



Rajasthan State Mines & Minerals Limited

(A Government of Rajasthan Enterprise)

Registered Office

C89-90, Lal Kothi Scheme, Janpath
Jaipur (Rajasthan)India
Ph.:+91-141-2743734, 2743934
Fax: +91-141-2743735
CIN No.: U14109RJ1949SGC000505

Corporate Office

4, Meera Marg,
Udaipur – 313 001
Ph.: -91-294-2428768, 2428763-67
Fax: +91-294-2428768, 2428770, 2428739
e-mail naveengupta.rsmml@rajasthan.gov.in
website: www.rsmm.com

PAN No : AAACR7857H

TIN No. 08693902289

TENDER DOCUMENT**TO****e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017**

e- TENDERS ARE INVITED FOR SUPPLY, INSTALLATION & COMMISSIONING OF ABT COMPLIANT METERS, CURRENT TRANSFORMERS, POTENTIAL TRANSFORMERS ETC AT EKLINGPURA 132KV GSS OF RRVNPL & JHAMARKOTRA MINES, UDAIPUR

s.n.	Description	Date	Time
1	Publishing Date	27.07.2017	5.50 p.m.
2	Document Download/Sale Start Date	27.07.2017	6.00 p.m.
3	Document Download /Sale End Date	10.08.2017	6.00 p.m.
4	Bid Submission Start Date	27.07.2017	6.30 p.m.
5	Bid Submission Closing Date	10.08.2017	6.00 p.m.
6	Techno-Commercial Bid Opening Date	11.08.2017	3.30 p.m.
7	Submission Demand Draft / Bankers cheque/ Bank Pay Orders of Tender Document Fee, Processing Fees and Bid Security	10.08.2017	Upto 6.00 p.m.
8	Pre bid Meeting date	03.08.2017	At 11.00 a.m. at Corporate Office, Udaipur
9	Price Bid Opening Date	Will be intimated later on to the techno-commercially qualified bidders	
10	Websites for downloading tender documents/ corrigendum etc.	www.rsmm.com , http://eproc.rajasthan.gov.in http://sppp.rajasthan.gov.in/	
11	Website for submission of tender/bid (only online)	http://eproc.rajasthan.gov.in	
12	Tender Document Fees	Rs. 1180/- (Inclusive of GST) in favour of "Rajasthan State Mines & Minerals Limited" payable at Udaipur	
13	RISL Processing Fees	Rs. 500/- in favour of "MD RISL" payable at Jaipur	
14	Bid Security	Rs. 30,000/- in favour of "Rajasthan State Mines & Minerals Limited" payable at Udaipur	



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NOTICE INVITING e-TENDER

e- Tenders in Two parts (Techno Commercial Part & Price Part) are invited for following work-

Description
SUPPLY, INSTALLATION & COMMISSIONING OF ABT COMPLIANT METERS, CURRENT TRANSFORMERS, POTENTIAL TRANSFORMERS ETC WITH SUIATBLE PANELS AT EKLINGPURA 132KV GSS OF RRVPNL & JHAMARKOTRA MINES, UDAIPUR
Makes- As acceptable to RVPNL/DISCOM

For more details, visit us on web site www.rsmm.com, www.eproc.rajasthan.gov.in, www.sppp.rajasthan.gov.in or contact Sr. Manager (MM) at the above address.

(B.S. Gupta)
General Manager (MM)

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

General	Instruction for preparation & submission of tender and General Conditions of E-Tender
Annexure- I	General profile of tenderer
Annexure- II	Undertaking towards acceptance of all terms & conditions of tender
Annexure- III	Undertaking towards non suspension/non banning.
Annexure- IV	Registration details as per Micro, Small & Medium Enterprises Development Act,2006.
Annexure- V	Details of taxes & duties offered in price bid
Annexure- VI	Bill of Material specifying each item and its quantities to be supplied under the contract
Annexure-VII	Declaration by tenderer
Annexure- VIII	Details of Past Experience
Annexure- IX	Scope of work for Supply, installation, testing & commissioning of material /items at Eklingpura 132KV GSS of RRVPL.
Annexure- X	Scope of work for Supply, installation, testing & commissioning of material /items at Jhamarkotra mines Udaipur
Annexure- XI	Technical specification for 3 phase, 4 wire 0.2s class AC static inter utility tariff trivector meter for open access consumers/ wind/solar/ IPP generators.
Annexure- XII	REQUIRED TECHNICAL PARTICULARS FOR 145 KV CTs FOR METERING & PROTECTION PURPOSE.
Annexure- XIII	REQUIRED TECHNICAL PARTICULARS FOR 145 KV PTs FOR METERING & PROTECTION PURPOSE.
Annexure- XIV	Check-list to Supply, Installation & commissioning of ABT compliant meter, CT/PT sets etc at 132 KV Substation , Jhamarkotra mines.
Annexure- XV	Check list to Supply, Installation & commissioning of ABT compliant meter, CT/PT sets etc at Eklingpura 132 KV Substation of RVPNL
Annexure- XVI	B.G. Format.
Annexure-A	Compliance with the Code of Integrity and No Conflict of Interest.
Annexure-B	Declaration by the Bidder regarding Qualifications.
Annexure-C	Grievance Redressal during Procurement Process and Form No. 1.
Annexure-D	Additional Conditions of Contract.
Annexure-E	Break-up of items considered in row -1 of BOQ

