

MECHANICAL IRRIGATION CONSTRUCTION DIVISION

**GOGJIBAGH
SRINAGAR**

Standard Bidding Document

For

**SUPPLY, INSTALLATION & TESTING OF ENERGY
METERS AT VARIOUS SITES OF MECHANICAL
IRRIGATION DIVISION BARAMULLA**

**NOTICE INVITING TENDER
e-NIT No. MICD/13 OF 2015 Dated: 21/02/2015**

NOTICE INVITING TENDER
e-NIT No. MICD/13 OF 2015 Dated: 21/02/2015

For and on behalf of Governor of J&K State, Executive Engineer, Mechanical Irrigation Construction Division, Srinagar, invites tenders by e-tendering mode from experienced & reputed Registered Electrical Contractors/firms for the following items of work. The bidding process shall be completed online in two covers viz. **Cover '1st'** –Tender fee and Earnest Money details, Deposit, fulfillment of prequalification criteria, technical specifications and acceptance to terms and conditions of the tender. **Cover '2nd'** - Financial Bid in the prescribed BOQ

| S. No. | Particulars of the work | Name of Division | Cost of document/ tender fee (In Rs.) | Earnest money | Validity of Rates |
|--------|---|---|---------------------------------------|-----------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1. | Supply, Installation & Testing Of Energy Meters(HT/LT) At Various Sites Of Mechanical Irrigation Division Baramulla | Mechanical Irrigation Construction Division, Srinagar | 1000.00 | 2% of tendered amount | 1 year |

Position of funds: Available

Key/critical Dates:

| | | | |
|--|-----------------------|---------------------------------|------------------------|
| Date of Hosting In Website/ Publish date | 23/02/2015 (1200 Hrs) | Pre bid meeting | 24/02/2015 (1400 Hrs) |
| Document download/sale start date | 23/02/2015 (1500 Hrs) | Document download/sale end date | 13/03/2015 (1600 Hrs). |
| Clarification start date | 24/02/2015 (1100Hrs) | Clarification end date | 13/03/2015 (1200Hrs) |
| Bid submission start date | 25/02/2015 (1100 Hrs) | Bid submission end date | 13/03/2015 (1630Hrs) |
| Deadline for receiving the hard copy (as specified in NIT) | 14/03/2015 (1400 Hrs) | Bid opening date | 16/03/2015 (1400 Hrs) |

- Bid documents can be assessed at and downloaded from the websites www.ifckashmir.com/ <http://jktenders.gov.in> .
- The pre bid meeting will be held in the office chamber of the Executive Engineer MICD Srinagar.
- The Bids shall be deposited on the website <http://jktenders.gov.in> .
- The complete bidding process will be online <http://jktenders.gov.in> .
- The Technical bids received shall be opened online.
- The Financial bids of the bidders shall be opened online in the office of the Executive Engineer MICD Srinagar.
- Bids must be accompanied by bid security and cost of Tender Document as specified in column 4 & 5 of the table payable at Srinagar, pledged in favour of Executive Engineer MICD Srinagar **Bid** security will have to be in form of CDR/FDR of any scheduled Bank and shall have to be valid for one year or more after last date of receipt of Bid. The cost of downloaded tender documents should be in form of DD in favour of Executive Engineer MICD Srinagar payable at Srinagar.

8. The hard copies of cost of tender document in shape of DD, Earnest money in shape of CDR / FDR and other relevant documents must be delivered to the office of the Executive Engineer MICD Srinagar upto 13/03/2015 (1200 Hrs.).Contact officer: TO to Executive Engineer MICD Srinagar (Mobile No.9596666611, 9419406470)
9. Only the firms having executed similar nature of work and equivalent to atleast 25% of the tendered amount shall be eligible to participate in the tendering process.
10. The bid for the supply of material shall remain open for acceptance for a period of **180 days** from the date of opening of bids. If any bidder/tenderer withdraws his bid/tender before the said period or makes any modifications in the terms and conditions of the bid, the said earnest money shall stand forfeited.
11. Other details can be seen in the bidding documents from the website <http://jktenders.gov.in>.
12. Queries by email if any should be made before 12/03/2015 at exenmicdsrinagar@ifckashmir.com

No: 1186-92

Date: 21/02/2015.

Sd/-
Executive Engineer
Mech. Irri. Construction Division
Srinagar

Copy to the:-

1. Commissioner / Secretary to Govt. PHE/I&FC Dept. Srinagar for information please.
2. Divisional Commissioner, Kashmir for information please.
3. Chief Engineer Kmr. I&FC Dept. Srinagar for information please.
4. Superintending Engineer Mech. Circle I& FC Dept. Srinagar for information please.
5. Joint Director Information Department Srinagar for publication of this NIT in leading Daily Newspapers of J&K and National Dailies.
6. Admin. Departmental website (admin@ifckashmir.com) with a request for hosting of the NIT on departments website: www.ifckashmir.com
7. Notice Board /Record Keeper/ Mater File/ Stock File.

