

**KADI KALOL ROAD - DIVISION OFFICE - KADI(N.G.)382 715**

PR NO	373424
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RFQ NO	51833
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ADVERTISED TENDER**09/2019**

To,
M/s _____

NAME OF WORK: Tender for Work of on site testing of metering systems including CT & PT sets for HT consumers voltage levels of 11KV under jurisdiction of KADI DO at site.

Estimate cost	Rs 500000/-
Earnest Money	Rs 5000/-
Security Deposit	5% of Tender Value
Last date of online submission of tender /EMD	Date: - 30.01.19 On 15.00 Hrs.
Last date of physical submission of tender	Date :- 30.01.19 On 15.00 Hrs.
Date of opening the tender	Date:- 31.01.19 On 15.00 Hrs. (If Possible)
Type of Tender	Item Rate
Tender Fee	Rs 500+90=590/- (GST applicable 90/-)
Time Limit	15 Month

Earnest money deposit will be accept in cash or Demand Draft on any Schedule Bank at KADI. In favors of UTTAR GUJARAT VIJ COMPANY LIMITED, Cheque or Bank Guarantee will not be accepted.

NOTE:-Tender copy accepted only by R.P.A.D

Supdts.Accounts(Exp)
U.G.V.C.L. DO KADI

Executive Engineer
U.G.V.C.L., DO, KADI

**SCHEDULE : B-1****PR- 373424****RFQ- 51833**

Name of work : Tender for Work of on site testing of metering systems including CT & PT sets for HT consumers voltage levels of 11KV under jurisdiction of KADI DO at site.

Memorandum showing items of work with rates quantity & amount.

Sr. No	Description of Work	Estimate Qty.	Unit	TENDER RATE in Figure	Total
1	2	3	4	5	7
1	Testing of Metering system including CT & PT sets for HT consumer voltage levels of 11KV, at site under jurisdiction of Kadi DO.	65	No	6500.00	422500.00
	(A) Total				
	(B) Bidders offer(+/-) in %				
	(C) Grand Total = A +/- (A*B)				
	(D) GST @ 18% (D= C x 18%)				
	Grand Total including GST E= C + D				
	Final Offer in RS.=				
	Final Offer RS. In words				

1. Separation into supply and erection is only for convenience and better economic management and for the ease of Accountancy but the entire contract is to be assessed under GST law.
2. The Bidder shall quote Firm Price only. The price quoted will not be subject to any escalation till completion of work
3. The Above prices are inclusive of all taxes, levies Duties etc. except Goods & Service Tax (GST). GST will be paid extra as applicable from time to time on a given taxable goods and /or services
4. I/We agree to supply the articles noted above at the rates herein tendered by me/us subject to conditions of tender and supply at the tender inquiry which i/we have carefully read and which i/we have thoroughly understood and to which I/we agree.

Executive Engineer
U.G.V.C.L. KADI



Contractor's Name & Signature

GENERAL INSTRUCTION TO TENDERERS

1.0 Online tender are invited for the work of on-site testing of metering systems including CT & PT sets for HT consumer of Kadi DO up to voltage levels of 11KV under jurisdiction of Kadi Division from the contractors/firms who have executed works of similar nature and magnitude successfully.

2.0 Tender documents are in two bids system i.e. “Technical Bid” and “Price Bid”.

2.1 Bidder has to submit tender in one Envelop and in this two different covers should be put. One cover mentioning Technical bid on it & another cover mentioning Commercial Bid on it. If we receive envelop that do not have two separate sealed covers than those bids are liable to be rejected. Technical bid should be submitted with documents as under, failing which tender is liable for rejection.

- i. Solvency certificate issued from any Nationalized Bank amounting to sum equivalent of estimated cost (Minimum 5 Lacks)
- ii. Separate EPF code No. allotted by RPFC required
- iii. Copy of PAN card
- iv. Work Order Copies of Three Different financial years for erection of on-site testing of metering systems including CT & PT sets for HT consumer up to voltage levels of 11KV from UGVCL/ any Distribution Company of Gujarat is required.
- v. Contractor will have to submit the certificate of Electrical contractor license
- vi. Tools-Tackles statement
- vii. Vendor Registration Certificate as **Class A** as a contractor with UGVCL/any Discom of Gujarat/GETCO/GSEC required
- viii. GST Tax Registration Number

The above documents should be submitted in form of attested true copies along with technical bid. If any Documents are not submitted by bidder than do not consider those bidder proposal & do not open price bid of those bidder.

2.2 Both “Technical” & “Commercial” bid should be submitted in one common envelope super scribing the name of the work and tender opening date etc.