SECTION -I

1.0 Instructions for preparation & submission of e-Tender and Conditions of e-Tender:

Instructions for preparation & submission of tender:

- i) Tender shall be submitted online only through e-procurement portal of GoR i.e. www.eproc.rajasthan.gov.in.
- ii) No physical/offline Tender/bid shall be accepted.
- iii) **Bid Security and Tender Document Fee** shall be in the form of Demand Draft / Bankers Cheque drawn in favour of “**Rajasthan State Mines & Minerals Limited**” payable at Udaipur and shall be submitted to the office of the GM(MM), 4-Meera Marg, Udaipur upto schedule date and time as above.
- iv) **Processing Fee** shall be in the form of Demand Draft / Banker Cheque drawn in favour of “**MD RISL**” payable at Jaipur and shall also be submitted to the office of the GM(MM), 4-Meera Marg, Udaipur upto schedule date and time, as above
- v) Conditional tenders and casual letters sent by the bidders will not be accepted.
- vi) Bidders are requested to read the instruction in the Tender Document/Bid before submitting the Tender/BID online.
- vii) The Tender Document is not transferable.
- viii) Bidders who wish to participate in this tender will have to be registered on <http://eproc.rajasthan.gov.in>. To participate in online tenders, bidders will have to procure Digital Signature Certificate (type II or III) as per Information Technology Act-2000 using which they can sign their electronic bids. Bidders can procure the same from any CCA approved certifying agency or may contact Government of Rajasthan e-procurement Cell, Department of IT&C for further assistance. Bidders who already have a valid Digital Certificate need not to procure a new Digital Certificate.
- ix) Contact details of Government of Rajasthan e-procurement Cell, Department of IT&C are :

Telephone No. 0120-4200462, 0120-4001002, 8826246593 (Help Desk 10.00 AM to 6.00 PM on all working days), email: eproc@rajasthan.gov.in, Support-eproc@nic.in. Address: e-procurement cell, RISL. Yojana Bhawan, Tilak marg,C-Scheme, Jaipur.
- x) Training for the bidders on the usage of e-Tendering system is also being arranged by RISL on regular basis. Interested bidders may contact e-Procurement Cell, RISL.
- xi) Bidder shall submit their offer on-line in electronic formats both for techno-commercial and financial bid, however DD/Banker Cheque for Tender Fees, Processing Fees and Bid Security should be submitted offline (personally/post/courier) to the office of GM(MM) before scheduled date & time as mentioned in tender document. Scanned copies of DDs/ BCs should also be uploaded along with the online Bid.

- xii) Before electronically submitting the tenders, it should be ensured that all the tender papers including conditions of contract are digitally signed by the tenderer.
- xiii) Bidders are also advised to refer “Bidders manual” available under “Download” section for further details about the e-tendering process.
- xiv) All bidders are advised not to wait for last date and submit their tender/bid at earliest. The Company shall not be responsible for any interruption/technical snag in website and No extension in deposition of Tender/bid shall be allowed.
- xv) Bidders shall have to furnish the legible/readable bid documents in the “covers” as prescribed in the document in PDF/jpg format. **All the documents should be sealed & signed by the tenderer.**
- xvi) In compliance to the Rajasthan Transparency in Public Procurement Act,2012 and Rajasthan Transparency in Public Procurement Rule, 2013, following annexures are enclosed :
 - i) Annexure-A- Compliance with the Code of Integrity and No Conflict of Interest.
 - ii) Annexure-B- Declaration by the Bidder regarding Qualifications.
 - iii) Annexure-C- Grievance Redressal during Procurement Process and Form No. 1.
 - iv) Annexure-D- Additional Conditions of Contract.

COVER-A

- i) Scanned Copies of Demand Draft / Bankers Cheque/ Bank Pay Orders towards Tender document Fees, Bid Security and processing fees.
- ii) Scanned copy of sealed & signed tender document towards acceptance of terms and conditions.
- iii) Authorisation in favour of a person signing tender document.
- iv) General profile of tenderer as per annexure-I, Undertaking towards acceptance of all terms & conditions of tender as per annexure-II and Undertaking towards non suspension/ non banning as per annexure-III.
- v) Registration details as per MSMED Act, 2006 as per annexure-IV.
- vi) Details of taxes & duties offered in price bid as per annexure-V.