Instruction to Bidders Regarding e-tendering Process

- a. The interested bidder can download the NIT/bidding document from the website <http://jktenders.gov.in>
- b. To participate in bidding process, bidders have to get (DSC) “Digital Signature Certificate” as per Information Technology Act-2000, to participate in online bidding. This certificate will be required for digitally signing the bid. Bidders can get above mentioned digital certificate from any approved vendor. The Bidders, who already possess valid (DSC) Digital Signature Certificates, need not to procure new Digital Signature Certificate.
- c. The bidders have to submit their bids online in electronic format with Digital Signature. The bids cannot be uploaded without Digital Signature. No Proposal will be accepted in physical form.
- d. Bids will be opened online as per time schedule.
- e. Before submission of online bids, bidders must ensure that scanned copies of all the necessary documents have been attached with bid.
- f. The department will not be responsible for delay in online submission of bids whatsoever reasons may be
- g. All the required information for bid must be filled and submitted online
- h. Bidders should get ready with the scanned copies of cost of documents & EMD as specified in the tender documents The original instruments in respect of cost of documents, EMD and relevant documents be submitted to the Tender Inviting Authority by Speed/Registered post/courier as per time schedule specified.
- i. The details of cost of documents, EMD specified in the tender documents should be the same, as submitted online (scanned copies) otherwise bid will not be accepted.
- j. Bidders can contact the undersigned for any guidance for getting DSC or any other relevant details in respect of e-tendering process.
- k. Bidders are advised to use “**My Documents**” area in their user on jktenders.gov.in, e-tendering portal to store important documents like Experience certificate, Balance sheet, VAT Certificate, Sales Tax Clearance Certificate and other related documents etc., and attach these certificates as Non Statutory documents while submitting their bids.
- l. Bidders are advised not to make any change in BOQ (Bill of Quantities) contents or its name. In no case they should attempt to create similar BOQ manually. The BOQ downloaded should be used for filling the net item rate inclusive of all taxes and it should be saved with the same as it contains.
- m. **Bidders are advised to scan their documents at 100 DPI (Dots per Inch) resolutions with Black and White, JPEG Scan properly, convert scanned images to PDF**
- n. The guidelines for submission of bid online can be downloaded from the website
- o. <http://jktenders.gov.in>

INSTRUCTIONS FOR BIDDERS

Tenders to be submitted under two cover system

A) COVER 1st (Technical Cover)

1. Scanned copies of below mentioned documents shall be uploaded and hard copies of the same be submitted through courier/ registered/speed post/by hand, in the office of the Executive Engineer MICD, Srinagar, well before the scheduled date and time as mentioned in the clause No. 8 of page 2 of this tender document. Hard copies of the bids received after the expiry of scheduled submission date and time will not be entertained. Contact officer: TO to Executive Engineer MICD Srinagar (Mobile No.9596666611, 9419406470)
 - i. Earnest Money Deposit in the shape of CDR/FDR.
 - ii. Demand Draft towards the cost of tender document.
 - iii. Acceptance to Scope of work, technical specifications, general terms and conditions of NIT (The scanned copy of completed tender as per requirement of cover 1st accompanied with scanned copies of technical specification as well as terms and conditions of the tender, duly accepted & signed with seal on each page, must be sent by registered post or delivered personally in the office of the Executive Engineer, MICD. Srinagar against receipt)
 - iv. Proof of Registration as Electrical Contractor for HT/ LT works.
 - v. Proof of Experience in the line.
 - vi. Latest "Sales Tax/VAT Clearance Certificate" issued by competent authority under the provision of the J&K GST Act, 1962 and J&K VAT Act 2005.
 - vii. Copy of TIN Registration / DIC registration/ Govt. Contractor registration.

B) COVER 2nd: (Financial Cover) shall contain the following:

Rates quoted by the bidders in the **BOQ (Bill of Quantities)** Please note that financial bid shall be accepted only as per prescribed format, the tenderers must go through all the terms and conditions thoroughly and follow the instructions strictly.

Certificate of Acceptance of Terms & Conditions

**The Executive Engineer,
Mechanical Irrigation Construction Division,
Srinagar**

Sub: - Acceptance of terms and conditions and technical details.

Ref: - e-NIT NO: MICD/13 of 2015 Dated 21/02/2015.

Sir,

We have downloaded and read all the terms and conditions and technical details contained in the SBD of the above referred e-NIT. It is hereby certified that we accept all the terms and conditions of tender and agree to supply the goods/execute the works in accordance with the details mentioned in the technical specifications.

Yours faithfully

Date: -

Name & Signature
with seal of the firm

Note: - This document should be downloaded, printed by the bidder and duly signed with seal. The signed document should be scanned and uploaded along with cover-I (prequalification/technical bid). However, the hard copy of complete terms and conditions duly accepted should be submitted along with other documents before the date & time specified for the same.

APPENDIX 'A'
TERMS AND CONDITIONS OF NOTICE INVITING TENDER
e-NIT No. MICD/13 OF 2015 Dated: 21/02/2015

1. Consignee/Paying Authority:

Executive Engineer, Mechanical Irrigation Construction Division, Gogji Bagh, Srinagar.

The tenders are invited on Goods delivered/services rendered at the specified sites i.e.at various sites of MID Baramulla mentioned in Annexure "B" inclusive of all Taxes, Duties, Carrying, Forwarding, Transit Insurance, Handling, Loading, Unloading and labour charges for accomplishing complete job as per the scope and specifications laid in the tender document.

2. The offer should be valid for a period of 180 days from the date of opening of price bid. Such of the tenders which will not be valid for 180 days from the date of opening shall be rejected, even if the rates offered are lowest.

3. The tenderer(s) shall have to quote separately for each item strictly in conformity with the terms and conditions of the tender notice.

4. Conditional tenders shall be rejected even if the rates offered are found to be lowest. Tenders with the conditions such as 'Subject to Market Fluctuations' will also be rejected.

5. The tender documents are non-transferable.

6. Inter-dependent Tender:

Tender(s) which are dependent upon the quotations of other shall not be entertained.

7. Expenses for Tendering:

The tenderer(s) shall not be entitled to any claim towards expenses incurred on incidental at the time of submission of the tenders or subsequent evaluation/ clarifications thereof.