3.1 Technical bid shall be opened in the presence of the bidders, who remains present at that time.

4.0 Earnest money deposit of 2% OF Tender Amount should be deposited in form of DD of Nationalized



Bank in favor of UTTAR GUJARAT VIJ COMPANY LIMITED drawn on any scheduled Bank, payable at Kadi. No any tender accepted without EMD. The date of D.D of EMD should be in between 10 days from the last date of receipt of tender.

5.0 Bidders should complete the tender documents in all respects and they are to be signed with Company's seal on all pages.

6.0 The bidders shall submit their offer without any deviations in general terms and conditions of the contract or in Technical specification/items. Tenders of such departing, may also be rejected. Incomplete and conditional tenders shall not be considered. Any Tender found with overwriting /correction on the rate will not be accepted.

7.0 UTTAR GUJARAT VIJ COM.LTD. reserves the right to split up the work covered in the scope of this contract amongst more than one contractor.

8.0 Intending bidders should submit their tenders after studying all tenders documents carefully and visiting the site for satisfying themselves of actual site conditions, location and accessibility of site and nature, extent of the work involved etc.

9.0 Submission of tenders implies that bidders have obtained all necessary information and other data required for executing the work. No claim for extra charges on account of any misunderstanding or otherwise will be allowed.

10.0 All approaches to the site shall be in the scope of bidders.

11.0 Bidders will not be allowed to give sub-contract of the works awarded to in for any, reasons what so ever without permission of the Engineer-in charge.

12.0 In the experience certificate, contractor has to furnish the details of similar works executed by him along with the list of equipments, tools and tackles and manpower available with him along with the details of the same, which he intends to deploy on site of the work.

13.0 After opening of "Technical bid" no revised price bid from any bidders will be accepted.

14.0 Price quoted shall be firm, till overall completion of the work, under contract and there will not be any price escalation.

15.0 Date of opening of "Price Bid" will be intimated later on to those Bidders who are qualified in technical bid. "Price bid" of only qualifying bidders on the basis of Technical bid shall only be opened. Price of bidders, who are not qualified technically as per requirement of technical bid shall not be opened.



16.0 Offers shall be valid for the period of 120 days from the date of opening of price bid. Tenders shall not withdraw tenders during the validity period, failing which their EMD shall be forfeited during the said period of 120 days.

17.0 All the works shall be carried out as per specifications attached with the tender and relevant Indian Standard issued by Bureau Indian Standards. All materials procured should be confirming to relevant Indian Standard issued by Bureau of Indian Standard.

18.0 Tenders, which do not fulfill all or any of the conditions of the tender of in complete in any respect, are liable to rejection.

19.0 UTTAR GUJARAT VIJ COMPANY LTD, reserves the right to reject any or all tenders without assigning any reason thereof.

20.0 Income Tax at prevailing rate will be deducted as per income Tax Act.

21.0 The rates are exclusive of GST tax .GST Tax @prevailing , if applicable will be reimbursed by UGVCL on production of Tax paid challan.

22.0 Any change in rate of GST Tax shall be entertained during contractual period of contract.

23.0 The contractor shall disclosed GST tax amount paid by him in the RA / Final bill raised for the execution of the work

24.0 The certified copy of GST tax challan paid on RA /Final bill should be submitted to UGVCL for reimbursement.

25.0 The 90% amount of RA / Final Bill for the execution of the work/ supply will be paid. The with held amount of 10% will be paid after complete inspection of Third party inspection and Nodal inspector.

26.0 If any work will not be executed by contractor fully / partly due to non providing of materials by UGVCL ,than the amount at appropriate rate will be deducted from the contractors bill , as the amount of non execution of works is already included in the rate of order.

27.0 Terms & condition & other relevant documents is required.

28.0 D.D. for EMD should be kept with “technical bid” only.

29.0 Tender without payment of tender fee will not be accepted.

30.0 Delay /late receipt of tender will be rejected.



31.0 Successful bidder should have to pay security Deposit should be paid through D.D of any Nationalized/ Schedule Bank in favor of Utter Gujarat Vij Company Ltd.” payable at Kadi.

32.0 Penalty :- For delay in work / supply occurring, the contractor will be liable to of penalty at a rate of 0.5% per week subject to maximum 10% of bill value. The condition of delay part of existence of force majeure condition will have to be given.