COVER-B

- i) Bill of material as per annexure-VI specifying the items and their quantities to be supplied under the contract separately at Jhamarkotra & Eklingpura site. No price indication should be mentioned in BOM details.

- ii) Supporting documents towards tenderer status alongwith declaration by tenderer as per annexure-VII.
- iii) Details of past experience alongwith required documents as per annexure-VIII. Enclose documents in support of execution of similar type of work in tenderers name or in association with their associated agencies/sub-contractors.
- iv) Acceptance of Scope of work for Supply, installation, testing & commissioning of material /items at Eklingpura 132KV GSS of RRVPNL as per annexure-IX.
- v) Acceptance of Scope of work for Supply, installation, testing & commissioning of material /items at Jhamarkotra mines Udaipur as per annexure-X.
- vi) Acceptance of Technical specification for 3 phase, 4 wire 0.2s class AC static inter utility tariff trivector meter for open access consumers/ wind/solar/ IPP generators as per annexure-XI.
- vii) ACCEPTANCE OF TECHNICAL PARTICULARS FOR 145 KV CTs FOR METERING & PROTECTION PURPOSE as per annexure-XII.
- viii) ACCEPTANCE OF TECHNICAL PARTICULARS FOR 145 KV PTs FOR METERING & PROTECTION PURPOSE as per annexure-XIII.
- ix) Check-list to Supply, Installation & commissioning of ABT compliant meter, CT/PT sets etc at 132 KV Substation , Jhamarkotra mines as per annexure-XIV.
- x) Check list to Supply, Installation & commissioning of ABT compliant meter, CT/PT sets etc at Eklingpura 132 KV Substation of RVPNL as per annexure-XV.
- XI) Sealed and Signed copies of Annexure-A, Annexure-C, Annexure- D and Duly Filled, Sealed and Signed Annexure-B.

COVER-C

- I) Price Bid in xls format.**
- II) Details of prices in PDF format as per given bill of material as per point no. i of cover-B. Format for the same is given at Annex-E. (To be enclosed with BOQ only).**

2.0 SUBMISSION & OPENING OF TENDERS:

The online submission of bids on the e-procurement portal i.e. <http://eproc.rajasthan.gov.in> within the specified date and time will be the sole responsibility of the Tenderers. In case the date of opening of bids happens to be a holiday, then the bids shall be opened on the next working day.

Tenderers are requested to ensure submitting their tender online on e-procurement portal only and furnishing Demand Draft / Bankers Cheque/Bank Pay Orders towards tender document fee/Bid Security/ Processing Fees offline to the office of GM(MM) within the specified time & date of submission. Tenders in physical form (offline) will not be acceptable in any case.

Tenderers may note that they will not be able to submit their tenders online after the specified/ scheduled date & time of submission of bid document. Tenderers should also to ensure furnishing Demand Draft / Bankers Cheque/ Bank Pay Orders towards tender document fee/Bid Security/ Processing Fees to the office of GM(MM) within the specified time & date of submission. Failing which, their online bids will not be opened.

3.0 VALIDITY:

The tenderer shall keep the offer open for acceptance by RSMML for a minimum period of 120 **days** from the date of opening of tender (Part-I), within which period the tenderer shall have no right to withdraw, cancel, amend or modify his offer. In case of withdrawal/cancellation/ amendment/ modification in the offered tender, the Bid Security deposited by the tenderer shall stand forfeited. The validity period may be extended further, if required, by mutual consent from time to time.

In case, tenderer, after issuance of communication of acceptance of offer (LOA/PO) by RSMML, fails to execute the contract as per the conditions therein, such an event will be considered as the tenderer's calculated willful breach of the contract. The cost & consequence in such cases shall be on the sole account of the tenderer. Moreover, RSMML have full right to claim damages thereof in addition to the forfeiture of Bid Security.

4.0 BID SECURITY, TENDER DOCUMENT FEES & PROCESSING FEES:

- a) The tenderer shall deposit (interest free) a sum of Rs. 30,000/- (Rupees Sixty Thousand only) as Bid Security in the form of Demand Draft / Bankers Cheque/ Bank Pay Orders payable to RSMML, Udaipur.
- b) Further, tenderers shall deposit a sum Rs. 1,180/- (inclusive of GST) towards tender document fees and Rs. 500/- towards processing fees by Demand Draft / Bankers Cheque/ Bank Pay Orders only to the office of GM(MM) within the specified date & time. The details of furnishing such financial instruments are elaborated in clause no. 1.0. Payments through Cash, Cheque or Bank Guarantee will not be accepted.