8. Earnest Money:

The tender(s) shall be accompanied with earnest money amounting 2% of tendered amount in the form of CDR/FDR pledged to Executive Engineer MICD, Srinagar.

Tenderers should carefully note that:-

i) Tenders not accompanied with requisite amount of earnest money shall not be entertained even if the rates offered are found to be lowest.

ii) No exemption or concession towards furnishing of earnest money will be given to the tenderers registered with DGS&D/NSIC Small Scale Units except the Small Scale Units registered with Director, Industries and Commerce Department J&K in which case guidelines framed by Industries Department shall apply.

iii) The tenderers should bear in mind that the tender should be accompanied with fresh CDR/FDR towards the earnest money, reference or claim of the firm for consideration of CDRs/FDRs already lying in the MICD Srinagar, towards earnest money with this tender, will be out rightly rejected.

9. Earnest money shall be refundable to unsuccessful tender(s) only after finalization of the tender and shall be retained in case of successful tenderer(s) which shall be treated as security deposit to be refunded after the successful completion of the supply/works or warranty term as the case may be.
The earnest money of the tenderer(s) who back outs or withdraws his tender or fails to abide by its offer after the acceptance is conveyed or posted to the addressee, shall be forfeited to the Government of J&K state besides other remedies available to it under any law being enforce in the State to recover the extra cost, if involved in getting the supply executed through some other agency, at defaulters risk and cost.
10. **Opening of Tender:**
Tenders shall be opened by the Executive Engineer MICD, Srinagar in his office chambers on the due date or on any other subsequent date convenient to the Tender Opening Committee in presence of tenderer(s) who may wish to remain present at the time of opening of tenders.
11. The Executive Engineer MICD, Srinagar shall have the discretion to cancel the supply order at any time during its currency in case of default on the part of any supplier and make such arrangements as may be warranted by the situation at the risk and cost of the supplier.
12. The Executive Engineer MICD, Srinagar reserves the rights to accept or reject any or all tender(s) in part or full without assigning any reason thereof.
13. The tenderer(s) should bear in mind that if it comes to the notice of Executive Engineer MICD, Srinagar that they have within the specified period offered lower rate to any other party within the territorial limits of J&K State fall clause would be applied and processing's will be started for effecting recovery of the difference for entire supply besides action initiated to black list the firm within the jurisdiction of the J&K State.
14. **Validity of Rates:-**
The rates approved shall remain valid for contract term of one year from the date of issue of job order.
15. **Prices:**
The tenderer(s) are required to quote net landed rates of the material/services to be rendered at various irrigation sites of MID Baramulla for the complete job inclusive of all taxes, charges and levies etc.
The tenderers should not quote/mention any item as : "as applicable at the time of supply/execution of job" and are as such advised to quote exact rate inclusive of all type of taxes, duties and charges as applicable. It is as such in the interest of the tenderers to consult for the same from the concerned Departments of Govt. of India as well as J&K Sales Tax Department before quoting / tendering the rates.
16. In the event of any increase ordered by Govt. of India/J&K Govt. in any of the taxes/statutory levies during currency of the rate contract, such increase in rates shall have to be borne by the successful tenderer/supplier. However in case of any decrease in such taxes/levies if any ordered during the currency of the rate contract, such benefits shall have to be passed on to the Department.

17. Testing/Inspection:

After completion of the job, the same be got inspected by the Electrical Inspector of J&K Inspection Agency (PDD). The contractor shall provide all reasonable inspection facilities to PDD authorities when asked for. Any modifications required shall be carried out by the contractor to the satisfaction of the department.

The material at site shall also be inspected by Assistant Executive Engineer concerned, of the department and all the works shall be carried out by the firm under his strict supervision. The firm shall as such keep the department informed about arrival of material at site and about commencement of works. It shall be obligatory on the part of the firm to rectify the defects pointed out by the AEE, if any and also to incorporate any modification within the scope of work which may be deemed necessary for better performance/finish and workmanship. The contractor upon demand by the department or its representative shall rectify or replace defective unsuitable equipment.

The Chief Engineer Kashmir Irrigation & Flood control Department Srinagar reserves the right to nominate his representative for inspection of the goods at the works of the supplier/manufacturers.

18. Insurance:

It is advised that the goods prior to dispatch be insured through a Nationalized Insurance Company upto its final destination, against all transit risks. The firm shall therefore have to take appropriate insurance policy in advance for covering the dispatch the transit of the good, charges for which shall borne by the successful tenders and shall be included in his quoted rates. The department shall pay no extra charges on these accounts.

19. Mode of Dispatch:

The supplier shall dispatch the material through a reputed road transport agency direct from dispatching station upto destination. The material shall be suitably transported for which the supplier shall take due care keeping in view the limitation for maximum size and weight.

20. Completion period:

The work shall have to be completed in all respects including obtaining of necessary report from the AEE concerned of MID Baramulla, to the effect of having completed the work satisfactorily as per scope and specifications of the allotment order, within the stipulated period 60 days from the date of issue of allotment order.

21. Terms of Payment:

Service tax and any other taxes /charges shall be deducted at source as applicable.

90% (Ninety Percent) payment along with 100% taxes shall be released on successful commissioning of each installation/ unit and report thereof by the end user i.e. MID Baramulla and balance 10% (Ten Percent) shall be kept in deposit and the same shall be released after completion of warranty period and receipt of satisfactory performance certificate from the concerned divisional office under whose jurisdiction these meters are to be installed.

