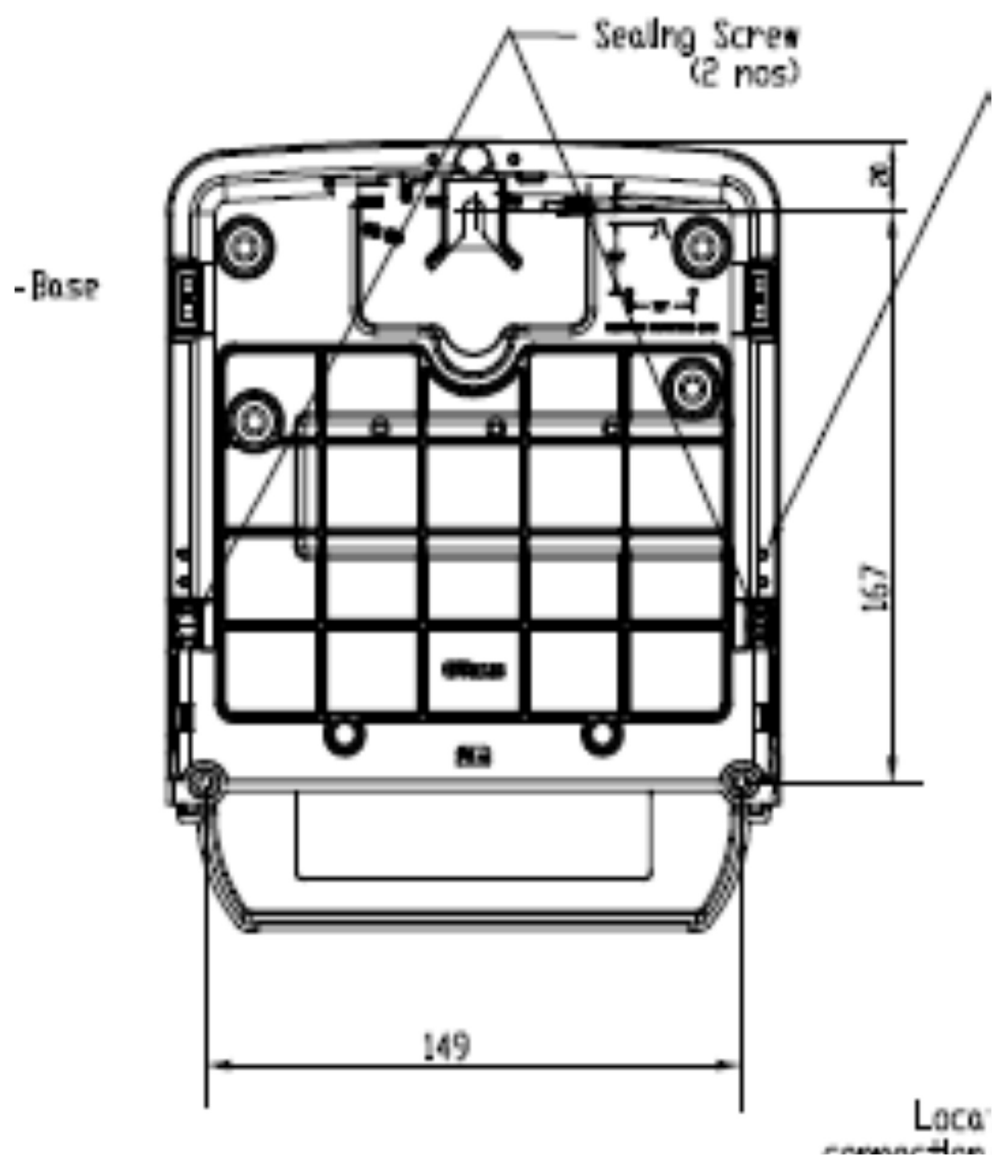
Designation :