Demand Draft / Bankers Cheque/ Bank Pay Orders for Tender Fees, Processing Fees and Bid Security should be submitted offline (personally/post/courier) to the office of GM(MM) before scheduled date & time as mentioned in tender document. Scanned copies of Demand Draft / Bankers Cheque/ Bank Pay Orders should also be uploaded along with the online Bid. The tender document fees & processing fees are non-refundable.

c) The Bid Security shall be forfeited in case of :

- i) If tenderer unsolicited revises and/or modifies and/or withdraw &/or cancel/amend the offer at its own after submission of tender during the validity period.

- ii) If it is established that tenderer has submitted any wrong information/forged document alongwith the tender or thereafter.
 - iii) If the tenderer declines to accept contract/order placed by the Company subsequent to acceptance of his offer.
 - iv) If the tenderer does not submit the security deposit cum performance guarantee.
 - v) If the tenderer breaches any promising provision of code of integrity prescribed for bidder as detailed at Annexure -A.
- (d) The Bid Security furnished by the unsuccessful tenderers will be refunded after finalization of tender / validity of the offer has expired. Bid Security of successful tenderer will be refunded after receipt of Security Deposit cum performance guarantee.
- (e) The Bid Security of a tenderer lying with the company in respect of other tenders awaiting approval or rejected or on account of contract completed will not be adjusted towards bid security against this tender, however, the bid security originally deposited may be taken into consideration in case tender is re-invited. However, tender document fees and processing fees have to be furnished afresh incase of re-tender.
- (f) Incase of participation by Undertakings, Corporations, Autonomous Bodies which are controlled and managed by Govt., Govt. Undertakings and Companies of Union Govt. & Govt. of Rajasthan, they are exempted from deposition of Bid Security.
- (g) Bid Security will be taken @25% of the total value of Bid Security of tender incase of participation by SSI units of Rajasthan subject to that the tenderer has participated against the tender in a capacity of manufacturer of the offered product. In case any SSI firm of Rajasthan is offering the quantity lesser than the tendered quantity, then they can submit proportionate amount of bid security in proportion to the quantity being offered with respect to the bid security amount for tender quantity.
- (h) Except above, no Bid Security exemption will be given to any party on any grounds and their offer will liable for rejection.

5.0 SCOPE OF WORK, SPECIFICATIONS & QUANTITY:

1. Scope of work, quantities, specifications for Supply, Installation, Commissioning & Testing etc. of ABT Compliant Meters, Current Transformers, Potential Transformers etc at Eklingpura 132KV GSS of RVPNL & Jhamarkotra mines, Udaipur are detailed at annexure- IX To Annexure-XV. Tenderers will execute the work as per the details given in the said annexures and terms & conditions mentioned in tender. Incase any other work/item required for

complete execute of work as per requirement of tender/RVPNL/DISCOM/RSMML/ Govt. Statutory Guidelines will be done by tenderer without any extra cost.

2. Tenderer may execute the supply, erection, installation, commissioning, testing, inspection works by their own or in association with their sub agencies/contractors as per the scope of work and terms & conditions mentioned in our tender document.
3. It is not necessary for tenderer to have A-class electrical contractor license in their own name. However, incase of placement of order relevant part of installation, commissioning, testing, inspection works will be got done through A-class electrical contractor as the work involves is of 132 KV and as per Electrical Inspector Guidelines, such works be done by A-class electrical contractor.

6.0 PRE-BID MEETING:

The pre bid meeting will be held on 03.08.2017 at 11.00 A.M. at RSMML, CO, Conference Hall, 4-Meera Marg, Udaipur to clarify the issues and/or doubts related to the tender. Tenderers are advised to send their queries/clarifications addressed to GM(MM), so as to reach him **at least 3 days before the scheduled date of the pre bid meeting**. Tenderers are also advised to participate in the pre bid meeting in their own interest, though it is not mandatory to do so. However, the tenderers are requested to confirm their participation well in advance.

Tenderers are advised to visit the site to understand the technicalities of scope of work.

7.0 CONSIGNEE:

The Group General Manager ,
SBU-PC (Rock Phosphate)
M/s Rajasthan State Mines & Minerals Ltd,
JHAMARKOTRA 313 015
Via & Distt.– UDAIPUR

8.0 RSMML's RIGHT:

The Company reserves the following rights at its sole discretion without assigning any reason thereof:

- a) to reject any or all the tenders received.
- b) to accept a tender either for the total requirement or part thereof or /& not to accept the lowest tenderer.