22. Performance Guarantee:

The firm shall be bound for satisfactory performance of executed work for one year from the date of commissioning.

If during warranty period any malfunctioning / defects arise, the firm shall have to remove the same within a period of two days of receipt of intimation. In case of any failure on the part of the firm to remove the defect, the Department may get the defects removed/

repaired by any other agency and the cost thereof shall be recovered from the firm and shall be recommended for black listing.

The EMD of the successful firm shall be retained as guarantee/ security deposit against the following:-

- a) Security for the fulfillment of the contract.
- b) Satisfactory performance of the material/equipment.
- c) Warranty against material and manufacturing defect.

23. Penalty:

In the event of firm's failing, declining, neglecting or delaying the supplies/works or in the event of any damage occurring or being caused by the firm or in the event of any default or failure by the firm in complying with any of the terms and conditions of the contract, the Chief Engineer Kashmir Irrigation & Flood control Department Srinagar shall with or without prejudice to any other remedies available to it under any law for the time being enforce in the State:

- a) Terminate the contract after 30 days' notice
and/or
- b) Recover the amount of loss caused by damage, failure or default, as may be determined by the department.
and/or
- c) Recover the extra cost, if any, involved in allotting contract to other party.
and/or
- d) Impose of penalty in the form of liquidated damages on account of delay beyond the schedule delivery period subject to one fourth value of contract per fortnight and not exceeding 10% value of the contract.
and/or
- e) Impose a penalty not exceeding 10% (ten) on the value of contract as Chief Engineer Kashmir Irrigation & Flood control Department Srinagar may deem fit and/or forfeit the earnest money / security deposit.

24. Force Majeure:

Any failure or commission to carry out the provision of the contract shall not give rise to any claim by the department or approved supplier one against the other if such failure of commission arises from the 'ACT OF GOD' which shall include all natural calamities such as fires, floods, earthquake, hurricane, strikes, riots, embargoes or from any political or other reasons beyond the control of the parties including war, or a state of insurgency.

25. Arbitration:

If at any time, any question, dispute or difference whatsoever shall arise between the parties upon or in relation to or in connection with the contract, either of the parties may give the other notice in writing of the existence of such a question, dispute or difference and the same shall be referred for award to two Arbitrators, one to be nominated by the Department and the other by the approved supplier. In case of such arbitrators not agreeing then award of an Umpire to be appointed by the Arbitrators in writing before proceedings with the reference and the decision of the Arbitrators or in the event of their not agreeing of the Umpire appointed by them shall be final and binding on the parties, such a notice of the existence of any question or dispute or difference in connection with the contract shall be

served by either party within 45 days (forty five days) of difference failing which all rights and claims under this contract shall be deemed to have been forfeited and absolutely barred upon every or any such reference the cost of incidentals of the reference and award respectively shall be at the discretion of the arbitrator and in the event of their not agreeing of the Umpire appointed by them who may determine the amount thereof or direct the same to be fixed as between party and party shall direct by whom to whom and in what manner the same shall be formed and paid. The revision of the J&K Arbitration Act Samvat 2002 and of the rules thereunder the statutory modification whereof shall be deemed to apply to the arbitration, disputes, if any regarding reference to Courts shall be subject to the jurisdiction of the J&K Courts only.

26. Specifications of Material/job:

Tenderers must quote for exact specifications and scope as given in Appendix "B" and there shall be no deviation from the approved parameters. Any deviation if deemed necessary as per site conditions in order to ensure better performance of the equipment/job may, however, be allowed by the supervising authority without affecting the scope of work.

While having submitted the tender by e-tendering method, it is understood that the tenderer is well versed with the working site/site conditions and the terrain etc. It is as such advised that the firm shall visit and inspect the site well before casting its tender.

27. Clarifications:

In respect of any clarification of the conditions/ technical provisions set forth in the tender documents the tenderer(s) shall address this office in person/ writing/ email as per the time schedule envisaged in the instructions to bidders.

The prospective bidder/s or their designated representative, who have downloaded the bid document are invited to attend a pre-bid meeting which will take place as per date and venue given in e-tender notice.

The purpose of meeting will be to clarify issues and to answer queries on any matter that may be raised by the due date.

The bidder is requested, as far as possible, to submit queries (if any) by courier or by fax/ e-mail to reach the Department well in time for scheduled pre-bid meeting. It may not be practicable at the meeting to answer queries received late, but queries and responses/clarifications will be hosted on website.

Any modifications of the bidding documents that may become necessary as a result of the prebid meeting shall be made by department exclusively through the issue of an Amendment / Corrigendum / Addendum/ Clarifications/ etc. which shall be hosted on the concerned website.

Non- attendance of the pre-bid meeting will not be a cause for disqualification of the bidder.

Any failure by Bidder to comply with the aforesaid requirement shall not excuse the bidder, after subsequent award of contract, from performing the work in accordance with the scope of contract/agreement.

Bidders are requested to resolve all their clarifications/queries to the Bidding Document before due date of submission of bid. Thereafter bidders are requested to submit their bid in total compliance to Bidding Document without any deviation/ stipulation/ clarification/ assumption.

The tenders are invited Services delivered at consignee's sites as mentioned , basis inclusive of all Taxes & Duties (which ever are applicable), as well as charges for Carrying, Forwarding, Transit Insurance, Handling, Loading, Unloading and Stacking etc.

It is advised that the firm shall visit and look over the destinations/sites well before casting its tender.