33. UGVCL does not accept any responsibility as Factory Act, Minimum Wages Act Workmen's compensation Act, Insurance Rules etc .or any other act rules or regulations that have to be Observed by the contractor for carrying out the work

34. The contractor will be solely responsible for any accident/damage either to equipments or any Human being during the time of execution of work

35. The contractor must engage sufficient knowledgeable person round the clock, exclusively for Execution of work

36. The contractor has to carry out all the works in accordance with revised and latest provision under I.E. Rule Act (Amended time to time) made there under and as per instruction of Engineer in charge.

37. The compliances of all Central/State Govt. Rules, safety and Insurance rules etc. and that of local Body is must conditions for the agency

38. In case, it is not possible for the contractor to continue the work either due to heavy rains or other Reasonable causes, such facts should be immediately brought to notice of the Engineer In charge. If the reasons for stopping the work are genuine the Engineer In charge may ask the contractor to start the work again as per condition. The period of such stoppage will not be considered as a part of working days moreover the contractor cannot claim compensation for such stoppage. If contractor not carried out the work as per instruction & time limit given by E.I.C then work is completed by some other resource hiring by E.I.C & the Amount incured of work is deducted from contractor Bill

39. All the works shall be carried out in accordance with latest rules under Electricity Act.2003(with Amendments). After completion of work execution required Tests are to be taken in presence of Engineer In charge.

40. Successful Bidder is bound to work under any S/Dn of Division Office Kadi in any scheme if require with the same rate, conditions & without any type of extra charges

41. Executive Engineer,UGVCL Kadi DO, reserves the right to accept or reject any or all tenders without assigning any reason thereof

42. All legal complication of disputes is subject to KADI JURISDICTION ONLY



-:: TECHNICAL SPECIFICATIONS ::-

1. Area to be covered:

1.1 Testing Of meter shall be performed for area covering the jurisdiction of KADI Division.

2. In this contract units are offered for on site testing of CT-PT units and meter. The details of division where testing is to be carried out shall be given when contract is issued.

2.2 The quantity may be vary by $\pm 25 \%$.

2.3 The agency shall collect details of HT consumers to be tested, from the concerned division before 30 days of commencement of work/testing.

3. Scop Of Work.

3.1 The scope covers period testing of the metering systems components (CTs, PTs & Meters) of various HT metering installations (up to 11KV voltage levels) at the consumer premises using portable reference standards. The following tests shall be carried out at site in UGVCL.

3.2 All the reference standards used for testing shall be calibrated with NABL accredited laboratory. A valid calibration certificate shall be made available on demand for the reference standard.

4. CT/PT & HT meter Testing.

4.1 The Indian Standards to be followed during ON-Site testing of CTPT units and meters is as under:-

Sr No	Testing of	Indian Standard no	Remark
1	Meter	14697	With Latest amendments
2	CT	2705	
3	PT	3156	

4.2 The objective of the testing is to ascertain the accuracy of various components of the metering installation i.e. CTs, PTs, and HT Meters.

4.3 CT/PT in metering unit helps in scaling down high current/voltage with acceptable ratio and phase relationship. An ideal CT & PT should not have leakage impedance, losses and excitation current, which is practically not possible. This leads to ratio and phase angle errors.

4.4 CT/PT requires current to magnetize the magnetic circuit and current for leakage impedance to operate. These current produce some voltage drop in CT/PT which contributes to **Ratio errors**. Also primary & secondary currents are never perfectly 180 in phase which contribute to **phase errors**.

4.5 In order to [prevent losses to utilities by these errors, it is necessary to reconfirm the accuracy of CTs/ PTs on periodic basis, typically every 6 months. As the accuracy of the CT/PT installed at site starts



drifting over a period of time due to ageing, temperature cycling, humidity, inter-turn short circuits, iron core related drifts in ratio & phase errors etc, there is a requirement that the accuracy of CT/PT is tested at multiple burden and load points to identify their completed behavioral range.

4.6 Agency must use portable reference standard for CT/PT & meter testing calibrated with NABL accredited laboratory.

4.7 Agency must use the portable reference standard support testing of meters of accuracy class upto 0.5 using phantom load and phase shifter at following points:-

- 100% load at UPF
- 50% load at UPF and at 0.80 PF lag & lead
- 10% load at UPF

4.8 Testing of meters as per the provision under IS 14697/1999 or IEC 687 at the following conditions

- 100% load at UPF
- 50% load at UPF and at 0.80 PF Lag & Lead
- 10% Load at UPF

4.9 A portable reference standard shall be used in testing of Meters of accuracy class up to 0.5 S (using Phantom load) which shall have the facility to store test results along with reference parameters.