- c) to accept/reject any tender on technical grounds based on RSMML requirement.
- d) to cancel the tender, postpone it for another date, change the venue of the receipt of the tender.
- e) to increase/decrease the quantity of material/service as per work requirement.

The decision of the Company in above regards shall be final and binding on the tenderer. As a result of such change the Company will not entertain any claim whatsoever.

9.0 RATES :

- i) The price should be quoted on-line in Indian Currency strictly in Price Bid (BOQ) Cover – C on f.o.r. destination basis as below-

In XLS format-

Row no. 1- Total charges for supply of part of items i.e. ABT meters, CTs, PTs and all other material required for execution of contract as per scope of work and terms & conditions mentioned in tender.

Row no. 2- Lump sum charges for Installation, Commissioning, Testing and any other required activities including civil work etc required for complete scope of work and terms & conditions mentioned in tender.

In PDF Sheet-

Break-up of items considered in row -1 of BOQ specifying the rate of each item format of same is given at annexure-E.

- ii) Tenderer (s) are requested to offer prices strictly in the BOQ uploaded on the site. They should first download the BOQ from the site on their system and after filling it, the same BOQ should be uploaded on the e-procurement portal.
- iii) The quoted price shall be on F.O.R. destination basis inclusive of basic price, Taxes, Duties, Levies, Packing, Forwarding, Transportation, Insurance, any other Delivery Charges etc. upto destination. The quoted price will remain firm and fixed till complete execution of the contract.

10.0 PRICE VARIATION:

- i) The agreed price shall remain firm and fixed till the complete execution of the contract. Only variation on account of withdrawal/imposition/changes in structure of Taxes & Duties by the Government which are within the work completion period directly reflected on invoice will be considered on production of documentary proof provided that such variation/chnages take place within the scheduled delivery period/contract period.

- ii) Save and except as aforesaid, the tenderer shall not be entitled to raise any claim and/or demand and/or any dispute on account of escalation or raise or increase in the prices of any other item or element.

11.0 NO COMPENSATION FOR ALTERATION OF DELIVERY SCHEDULE OR SUSPENSION OF SUPPLIES:

If at any time before commencement of the supply if the Company, for any reason, whatsoever do not require the whole supply or part thereof as specified in the PO, shall give notice in writing of the same to the supplier and the supplier shall not be entitled for any compensation and/or damage of any kind whatsoever on account for loss or profit etc. nor the contractor be entitled to any claim for compensation for re-scheduling of delivery period.

12.0 SECURITY DEPOSIT CUM PERFORMANCE GUARANTEE:

- i) Towards the due, proper and faithful fulfillment of the obligations under the contract, the tenderer will furnish to RSMML Security Deposit cum Performance Guarantee equal to 10% of total contract value by way of Demand Draft/ pay order or in the form of Bank Guarantee in the prescribed Performa from any Public Sector/ICICI/ HDFC/AXIS Bank (except SBI) having its branch at Udaipur within 21 days from the date of issue of LOA/PO. The Bank Guarantee should be valid for a period of 24 months & can be further extended, if required.
- ii) The BG shall liable to be invoked/ amount of SD is liable to be forfeited wholly or partly at the sole discretion of the Company, should the supplier either fails to execute the work within the stipulated period or fails to fulfill the agreed obligations or fails to settle in full it's dues to the Company.
- iii) The Company is empowered to recover from the S.D. any sum due and /or any other sum that may be fixed by the Company as being the amount or loss or losses or damages suffered by it due to un-satisfactory performance or non fulfillment of any of the conditions of the tender/ contract.
- iv) The Bank Guarantee/ S.D. shall remain in force and binding, notwithstanding, if any variation, alternation, modifications are made to the contract or any extension of the contract period is granted by RSMML.
- v) RSMML shall not pay any interest on the Security Deposit. The security Deposit shall be released on application by the Supplier after the expiry of guarantees and after discharge of all the supplier's obligations under the contract.
- vi) The said Security shall not in any way be construed as a limitation of the supplier's responsibility or liability pertaining to its obligations and guarantees under the contract and shall be without prejudice to any other

remedies available to RSMML in terms of the contract and/ or as per the laws of the land.

vii) Incase SD is being furnished in the form of Bank Guarantee, the BG should be furnished on the non-judicial stamp paper of the value equal to 0.25% (Zero Point Twenty Five Percent) of total Security Deposit amount subject to the maximum of Rs. 25,000/- or as applicable at the time of submission of B.G.

viii) Bank Guarantee/S.D. should be send to the office of GM (MM), CO.

13.0 WARANTEE:

The tenderer shall warrant that the stores supplied under the contract/order will be new, unused and shall be free from all defects and faults in material & workmanship.