28. Indemnity Bond:

The firm shall furnish an indemnity bond on non-judicial stamped paper for the total value of the order valid for 12 calendar months from the date of receipt of last consignment towards the following:-

- a) Satisfactory completion of the order.
- b) Satisfactory working/performance of the equipment and
- c) To undertake to refund on demand whatsoever amount that may become refundable to the Government in respect of the said order on account of payment made in advance for supply of the stores/ services, not being in accordance with the specifications, terms and conditions of the order.

29. Agreement:

As soon as supply order is communicated to the firm, the contract shall be complete and binding upon them, the firm shall also be required to execute an agreement with the department within seven days from the date of issue of supply order which has to be returned to this office duly filled up, signed and sealed (Page wise) by the proprietor or any other authorized officer of the firm witnessed by two persons and attested by the Notary. Three copies of the supply order duly signed by the proprietor or any other authorized officer of the firm in token of acceptance of supply order should also accompany the agreement. Failure to execute such an agreement in time shall not however, prevent this contract from being enforced against the firm and the date of delivery of the material/completion of works shall be reckoned from the date of issue of the Allotment order in favour of successful firm.

The contract shall be deemed to have been entered into at Srinagar within ordinary civil jurisdiction of J&K Court only.

All other terms and conditions as laid down in form No.25 of P.W.D. shall remain in force and binding on successful tenderer.

30. Provisional taking over:

Following successful inspection, testing and commissioning of the equipment, trial operation shall take place under the supervision of the department. On the occasion of the successful trial operation to the satisfaction of the department, certificate related to provisional taking over of works shall be issued by the department duly signed by both parties to the contract stating that the contractor has fulfilled his contractual obligations to the satisfaction of the department upto the date of issuance of the said certificate. This shall mark the commencement of warranty period.

**Sd/-
Executive Engineer
Mechanical Irrigation Construction Division
Srinagar**

NOTICE INVITING TENDER
e-NIT No. MICD/13 OF 2015 Dated: 21/02/2015

APPENDIX “B”

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

1. SCOPE:

(a) Design, supply, installation, testing & Commissioning of Outdoor HT metering Kiosks at 11kV level employing CT/PT Combo unit with 3 Phase 4 Wire CT/PT operated Fully Static, AMR Compatible, DLMS compliant Tri-Vector Energy Meter.

(b) Design, supply, installation, testing & Commissioning of Outdoor HT metering units at 33kV level employing CT/PT Combo unit oil cooled pole mount type with 3 Phase 4 Wire CT/PT operated Fully Static, AMR Compatible, DLMS compliant Tri-Vector Energy Meter.

(c) Design, Supply, Installation, Testing and Commissioning Of 3P 4W LT (40-200 Amp.) Electronic Tri-Vector meters suitable for installation without use of external CT and Terminal block with provision of thread through cabling

Technical Specification for 3-Phase 4 Wire Ct/Pt Operated Fully Static Amr Compatible Dlms Compliant Tri-Vector Energy Meters

Climatic Conditions:

The Static Energy Meter shall be suitable for satisfactorily working under the following climatic conditions:

1. Max. ambient air temperature 50C
2. Min. ambient air temperature (-)15C
3. Average Daily Max. ambient temperature 40oC
4. Max. yearly weighted average ambient temperature 40oC
5. Max. altitude above mean sea level 2000 m
6. Minimum Relative Humidity (% age) 26
7. Max. Relative Humidity (% age) 95
8. Avg. No. of Rainy days/year 150
9. Avg. annual rainfall 700 mm
10. Maximum wind pressure 195 kg/m².

General Technical Requirements

- 1 Type-AMR Compatible Static, 3 Ph, 4 Wire Tri-Vector Energy Meter (ABB, Secure, L&T make)(Export/Import type for Boundary/ring fencing/interface meters)**
- 2 Frequency- 50 Hz ±5%**
- 3 Accuracy Class - min. of 0.5S for 11kV & 33kV**

- 4 **Secondary Voltage** (i) For CT/PT operated HT Meters- Suitable for operation from 110V Ph-Ph or 63.5V Ph-N
 ii) For Distribution Transformer & other LTCT operated Meters- Suitable for operation from 415 Volts Ph-Ph /or 240 Volts Ph-N
- 5 **Basic Current (Ib)** -/5 Amps. as per existing CT for feeders
- 6 **Maximum Continuous Current**-2.0 Ib; Starting and Short time current shall be as per IS-14697
- 7 **Power Consumption** i) The active and apparent power consumption, in each voltage circuit, at reference voltage, reference circuit, reference temperature and reference frequency shall not exceed 1.5 W and 8 VA.
 ii) The apparent power taken by each current circuit, at basic current, reference frequency and reference temperature shall not exceed 1.0VA
- 8 **Power Factor** - 0.0 Lag-Unity-0.0 Lead
- 9 **Design** - Meter shall be designed with application specific integrated circuit (ASIC) or micro controller; shall have no moving part; electronic components shall be assembled on printed circuit board using surface mounting technology; factory calibration using high accuracy class software based test bench.

A) Technical specifications and scope of work for 11 KV 3phase, 4 wire metering system (with various CT ratio of accuracy class-0.5)

General: - This specification covers the design, manufacture, testing and supply of 11 kV floor mounting type metering cubicle having 3 nos single phase CTs and 3 nos single phase PT.

Standard:

Except where modified by this specification the component parts of the equipment shall comply with the following IS codes available (the latest versions).

Current Transformers: IS 2705/1992

Potential Transformers: IS 3156/1992

HV Porcelain Bushing: IS 2099/1986

Galvanization: IS 2633

Primary Terminals: IS 10601

Fluctuation In Voltage And Frequency:

For continuous operation, entire equipment shall be subjected to variation of voltage up to plus 20 minus 30 percent and frequency of plus or minus 5 percent.