4.10 The Testing equipment shall have an interface to download test results in the base computer.

4.11 For metering installation : Testing of CTs and PTs would be done as per the test points specified in the format A.

I. Ratio error and phase error for PTs.

II. Polarity at CT terminal and Meter terminal

III. IR values

IV. Checking of wiring, connection and phase association from CTPT to TTB and up to HTTVM.

V. The portable reference standard to be used should be capable of testing a wide range of CT & PT ratings as mentioned below

- PT range: 11KV / 110V or better
- CT range: 1000A / 5A (or 1000/1) to 5/5A (or 10/1) or better
 - The instrument shall have facility to test the CT at different power factors ranging from 0 to UPF
 - The Reference standard shall have the facility to store test results along with reference parameters.
 - The testing equipment to be used shall have an interface to download test results in the base computer.
 - The testing equipment shall have the facility to measure the turns ratio of a CT and the secondary winding resistance and admittance and shall of a CT and the secondary winding resistance and admittance and shall support testing a wide variety of CT's.

5.0 Data Collection: Agency would collect category wise details of the consumer meters to be tested from the respective Division office Executive Engineer Kadi / Deputy Engineer LAB Kadi, before the commencement of the contract.



5.1 Technical details of equipment.

6.0 For Testing of Meter

Energy meter under calibration is taken out from the feeder and is shifted to our on-site mobile calibration equipment location. The meter is then calibrated by using portable energy meter calibrator (portable energy meter test equipment) The calibration is done as per standard and as per customer’s requirement. The meter is then reinstalled in the respective feeders.

List of Standard Equipments Used forTVM, CTPT Units

Sr No	Field & Parameter	Standard Maintained	Model / Type/ Year of make	Range	Date of Calibration
Detail of equipment to be used in testing is required to be submitted with calibration certificate and accuracy range with offer					

❖ **Phantom Load Set:**

- It is suitable for on-site functional testing of accuracy of the meters.
- It uses 3 phase 4 wire (R,Y,B and neutral), 240/415, 50 HZ A.C. Supply for its operation. Phantom load test set has test voltage ranges as 63-110-240 volts, capacity of 20VA. The output test voltage is continuously variable by means of variac and test voltage can be adjusted for the range of 0- 120% of Vref.
- It has got two test current ranges 0.5A to 10A Amps, capacity of 20VA, continuously variable by means of a variac.

❖ **The phantom load set provides with following power factor with fine Control:**

- UPF
- 0.80 Lag
- 0.80 Lead
- 0.5 Lag
- 0.5 Lead

6.1 Submission of Data output report and remedial action:

Compiled Report:

Agency would furnish a compiled report with various recommendations and remedial action to be taken on testing of metering systems.

6.3 Output Reports:

Agency shall generate report and furnish the same and submit in report format.

Records Maintenance:-



Agency shall maintain such records as required for the purpose of verification of the same, if required, for a period three months after the completion of the contract

7.0 Deliverables:-

Test results of individual components existing metering in a prescribed format.
Estimation of overall accuracy (at 100%) of each and every metering point.

8.0 Safety Aspects:-

- 8.1 Special precautions are taken while testing.
- 8.2 Totally equipped with proper safety tools required during testing.

9.0 Testing Methodology :-

- Agency shall work in close coordination with Deputy Engineer LAB Kadi Do. Once the order is placed on the agency, a detailed project plan shall be worked out and agreed with designated authorities of Kadi DO UGVCL.
- Representative of D.E. Lab Kadi DO UGVCL, shall accompany the testing teams during the testing at site.
- The progress shall be regularly updated to D.E. Lab Kadi DO UGVCL on agreed frequency.
- Normal working hours shall be from 9:00 am to 6:00 pm.
- Agency will depute the dedicated teams to execute the same work at site. D.E. Lab Kadi DO UGVCL will ensure that there are no non-working days due to non-availability of D.E. Lab Kadi DO UGVCL staff or any reasons from D.E. Lab Kadi DO UGVCL end. However due to circumstances beyond control if such instance arise agency will be informed in advance regarding non-working days.
- Kadi DO UGVCL will depute designated officer with our every team. He is also making responsible for sealing and resealing of metering unit. Deploy an engineer who coordinate with the customer, arrange shutdown, witnessing the testing work and sealing/resealing verification of job so that the work will be accomplished in stipulated time. Your engineer (respective) will not involve in breaking of seals & resealing.
- Photo identity cards with authorized letter to testing Agency's respective, authorizing them for testing at consumer's premises
- Provide necessary documents for shipment of testing equipment. This equipment will be used for testing purpose only.

Contractor's signature with seal.

Executive Engineer
U.G.V.C.L. KADI