Annexure-1 - Mounting dimensions of meters

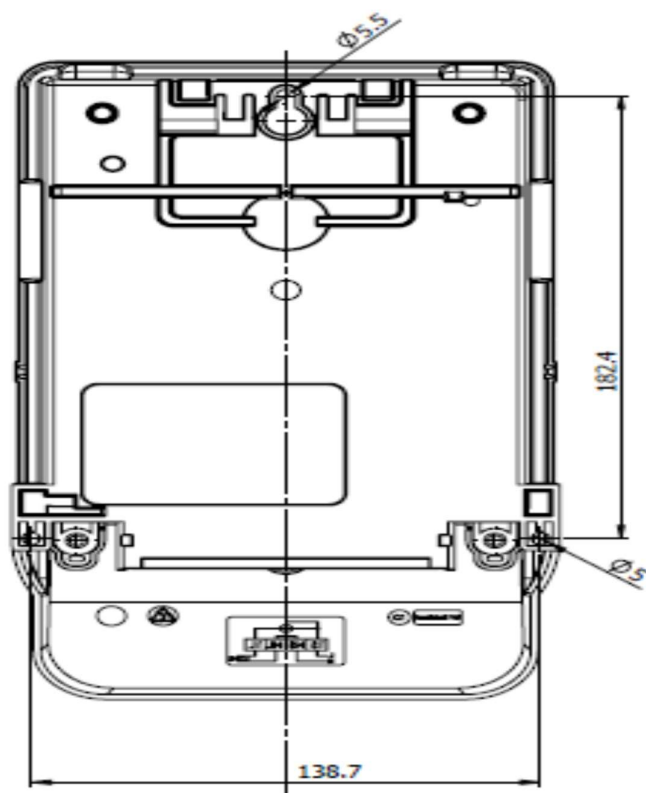
1. A make



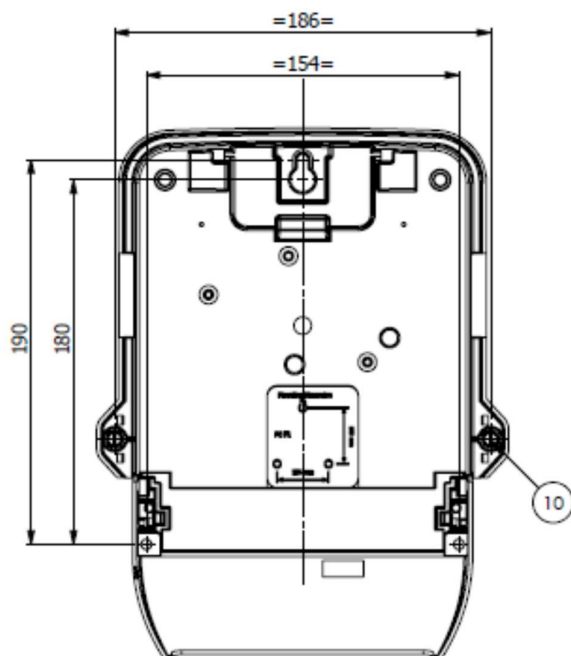
2. B make



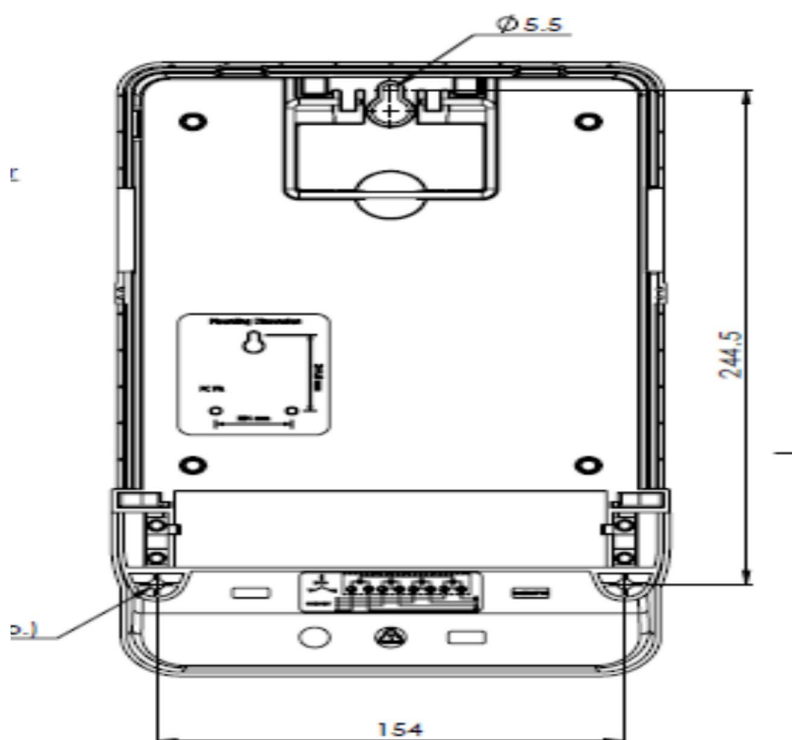
3. C make



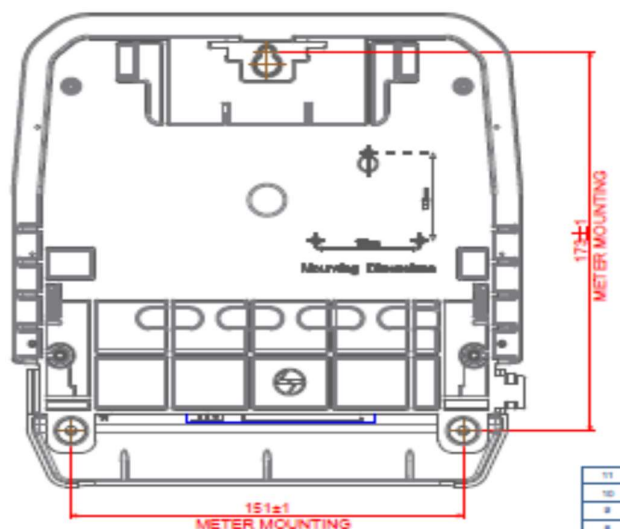
4. D make



5. E make



6. F make



Annexure H**Technical Specification of Three Phase CT Operated Smart meter Box****Scope**