Name plate:-

The name plate shall be non-detachable type & fixed with rivets, not with bolts & nuts. The nameplate should bear year & month of manufacture & other data as per IS.

Warranty:

The supplier will warrant for the satisfactory functioning of the material / equipment as per specification for a minimum period of 12 months from the date of installation of the material / equipment in good condition.

Metering Cubicle/Kiosk

Metering kiosk shall be made of mild steel sheet of thickness not less than 2mm, duly powder coated painted, inside and outside, having paint life of 10-12 years. The interior shall be painted in white colour and the exterior colour shall be Tractor Orange. The base channels shall be painted in black. It should be suitable for indoor/outdoor installation. The kiosk shall be dust, vermin and weather proof having min. IP53 degree of protection. Adequate gaskets shall be provided at the doors to avoid ingress of moisture, dust and dirt. The panel should be provided with 4 nos. lifting hooks.

The minimum size of the metering kiosk should be 1625mm x 710mm x 710mm (HxWxD) excluding base channels. Height of panel is fixed but width & depth indicated is minimum and may be increased suitably to accommodate CTs/PTs, if required. The Kiosk shall consist of two chambers. The upper Chamber shall house the TV Energy Meter/ check meter or TPT meter and shall be termed as "Meter Compartment". The other section i.e. lower compartment shall house the 11KV dry type current transformers (3 Nos.) and potential transformer and shall be termed as "HT CT/PT Compartment". There shall be a fixed metallic partition between the meter compartment and the CT and PT compartment. The meter compartment shall be designed such that it should have ample space for accommodating GSM/GPRS/EDGE/CDMA modem, its power supply, cabling and antenna etc.

A separate and independent vermin proof door shall be provided for each of the upper (LV) and lower (HV) compartments with provision of locking and sealing arrangement. The locking arrangement shall be like lockers operable with two keys and having two sets of two keys. The locks for upper and lower compartment may be operable with same set of keys. The hinges of the doors shall be concealed type. The front cover of the meter box shall have a 3mm acrylic transparent unbreakable window to facilitate reading of the meter without opening the door. The acrylic window shall be protected with wire mesh of mesh size 35x35mm. It shall be possible to download data to CMRI from the communication port of the meter without opening the hinged door.

The RS232 serial port/ RS485 port shall be brought outside the box through a flexible cable and fixed on right or left side of the panel for connecting CMRI/computer without opening the door which shall enable meter reading without opening the meter compartment cover. The serial port shall have a lockable hinged protective cover with a provision for sealing to prevent tampering.

The foundation base shall be of MS channel, ISMC, of adequate size for fixing on the H-frame or elevated base. The entry of control cables to the meter from secondary terminals of CT/PT shall be through knock-outs provided in the Meter area-CT/PT partition. The entry of power cables shall be from the bottom of CT/PT compartment with incomer and outgoing cables entering and exiting on adjacent far sides. Plates indicating '11kV INCOMER' and '11kV OUTGOING' shall be fixed on the inside the CT/PT compartment. Adequate size cable glands shall be provided for

control cables. No detachable cable plate shall be provided in the Meter-CT/PT partition. The metering panel shall be provided with two cable entries from bottom along with glands/gland plate for 11kV XLPE cable of various sizes corresponding to CTs ratio and short circuit current ratings without cable boxes. However, the provision for clamping/erection of HT cable boxes has to be provided. There should be suitable provision so that cables boxes along with cable can be taken out of the panel without damage. However, after fixing of the power cable and re-fixing the removable plates, the cable entry shall be plugged in such a way so as to prevent entry of rodents or reptiles. Removal of the plate should only be possible from inside of the CT-PT chamber.

The metering cubicle shall be provided two grounding bolts on diagonally opposite side corners to facilitate grounding of the Metering kiosk. The metering cubicle shall be topped with a tapering MS sheet cover to avoid accumulation of snow/rain water.

The metering kiosk shall be suitably mounted/ erected.

Technical Specifications For 11 KvCtpt:

The CT sets shall have the following ratings:

- i) Rated Voltage: 11 KV
- ii) Highest system voltage: 12 KV
- iii) Insulation level: 12 KV
- iv) Impulse withstand voltage: 75 KV rms
- v) One minute power frequency withstand Voltage. - 3KV
- vi) Rated Short time thermal current for 1 Sec - 3kA (rms).
- vii) Class of Accuracy: 0.5
- viii) Rate of Primary Current-5Amp.
- ix) Frequency: 50 HZ
- x) Rated Burden (VA)-7.5.
- xi) IS to which CT Confirms-IS 2705 with latest amendments.
- xii) Number of metering Core-1(one).
- xiii) Rated continuous thermal current-120% of rated primary current.