The offered solution should be warranted for proper design, quality, workmanship, and operation of all equipment, accessories etc. supplied & installed by the tenderer for a period of 12 months from the date of installation and date of taking over the system.

In the event of any defect in material, design and workmanship during the aforesaid period is found due to faulty material, design or poor workmanship, the defective part will be replaced / repaired by the supplier at site free of cost within 7 days of intimation of warranty claims. The tenderer will be required to stock spare parts to take care of warranty failures. The guarantee/composite warranty shall be submitted along with the bill. Tenderer will also replace the defective parts, if any, during the warranty period free of cost. The responsibility to collect the defective/ rejected material will lie with the supplier and the cost for such collection will have to be borne by the supplier.

14.0 DETERMINATION OF LOWEST BIDDER FOR EVALUATION PURPOSE:

a) For evaluation purpose, the lowest tenderer shall be determined on the basis of total landed cost for complete Scope of work of Supply, Installation, Commissioning & Testing etc. of ABT Compliant Meters, Current Transformers, Potential Transformers etc at Eklingpura 132KV GSS of RRVPNL & Jhamarkotra mines, Udaipur on turn key basis inclusive of all but considering ITC on GST as per Rules/Guidelines.

b) Online comparative chart may not necessarily be generated and if generated, it may not be treated as final because of method of determination of lowest tenderer as per clause 14.0 (a) above.

c) NEGOTIATIONS:-

i) Negotiations may be conducted with the lowest tenderer only. In case of non-satisfactory achievement of rates from lowest tenderer, RSMML may choose to make a written counter offer to the lowest tenderer and if this is not accepted, RSMML may decide to reject and re-invite fresh tenders or to make the same

counter-offer first to the second lowest tenderer, then to the third lowest tenderer and so on in the order of initial bidding, and work order be awarded to the tenderer who accepts the counter offer.

- ii) In the case, when the quotations given by the tenderer during negotiations is higher than the original quotation of the tenderer then the tenderer will be bound by the lower rate originally quoted by the tenderer.
- iii) In case of negotiations, representative of the tenderer attending negotiations must possess written authority from the tenderer to the effect that he is competent to modify/amend the submitted tender deviations and rates offered by them.
- d) In the event the company does not find the lowest quoted rate, acceptable to it, then the tender will be scrapped and may be re-invited, or company may take any other suitable action as deemed fit looking to the exigency of the work.

15.0 WORK COMPLETION PERIOD:

Please offer the earliest work completion period as per total scope of work and terms & conditions of tender which should not be more than two months from the date of issue of purchase order.

16.0 INSPECTION:

- i) RSMML shall have the right to inspect and/or to test the goods to confirm their conformity to the specification/data of each item at the Consignee's end.
- ii) Final inspection shall be carried out at consignee's end after receipt of the material at site, which will be binding on both the parties.
- iii) In case of rejection of any supply, the same should be replaced by the tenderer at their cost, immediately within 7 days of intimation for rejection or within the specified delivery period. Tenderer will take rejected material back at their own risk, cost & transportation.

17.0 TERMS OF PAYMENT & PAYING AUTHORITY:

- i) 100% payment within 30 days of Supply, Installation & successful Commissioning of ABT Meters/Cts/PTs etc and other related activities including inspection/certificates etc as per scope of work of tender.
- ii) Billing & Paying Authority: The bill in triplicate along-with the supporting documents duly verified by the consignee will be released by Payment disbursing authority – The Payment disbursing authority is FA, CO, RSMML., Udaipur.
- iii) Payment will be made through NEFT/RTGS.
- iv) Payment will be made after deducting statutory taxes wherever applicable.

18.0 COMPENSATION FOR DELAYED DELIVERY:

In the event the supplier fails to complete the work within the work completion period, the Company shall be entitled at its option either:

- a) to recover from the supplier as agreed pre determined compensation @ 1/2% (Half percent) per day of the total value of work, subject to a maximum of 5% of the total value of work,
- b) either to purchase from elsewhere, without notice to the supplier at his risk and cost full or undelivered part, as the case may be

OR

- c) to cancel the contract.

In case of b & c above, the Company will be empowered to purchase stores which are readily available with alternative source to meet the requirement irrespective of the fact whether these are similar or not.

19.0 EXCEPTION & DEVIATION/ ACCEPTANCE OF ALL THE TERMS & CONDITION OF TENDER:

Tenderers are advised to submit their offer based on terms & conditions and specifications contained in the tender document and not to stipulate any deviations. Offer containing stipulations of deviations to the terms & conditions are liable to be ignored. However, in case it is absolutely unavoidable to deviate from tender conditions then the tenderers should mention the deviations at their risk of rejection only in Annexure- II. Deviations mentioned anywhere else in the offer shall be ignored without any consequences.