- This specification covers the design, manufacture, testing and supply of anti-corrosive, dust proof, rust proof, shock proof, vermin and water proof, U.V. stabilized and pilfer resistant meter boxes made of Glass reinforced, polyester sheet moulding compound (SMC) conforming to IS:13410:1992 (with latest amendment thereof) for installation on distribution transformers of various ratings.
- Meter boxes shall consist of two separate chambers, one suitable to accommodate LT TVM and other suitable for installation of 4 nos. single core, single ratio, ring type Current Transformers (CTs) of current ratios ranging from 100/5 A - 400/5A

CONSTRUCTIONAL FEATURES OF METER BOX:

- **LTCT SMC Box:** Meter Box shall be made of minimum 2.5 mm. thick Glass reinforced Polyester sheet moulding compound (SMC) conforming to IS:13410:1992 with latest amendments thereof.
- LT meter box shall contain two separate chambers. The upper chamber shall be suitable to house 3 phase 4 wire energy meter. The lower chamber of the box is intended for housing 04 nos. ring type LT CTs. Both the chambers of box shall be independent from each other.
- The appropriate size of cables from the secondary of distribution transformer shall pass through ring type LT CTs.
- If any portion of box is closed, it shall not be possible to approach it by opening the other portion and vice-versa. It shall be moulded in a single piece forming the body of the Meter Box and CT chamber with SMC lid/shed fitted with the base by two nos. concealed brass hinges.
- The concealed brass hinges shall be fitted with the meter Box body base and the cover rigidly in such a way that the same are neither visible nor accessible from outside, thereby making the Meter Box pilfer proof.
- The door/cover in closed position should house properly within collar of meter box/ body base, which shall also house the edges of the lid/cover so that no direct entry or access is possible. • The box should have a front door opening with a window provided with toughened glass of minimum 4.0 mm. thickness for viewing and taking meter reading.
- The meter box shall be of moulded type without any fabrication joint made by the process of hot press compression moulding.
- The body of the Meter Box shall have such construction that while installing on the grouted bolts of base-wall/ mounting bracket, the top surfaces of the box shall have little tapering shape frame centre towards both sides of the meter box so that easy flow of rainwater etc. is facilitated.
- The meter box should be anti-corrosive, rust-proof, dust-proof, vermin-proof, water-proof, UN, stabilized and pilfer resistant. The meter box becomes completely closed by providing locking arrangement in the shape of two nos. clamps.

- Clamp shall have separate holes of 1 mm. dia. each across the meter box body base as well as covers for both the chambers separately
- The meter box shall have four wall mounting bracket with proper screws to fix with the bottom base and provision for Four nos. holes each of 6 mm. dia.
- The meter box should neither melt nor become soft or distort when tested up to temperatures 250°C. (As per IS 13360 part 6 sec 10 1992 by 'A' capillary tube method The thickness of these boxes shall not be less than 2.5 mm on all sides including floor. The box shall have 3 mm thickness on the tongue and groove area. The meter box cover shall have a groove to hold minimum of 2.5 mm Neoprene gasket.
- The tongue of the base shall ensure tongue, Groove and sealing arrangement against rainwater and dust entering inside the box. The box shall have its roof tapering down to both sides for easy flow of water.
- The boxes shall generally comply with the provision of IS: 14772:2000. The boxes shall be suitable for outdoor / indoor application. The box shall be with good workmanship. There should be a minimum of 25 mm clearance on all sides and 25 mm clearance on the front and 10 mm clearance on the back of the meter.
- Sufficient space should be available inside the meter box for making out-going connections of the leads with the terminal block of the meter.

MATERIAL OF METER BOX

- **LTCT SMC Box:** Material for construction of meter box shall be glass reinforced polyester sheet moulding compound (SMC) as per IS: 13410:1992 Grade S-1 with latest amendment thereof. Thickness of boxes shall be 2.5 mm from all sides. However, thickness of partition plate shall be 2.0 mm.
- **LTCT Polycarbonate boxes:** The meter box shall be weather proof, tamper proof and shall be made of Injection moulded reinforce polycarbonate material with FV0 fire retardant, self-extinguishing, UV stabilization and Anti oxidation properties. The box shall be of adequate strength ,unbreakable and shall be made in two pieces(base and cover). The base shall be dark grey color whereas the cover shall be completely transparent for polycarbonate material .The material for base and cover shall be polycarbonate with minimum cover thickness of 2.5mm & base -3 mm thickness.
- The material of meter box should be anti-corrosive, rust proof, waterproof, shock proof and U.V stabilized.
- Material of meter box should not get soften on heating. (Heat distortion temperature should be above 170°C.)
- The material of Meter box should be self-extinguishing as per IS: 4249 with latest amendment thereof.
- All MS parts of the meter boxes shall be anti-corrosive treated.