The PT sets shall have the following ratings:

- i) Rated Voltage: 11 KV
- ii) Rated Secondary voltage: 110V
- iii) Rated burden-:25 KVA
- iv) Rated voltage with rated burden-45 Degrees.
- v) Rated Voltage factor and time- 1.2 Times Continuous & 1.5 Times for 30Sec.
- vi) One Minute Power Frequency withstand test (dry) voltage -28kv
- vii) 1/50 ms impulse withstand test voltage -75kv.
- viii) One Minute Power Frequency with stand voltage on secondary -3KV

Scope of work (11kV metering):

| S.no | Particulars of work |
|------|--|
| | Design, packaging, insurance, supply, installation, testing and commissioning of pilfer resistant 11kV metering kiosk suitable for housing resin cast CTs & PT and TV meter fabricated out of MS sheet of thickness not less than 2 mm duly power coat painted. The kiosk shall be dust and vermin proof and totally enclosed. A separate and independent vermin proof door shall be provided for each of the upper and lower compartments with provision of locking and sealing arrangement. The foundation base should be of MS channel not less than 100x50 mm. It should have two chambers, HV chamber and LV chamber, both chambers having one sided hinged door arrangements. The LV chamber shall be suitable for installation of Tri-vector meter. HV chamber suitable for installation of CTs, PTs and termination of 11kV cable. It should be possible to take meter readings manually through CMRI and computer without opening the LV chamber door. Each panel should contain the following items: |
| a | 01 set (3nos.) single phase indoor type resin cast current transformer suitable for 11kV metering having following ratios: |
| i. | 10/5 for 15 to 100 kVA |
| ii. | 15/5 for 250 kVA |
| iii. | 30/5 for 400 kVA |
| iv. | 60/5 for 630 to 1000 kVA |
| b | 1 no Epoxy Cast 3 phase PT of ratio 11KV/110 Volts, class 0.5 burden 50VA as per specification. |
| c | 1 set copper bus bar/s duly insulated by monoplast tape. |
| d | 1 lot of nuts and bolts with washers |
| e | 1 lot of PVC insulated copper wire with flexible multi strand of required size for secondary connections. For CT wiring, the minimum wire size shall be 4 sq. mm (RYB) and for PT wiring minimum wire size shall be 2.5 sq. mm (RYB). CT&PT wiring routed through separate rigid GI conduits. |
| f | 1 lot of copper lugs (preferably ring type) duly crimped for termination of wires and cables. |
| g | Ground bus of minimum 40mm copper, 25cm long fixed to the unit in HV chamber. The CTs, PT meter and 11kV cable sheath shall be grounded to the bus through grounding wire (green) of min. size 10 sq. mm. |
| 2 | Supply, fixing, testing and commissioning of DLMS compliant HT Tri-vector meter (3-ph 4-wire) 5Amps and 110/63.5 Volts with accuracy class of 0.5 as per IS 14697. |
| 3 | Providing & Laying of 3 core x 35sqmm Aluminium conductor XLPE insulated (cross linked polyethylene insulated), individual core screened flat steel strip armoured PVC sheathed HT cable of 11KV grade, conforming to IS 7098/II/85 (amended upto date) as required at site including cost of clamps for fixing wherever required. |
| 4 | Supply, fixing, testing and commissioning of heat shrink outdoor cable termination kit suitable for 3x35 sq. mm 11kV cables. |
| 5 | Supply, fixing, testing and commissioning of heat shrink indoor cable termination kit suitable for 3x35 sq. mm 11kV cables. |
| 6 | Providing Fabrication & Fixing of stand for above metering cubicles made in MS channel not less than 75mm x 40mm x 40mm and/or angle 65mm x65mm including concrete cement bottoming wherever required. |
| 7 | Supply and fixing of grounding to the metering unit 40mm dia Gi rod 2.5mtr long rounding of metering cubicle through 02 nos. 25x5mm MS flat. |
| 8 | Minor site modification like dislocation of existing cross arms, clamps connectors, equipment, if required, supply of items like nuts, bolts, clamps, cross arms, etc. |

B) Technical specifications and scope of work for 33 KV 3 phase, 4 wire metering system (with various CT ratios & PT of min. accuracy class-0.5).

General:

The specification covers the design, manufacture, testing and supply of 33KV outdoor type Metering cubicle & combined unit made of MS plate. The Metering cubicle and combined units shall be totally enclosed, air insulated dust and vermin proof. The 33KV Metering cubicle shall comply with the requirements of Indian Electricity Rules 1956 & as per relevant IS.

All the equipment shall comply with the requirement of relevant I.S specification.

Standard:

Except where modified by this specification the component parts of the equipment shall comply with the following IS codes available (the latest versions).

Current Transformers: IS 2705/1992

Potential Transformers: IS 3156/1992

HV Porcelain Bushing: IS 2099/1986

Oil: IS 335/1983

Galvanization: IS 2633

Primary Terminals: IS 10601

Fluctuation In Voltage And Frequency:

For continuous operation, entire equipment shall be subjected to variation of voltage up to plus 20 minus 30 percent and frequency of plus or minus 5 percent.

Name plate:-

The name plate shall be non-detachable type & fixed with rivets, not with bolts & nuts. The nameplate should bear year & month of manufacture & other data as per IS.

Warranty:

The supplier will warrant for the satisfactory functioning of the material / equipment as per specification for a minimum period of 12 months from the date of installation of the material / equipment in good condition.

Technical Specifications For 33kv Ctpt:-

The CT sets shall have the following ratings:

- i) Rated Voltage: 33 KV
- ii) Highest system voltage: 36 KV
- iii) Insulation level: 36/70/170KV
- iv) Standard Impulse withstand voltage: 170 KV peak
- v) One minute power frequency withstand Voltage-3KV
- vi) Voltage Factor & time-1.2 continuous.
- vii) Class of Accuracy: 0.5S
- viii). Rated burden -10VA
- ix). Frequency: 50 HZ

The PT sets shall have the following ratings

- i) Rated Voltage: 33 KV
- ii) Highest system voltage: 36 KV
- iii) Insulation level: 36/70/170 KV

- iv) Voltage Factor & time-1.2 continuous.
- v) Class of Accuracy: 0.5
- vi). Rated burden -50VA
- vii). Frequency: 50 HZ