- i) Tenderer should mention the deviations, if any, at their own risk of rejection of their offer.
- ii) Deviations mentioned anywhere else in the offer shall be ignored without any consequences.
- iii) Tenders containing corrections and alterations are liable to be rejected unless all such corrections and alterations are legible, clear and signed by the tenderer. Tenders containing corrections and alterations are liable to be rejected unless all such corrections and alterations are signed by the tenderer.

20.0 TERMINATION:

- a) In case of failure to perform the job as required under this contract or observe breach of any of the terms and conditions by the tenderer, the company shall give a notice to rectify the default or breach within 10 days. Failure to rectify such default/ breach may result in termination of the contract and forfeiture of security deposit without any prejudice to the company's rights to claim damages/costs/loss etc caused by such default/breach. Such termination shall not absolve the tenderer of the liabilities accruing till the date of such termination.

- b) The contract may also be terminated in the event the tenderer is being adjudged insolvent or going into Liquidation or Winding up of their business, or making arrangement with their creditors.
- c) Notwithstanding anything contained herein above, the company in its absolute discretion may at any time terminate the order without assigning any reason thereof by giving Fifteen day's notice to the tenderer at their last notified address. In such an event the tenderer shall not be entitled to raise any claim or demand for compensation, loss of profit and/or damages and / or losses or costs by reason of such earlier termination on any ground whatsoever.

21.0 FORCE MAJEURE:

At any time, during the continuance of the contract, the performance in whole or in part by either party (sub-vendors excluded) and/ or obligations under this contract shall be prevented or delayed by reason of any war, Hostility acts of public enemy, civil commotion, sabotage, fires, floods, explosion, epidemics, quarantine restrictions, non-performance due to Acts of God or Acts of Government /statutory bodies (herein after referred as "Event") then provided a notice of the happening of any such event is given within seven days from the date of occurrence thereof neither party shall by reason of such event be entitled to terminate this contract nor shall either party have any claim for damage against the other in respect of such non-performance or delay in performance and the deliveries and/or performance of the work under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist and decision of Company as to whether the deliveries and/or performance of the work have been so resumed or not shall be final and conclusive. Provided further that if the performance in whole or in part is delayed by reasons of any such events for a period exceeding thirty days either party may at its option terminate the contract.

22.0 JURISDICTION:

The contract is subject to the jurisdiction of courts at Udaipur only in the state of Rajasthan.

For RAJASTHAN STATE MINES & MINERALS LIMITED,

(B.S. Gupta)
GENERAL MANAGER (MM)

I/We have studied the above terms and conditions and having understood the same in true sense and spirit, I/We shall abide by and adhere to the above terms and conditions fully.

Signature of Tenderer with official stamps

Place & Date:

Annexure - I**e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017****GENERAL PROFILE OF TENDERER**

1	Name & address of the tenderer Telephone No., Fax No., e-mail address etc.			
2	Date of establishment.			
3	Whether Proprietor/Partnership/ Company (Enclose copy of document)			
4	Name of owner/partners Directors with full address.			
5	Work Completion period			
6	Annual turnovers in rupees for last three years.	2016-17	2015-16	2014-15
7	PAN No.			
8	GSTIN No.			

9	<p>Entrepreneurs Memorandum no. as per MSMED Act 2006</p> <p>Nature of Activity (manufacturing/Service)</p> <p>Category of Enterprise: (Micro/ Small/ Medium)</p>	
10	<p>Banker details:</p> <p>a) Name</p> <p>b) Branch No.</p> <p>c) Address</p>	
11	Bank Account No.	
12	Type of A/c : Saving / Current/CC/ any other	
13	IFSC code	
14	Any other important information related to the tender requirement.	

Date & Place:

Signature of tenderer with official stamp

e TENDER NO. RSMML CO MM NIT 10 2017-18 Dated 27.07.2017

UNDERTAKING TOWARDS ACCEPTANCE OF ALL TERMS & CONDITIONS OF TENDER

Name of Tenderer _____

We confirm that all the terms & conditions of tender is acceptable to us except the following.

Tenderer may stipulate here exceptions and deviations to the tender conditions, if considered unavoidable. In case the tenderer does not mention any information to the deviations in the below format & furnish it blank then it will be presumed that the tenderer is not offering/ putting any deviations to the tender terms & condition. Tenderer should mention the deviations, if any, at their own risk of rejection of their offer.

Sl.No.	Tender Clause no.	Requirement as per tender clause	Offered condition/ Deviation

Company may accept or not to accept the deviations put by the tenderer at its sole discretions. No claim on this will be entertained.

Note: Deviation to the tender terms, if any, mentioned any where else (i.e. in any other document will not be considered & accepted. RSMML will not entertain any claim of the tenderer on offered deviations mentioned anywhere else.