RATING PLATE:

Manufacturers should Screen Print the following information on each meter box.

- Name of Manufacturer
- Year of manufacturing

- Type of Meter
- PO NO with Date
- Meter Box Number
- Chandigarh Electricity Department

Annexure I

E-Reverse Auction Guidelines

These Guidelines are intended to guide about e-Reverse Auction processes, awarding criteria, and confidentiality requirements, and to the binding nature of bids made at e-Reverse Auction.

The aim of e-Reverse Auctions is to enable negotiations to be engaged in using technology that allows a faster pricing process, a more objective way of selecting bidders and greater transparency of market prices. REC and bidders are expected to follow the standards set forth in these Guidelines.

1. Reverse Auctions are carried out under the framework of rules as defined by RECPDCL and all bidders participating in Reverse Auction shall understand/accept and give an undertaking for compliance with the same to the REC in the prescribed format (Annexure – B).
2. Any bidder not willing to submit such an undertaking shall be disqualified for further participation with respect to the said procurement.
3. Reverse Auction shall be carried out amongst the bidders who have quoted within lowest price + 15% of the evaluation criteria price. However in case no other bidders fall within +15% of L-1 quoted prices then reverse auction can take place up to lowest price + 25% or as decided by RECPDCL shall be allowed to participate in the online Reverse Auctioning.
4. The overall lowest price quoted by the bidder will be considered as Reserve Base Price during reverse auction, further the item wise price of all items shall be arrived from the overall lowest quoted price in the same ratio as quoted by the bidders earlier in the financial bid and all the technically qualified bidders will be considered at same platform.
5. Decrement value to be kept for conducting Reverse Auction shall range from 0.50% to 5% of the Reserve Base Price converted to the nearest round figure, depending upon the value of the bid.
6. Preferably the time duration to be kept for conducting Reverse Auction process is from 11:00 AM to 3:00 PM with the incremental time duration of 30 minutes from the time of last quote considering that the bidder may be provided the sufficient time for quoting their best lowest rates. The window may be extended to accommodate 30 minutes, if required, response time. The auction will terminate either at the scheduled end time or as extended as per requirement till there is no response during the incremental time duration. However RECPDCL reserves the right to modify the process with pre-information to bidders if required.
7. The eligible bidders can participate in the online Reverse Auction from any place of their choice and need not to visit RECPDCL office for this purpose.
8. The User ID and password for online reverse auction is same as used in online bidding process/ provided at the time of bidder registration.
9. The Reserve Base Price for Reverse Auction will be informed after the Opening of Price Bid. This shall be the lowest rate received against the initial price bids submitted by participating bidders.
10. RECPDCL shall make all out efforts to rectify the problem(s) leading to system failure during the online reverse auction. However in case the system could not be restored within the reasonable time period as deemed fit by RECPDCL, the reverse auction event shall be suitable extended/ shall be restarted again after rectification by giving a new schedule for the same, which shall cover the left over time period as per the original schedule. On restart of reverse auction the last R1 price received during reverse auction at which the reverse auction event got terminated, shall be the starting price.
11. Where necessary, RECPDCL will facilitate training for participation in Reverse Auction either on its own or through the service provider for the Reverse Auction to familiarize the vendors/bidders with Reverse Auction process.
12. Any vendor/bidder not participating in training shall do so at his own risk and it shall not be open for him to make any complaint/grievance later.
13. No request for postponement/fixing of Training Date/Time shall be entertained.