Scope of work (33kV metering)

| S.no | Particulars of work |
|-------------|---|
| 1. | <p>CT-PT Combined unit: Design, supply, installation, testing and commissioning of 33kV CTs & PT combined unit 3-phase, 50 Hz, ONAN cooled, outdoor type. The combined unit shall have components as under:</p> <ul style="list-style-type: none"> a. 01 set (3nos.) single phase indoor type resin cast current transformer suitable for 33kV metering having ratio of 60/5 for 1.5 MVA b. 1 set (33kV/ 110V) 3-phase resin cast PT |
| 2 | <p>Weather proof metering cubicle: The Metering cubicle shall be outdoor type suitable for housing 3-phase HT tri-vector meter fabricated out of 2mm mild steel, powder coated with sealing and locking arrangement. The job shall also include supply and fixing of 75mm GI pipe between CT/PT combined unit and metering cubicle for CT/PT wiring to the tri-vector meter</p> |
| 3 | <p>Fabrication, supply and installation of pedestal made out of MS channel of ISMC 75 or ISA 65x65x6 duly painted as per site requirement for mounting of metering cubicle and combined unit including concrete foundation wherever required & nuts and bolts.</p> |
| 4 | <p>Supply, fixing, testing and commissioning of 3-phase 4-wire, 5Amps and 110VoltsTri-vector meter of min. accuracy class 0.5 as per IS 14697</p> |
| 5 | <p>Flexible, multi-strandPVC copper wire of required size for secondary connections including copper lugs for CT wiring. The min. wire size shall be 4 sq.mm for CT wiring and 2.5 sq.mm for PT wiring.</p> |
| 6 | <p>ACSR jumpers with hardware fittings like ACSR to CT/PT unit bush clamp and other hardware as per site requirement.</p> |
| 7 | <p>Earthing of CT/PT unit to 02 nos. 40mm GI pipes or 20 mm GI rods, 2.5 mtr long through 02 nos. 50x5 mm MS strips and metering cubicle through 02 nos. 50x5mm MS strips. Interconnection of earthing to station earthmat, soil treatment at site if required.</p> |
| 8 | <p>11M SP -56 two ST pole structure complete in all respects for 33kV pole mount CTPT combo unit.</p> |
| 9 | <p>SITC OF 3X35C SQMM 33KV AL XLPE armoured cable.</p> |
| 10 | <p>SITC OF 3X35C SQMM 33KV outdoor type termination kits.</p> |

C) Scope of work & technical specifications of pilfer resistant direct connected L.T metering units for 3phase, 4 wire metering system with inbuilt CTs

Technical specifications:

| S.no | Parameter | Min. required specification |
|-------------|-----------------------------|--|
| a. | Compliance standard/s | IS 13779/ IEC 62052-11/ IEC 62053-21 |
| b. | Accuracy | Class 1.0 |
| c. | Wiring Configuration | 3-ph/ 4-wire |
| d. | Voltage with range | 230-240 V (P-N) (-40% to +20%) |
| e. | Frequency with range | 50 Hz (+/- 5%) |
| f. | Current range | 40A - 200A |
| g. | Ingress protection | IP 54 |
| h. | Operating temperature range | -10C to +50C |
| i. | Enclosure | Double-insulated glass-filled polycarbonate |
| j. | Communication | PACT port Optional RS 232 port |
| k. | Impulse withstand | 6 kV |
| l. | Terminals | Thread through design suitable up to 200 A current |

Scope of work (LT metering):

| S.no | Particulars of work |
|-------------|---|
| 1. | Supply, installation, testing and commissioning of direct connected 3-phase 4-wire 415V/ 50Hz L.T tri-vector meter with inbuilt C.Ts and terminal block with provision of thread through cabling (40-200amps) with mounting clamps and accessories required and to be supplied bundled for fixing the meter having min. specifications as above complete including testing, commissioning, inspection from PDD authorities as required at site. |

Various sites for installation of energy meters are as under:

| S.no | Name of station | Capacity of electric sub-station | Operating voltage | Type of energy meter to be installed |
|-------------|-------------------------|---|--------------------------|---|
| 1. | Darpora | 100 kVA | 11 kV / 440 V | L.T tri-vector meter |
| 2. | Kandikhan | 100 Kva | 11 kV / 440 V | L.T tri-vector meter |
| 3. | Zalkhai | 250 kva | 11 kV / 440 V | H.T tri-vector meter (11kV) |
| 4. | Shahkhata | 63 kva | 11 kV / 440 V | L.T tri-vector meter |
| 5. | Boniyar | 100 kva | 11 kV / 440 V | L.T tri-vector meter |
| 6. | Manzgam | 400 kva | 11 kV / 440 V | H.T tri-vector meter (11kV) |
| 7. | Uranbowa | 400 kva | 11 kV / 440 V | H.T tri-vector meter (11kV) |
| 8. | Ijara | 1.5 mva | 33 kV / 440 V | H.T tri-vector meter (33kV) |
| 9. | DelinaGhat | 100 kva | 11 kV / 440 V | L.T tri-vector meter |
| 10. | Johama | 250 kva | 11 kV / 440 V | H.T tri-vector meter (11kV) |
| 11. | Vigibal 1 st | 250 kva | 11 kV / 440 V | H.T tri-vector meter (11kV) |
| 12. | Vigibal 2 nd | 100 kva | 11 kV / 440 V | L.T tri-vector meter |

Important: Tenderers are advised to visit and inspect the sites before quoting their rates. Any clarifications regarding detail of work/specifications as envisaged above should be sought before submission of tenders by e-tendering mode.

Sd/-

**Executive Engineer
Mechanical Irrigation Construction Division
Srinagar**