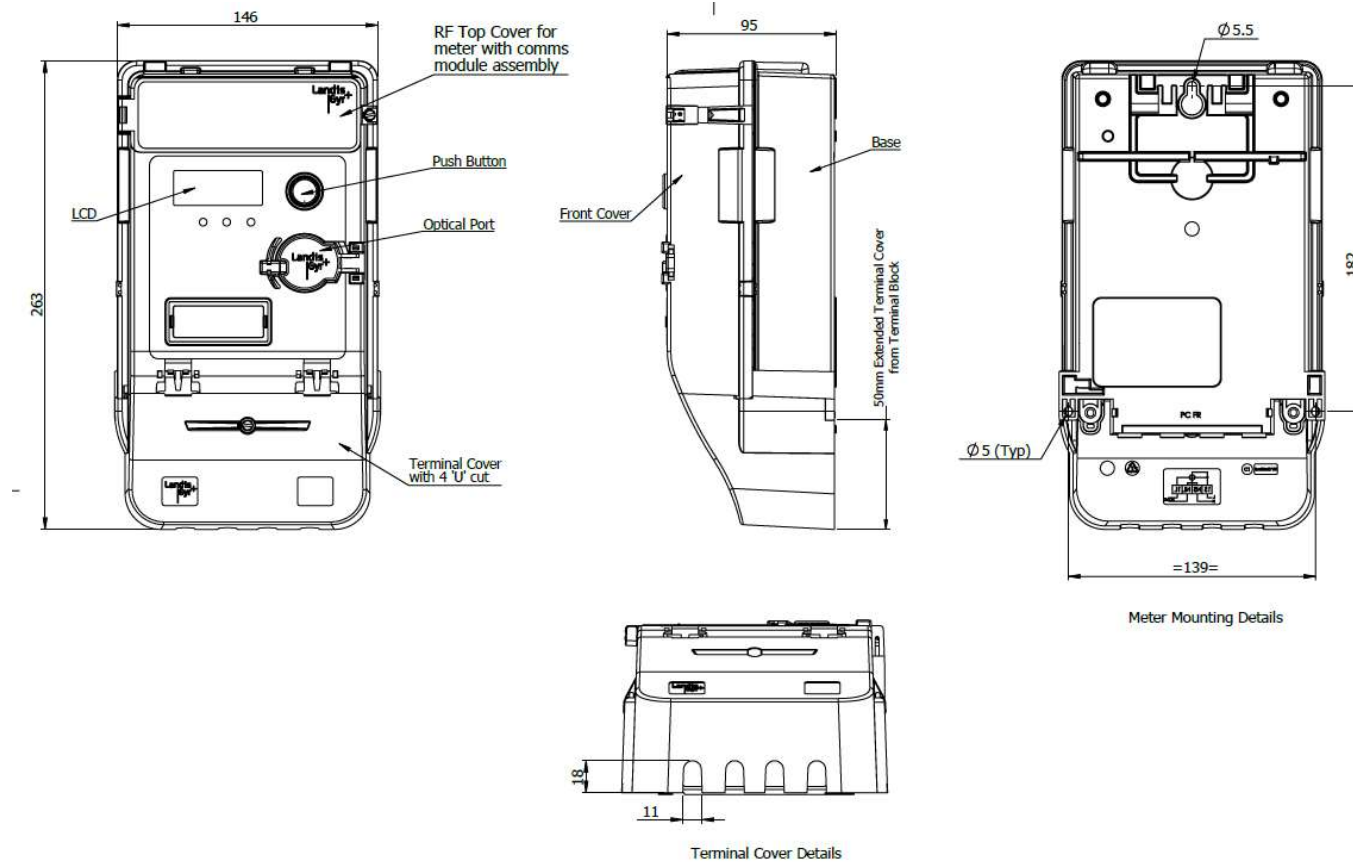
14. The Date and Time of commencement of Reverse Auction shall be communicated to the shortlisted bidders at least One day in advance.
15. Any force majeure or other condition leading to postponement of auction shall entitle RECPDCL to postpone the auction.
16. The Reverse Auction may be conducted by RECPDCL through a service provider specifically identified/appointed/empanelled by RECPDCL.
17. In case Reverse Auctions conducted by RECPDCL through a Service Provider, the REC shall enter into a separate agreement clearly detailing the role and responsibilities of the service provider hosting the web portal for the Reverse Auction. The Service Level Agreement (SLA) by RECPDCL with the service provider is an arrangement for smooth and fair conduct of the Reverse Auction.
18. All the bids made from the log-in ID given to bidder shall ipso facto be considered. Bids are to be made by the vendor / bidder using log-in ID and password assigned by the service provider /auctioneer.

Note: RECPDCL reserves right to amend/modify the procedure of reverse auction at its sole discretion.

Annexure J

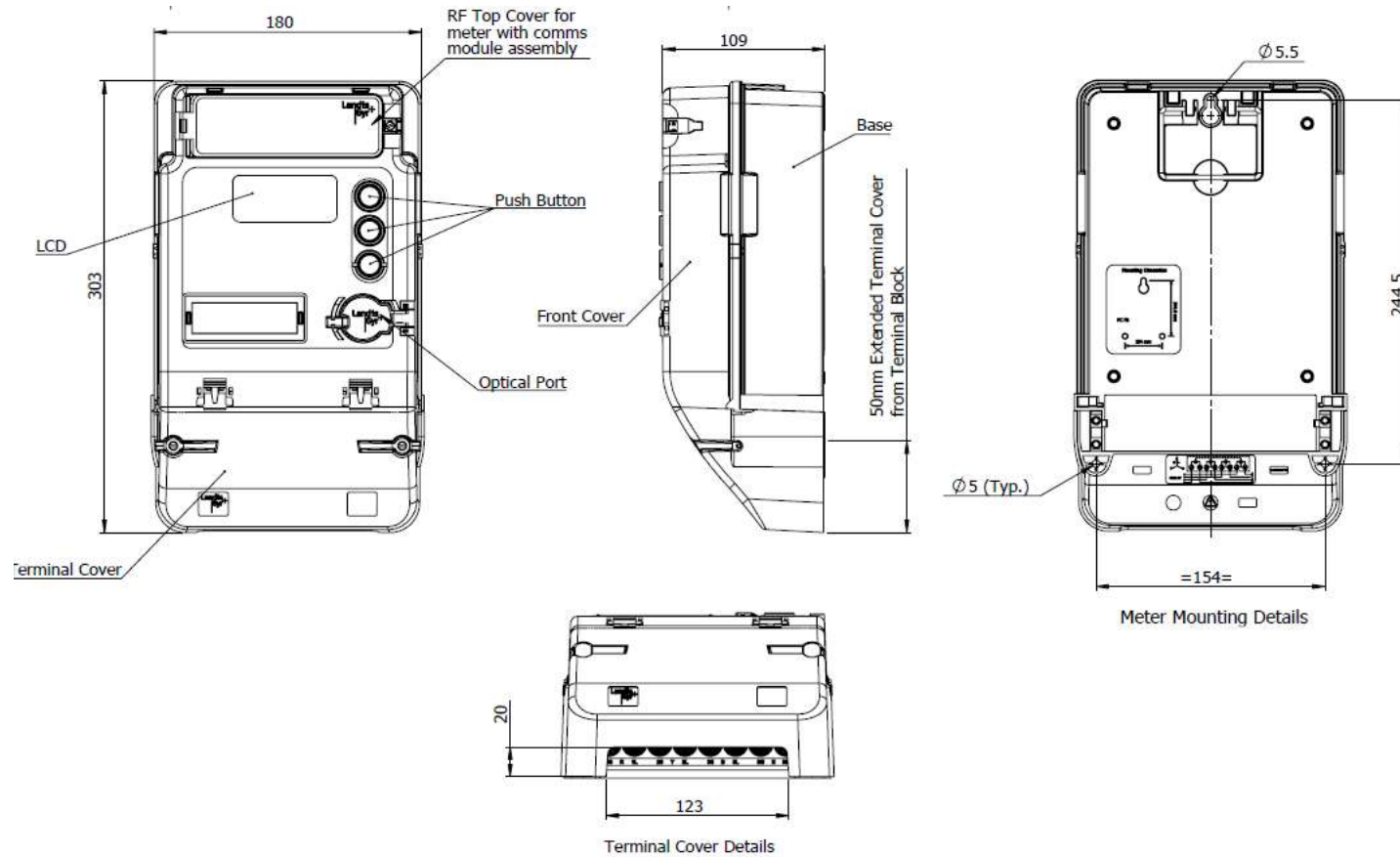
Meter Drawings

Single Phase Smart meter General View:

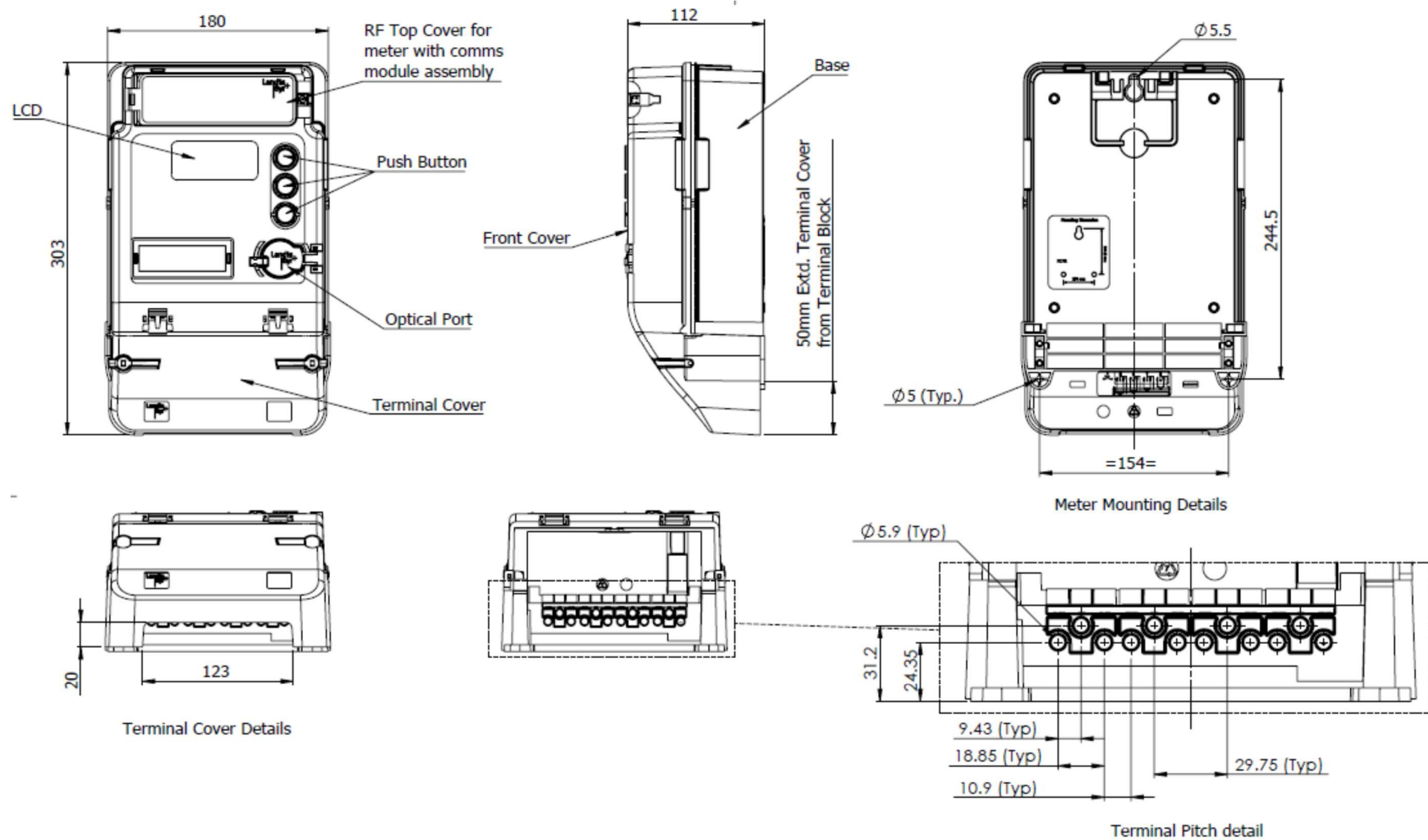


Three Phase Smart meter General View:

1. Whole Current Meter



2. LT-CT meter Drawing



REC Power Distribution Company Limited	
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Annexure K

1. Bidder to submit the Meter box & Distribution Box drawings for the meter specifications mentioned above

ABBREVIATION

AB Switch	Air Break Switch
AC	Alternating Current
ACDB	Alternating Current Distribution Board
ACL	Access Control List
AES	Advanced Encryption Standard
ALG	Application Layer Gateway
AMI	Advanced Metering Infrastructure
ANSI	American National Standards Institute
ARP	Address Resolution Protocol
ASIC	Application Specific Integrated Circuit
AT&C	Aggregate Technical & Commercial
BCS	Base Computer Software
BGP	Border Gateway Protocol
BIOS	Basic Input / Output System
BIS	Bureau of Indian Standards
BOQ	Bill of Quantities
CBIP	Central Board of Irrigation & Power
CCC	Customer Care Centre
CEA	Central Electricity Authority
CED	Chandigarh Electricity Department
CERT-In	Indian Computer Emergency Response Team
CGRF	Consumer Grievance Redressal Forum
CIM	Customer Interaction Meeting
CIM	Common Information Model
CIPET	Central Institute of Plastic Engineering and Technology
CMC	Centralized Monitoring Console
COSEM	Companion Specification for Energy Metering
CPP	Critical Peak Pricing
CPRI	Central Power Research Institute
CPU	Central Processing Unit
CRM	Customer Relationship Manager
CT	Current Transformer
CUM	Cumulative
DAS	Distribution Automation Scheme
dB	Decibel
DCU	Data Concentrator Unit
DDoS	Distributed Denial of Service
DC	Direct Current
DG	Diesel Generator
DES	Data Encryption Standard
DHCP	Dynamic Host Configuration Protocol
DLMS	Device Language Message Specification
DMC	Dough Moldings Compound

DMS	Distribution Management System
DMZ	Demilitarized Zone
DNP	Distributed Network Protocol
DNS	Domain Name System
DoD	Depth of Discharge
DoS	Denial of Service
DR	Demand Response
DSM	Demand Side Management
DT	Distribution Transformer
DTMU	Distribution Transformer Monitoring Unit
DTMS	Distribution Transformer Monitoring System
DTR	Distribution Transformer
DVD	Digital Video Disk
DXF	Drawing exchange Format
EAP	Extensible Authentication Protocol
ECS	Electronic Clearing Scheme
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
ERP	Enterprise Resource Planning
ESB	Enterprise Service Bus
ESD	Electrostatic Discharge
FAT	Factory Acceptance Test
FMS	Facility Management System
FIFO	First In First Out
FPR	Field, Problem, Report
FSR	Field Service Report
FTP	File Transfer Protocol
GB	Gigabyte
GIS	Geographic Information System
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global System for Mobile communications
GUI	Graphical User Interface
HD	High Definition
HDD	Hard Disk Drive
HES	Head End System
HF	High Frequency
HHU	Hand Held Unit
HIDS	Host based Intrusion Prevention system
HT	High Tension
HTTP	Hyper Text Transfer Protocol
HTTPS	Hyper Text Transfer Protocol Secure
ICMP	Internet Control Message Protocol
ICs	Integrated Circuits
IEC	International Electro technical Commission

IKE	Internet Key Exchange
IP	Internet Protocol
IPCP	Internet Protocol Control Protocol
IrDA	Infrared Data Association
IS	Indian Standard
iSCSI	Internet Small Computer System Interface
ISO	International Organization for Standardization
ISP	Internet Service Provider
IST	Indian Standard Time
IT	Information Technology
IVR	Interactive Voice Response
KVM Switch	Keyboard, Video & Mouse Switch
LAN	Local Area Network
LCD	Liquid Crystal Display
LDAP	Lightweight Directory Access Protocol
LDC	Load Dispatch Centre
LED	Light Emitting Diode
LT	Low Tension
MCB	Miniature Circuit Breaker
MCCB	Molded Case Circuit Breaker
MD5	Message-digest algorithm
MDAS	Meter Data Acquisition System
MDM	Meter Data Management
MFT	Multi-Function Transducer
MGCP	Media Gateway Control Protocol
MIP	Mapped Internet Protocol
MIS	Management Information System
MPLS	Multiprotocol Label Switching
MU	Million Unit
NABL	National Accreditation Board for Testing and Calibration Laboratories
NAN	Neighborhood Area Network
NAT	Network Address Translation
NCIIPC	National Critical Information Infrastructure Protection Centre
NIPS	Network based Intrusion Prevention system
NMS	Network Management System
NPL	National Physical Laboratory
NTP	National Time Protocol
NVM	Non Volatile Memory
O & M	Operation & Maintenance
OEM	Original Equipment Manufacturer
OH	Over Head
OMS	Outage Management System
OS	Operating System
OSF	Open Software Foundation
OSPF	Open Shortest Path First

PAT	Port Address Translation
PC	Personal Computer
PCB	Printed Circuit Board
PERT	Program Evaluation and Review Technique
PF	Power Factor
PLC	Power Line Communication
PLM	Peak Load Management
POP3	Post Office Protocol 3
PPPoE	Point-to-Point Protocol over Ethernet
PSTN	Public Switch Telephone Network
PT	Potential Transformer
PTH	Plated Through Hole
PV	Photo Voltaic
PVC	Polyvinyl Chloride
QAP	Quality Assurance Plan
QR	Qualifying Requirement
RADIUS	Remote Authentication Dial-In User Service
RAID	Redundant Array of Inexpensive Disks
RAM	Read Access Memory
R-APDRP	Restructured Accelerated Power Development and Reforms Program
RF	Radio Frequency
RMU	Ring Main Unit
RoHS	Restriction of Hazardous Substance
RPC	Remote Procedure Call
RPO	Renewable Power Obligation
RSTP	Rapid Spanning Tree Protocol
RTC	Real Time Clock
RTP	Real Time Pricing
RTU	Remote Terminal Unit
SAE	Surface Vehicle Recommended Practice
SAN	Storage Area Network
SAT	Site Acceptance Test
SCADA	Supervisory Control and Data Acquisition
SCCP	Skinny Client Control Protocol
SGAs	Smart Grid Applications
SHA	Secure Hash Algorithm
SIM	Subscriber Identity Module
SIP	Session Initiation Protocol
SITC	Supply, Installation , Testing and Commissioning
SMC	Sheet Moldings Compounds
SMPS	Switching Mode Power Supply
SMS	Short Message Services
SMT	Surface Mount Technology
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol

SNTP	Simple Network Time Protocol
SOA	Service Oriented Architecture
SRAM	Static Random Access Memory
Sun-RPC	Sun Remote Procedure Call
TB	Terabyte
TCP	Transmission Control Protocol
TDD	Total Demand Distortion
TFT	Thin-film Transistor
THD	Total Harmonic Distortion
THQ	Total Hour in Quarter
ToD	Time of Day
ToU	Time of Use
TS	Technical Specification
UDP	User Datagram Protocol
UG	Under Ground
UGVCL	Uttar Gujarat Vij Company Limited
UI	Unscheduled Interchange
UPS	Uninterruptable Power Supply
USB	Universal Serial Bus
UV	Ultra Violate
VDU	Visual Display Unit
VEE	Validation, Estimation & Editing
VIP	Virtual Internet Protocol
VoIP	Voice over Internet Protocol
VRLA	Valve Regulated Lead Acid
VSAT	Very Small Aperture Terminal
WAN	Wide Area Network
XML	Extensible Markup Language