Signature of tenderer with official stamp

Date:

Place:

Annexure- III

e TENDER NO. RSMML CO MM NIT 10 2017-18 Dated 27.07.2017

UNDERTAKING TOWARDS NON SUSPENSION/NON BANNING.

Name of the Tenderer: _____

We hereby declare that we have not been banned/suspended or de-listed by RSMML in past.

Signature of Tenderer with official stamp

Place:

Date:

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

Declaration for Registration under Micro, Small & Medium Enterprises Development Act, 2006.

1. Whether the tenderer is registered under Micro, Small & Medium Enterprises Development Act, 2006.
_____ (Yes/NO)
2. If yes, please furnish the declaration given below.
3. We (Name of Tenderer _____), hereby declare that, our organization is registered under Micro, Small & Medium Enterprises Development Act, 2006 as _____ (Micro, Small & Medium) Enterprises having entrepreneurs Memorandum no. and under category of(Manufacturer/Service).
4. Enclose attested copy of registration certificate.

Signature of tenderer with official stamp

Date:
Place:

Annexure - V

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

DETAILS OF TAXES & DUTIES OFFERED IN PRICE BID

Name of Tenderer_____

Particulars	% Rate considered in price bid for ABT Mtrs	% Rate considered in price bid for CTs	% Rate considered in price bid for PTs	% Rate considered in price bid for other items, may be specified
CGST on offered product	@.....%	@.....%	@.....%	@.....%
SGST on offered product	@.....%	@.....%	@.....%	@.....%
IGST on offered product	@.....%	@.....%	@.....%	@.....%
GST on Installation & Commissioning work	@.....%			

Signature of tenderer with official stamp

Date:

Place:

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

DECLARATION BY TENDERER

I/We declare that I am/ We are /manufacturer/ Distributor/Authorised dealer in the goods/stores/equipments for which I/We have tendered.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/our bid security/security deposit may be forfeited in full and the tender if any to the extent accepted may be cancelled.

We undertake that incase of placement of order in our favour, relevant part of installation, commissioning, testing, inspection works will be got done through A-class electrical contractor as per Electrical Inspector Guidelines.

Signature of tenderer with official stamp

Date:

Place:

Enclose Following-

- i) Supporting Document towards tenderer status, as above.
- ii) Name of A-class electrical contractor as per Electrical Inspector Guidelines alongwith copy of valid registration certificate.

Annexure-VIII

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

Details of past experience

{To be submitted with Part-1 of the offer (Techno- commercial part)}

List of order(s) executed towards supply, installation & commissioning of similar type of work.

S. No	Name & Address of the Purchaser	Order No. & Date	Brief Description	Value of Work
01				
02				
03				
04				

Signature with Office Seal.

Place:

Date:

AT EKLINGPURA 132 KV GSS OF RVPNL

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

(A) SCOPE OF WORKS FOR THE SUPPLY , INSTALLATION , TESTING & COMMISSIONING OF MATERIAL/ITEMS

- (1) ABT compliant meters, accuracy class 0.2S, Operating parameters specifications: CT: -- 30 / 5 Amp, PT: / 110 Volt -- **Two Nos (Main and Check meters)****

- (2) The ABT meters shall be supplied, tested and commissioned as per enclosed technical specification for 3 phase, 4-wire 0.2S class AC Static Inter utility tariff Tri-vector meter for open access consumers/wind/solar/IPP generators (as per **Annexure -XI**)

- (3) The ABT meters shall be housed in the separate panel (01 No) which shall be self-standing type complete with MS stand, TTBs etc. The termination of wiring / connection from CTs / PTs shall be made in the mounted ABT meters in the panel. The panel shall have sufficient space for accommodating the ABT meters (Main & Check) etc and duly painted with colour of relevant IS shade. Suitable canopy arrangement shall also be provided in the panel. The supply, erection etc of the above panel shall be in the contractors account. The panel shall be complete in all respects for the metering purpose.

- (4) The required cables for interconnecting the CT's/PT's connections to the ABT meter installed in the control panel (To be installed in the switchyard) shall be provided by the contractor. The cables shall be provided of reputed makes / brands and shall meet the requirements

of RVPNL/AVVNL specifications. The GI pipes shall be used for laying the above cables in the grounds.

- (5) The ABT meters shall be required to be tested at the manufactures works as well as in the AVVNL laboratory at Ajmer or at any other place as per the requirements of RRVPNL/DISCOM in presence of RVPNL/DISCOM inspectors.
- (6) After inspection & clearance at manufactures works the contractor will arrange the transportation of ABT meters from works to Ajmer HTMT meter lab (or other place as per AVVNL) for testing & sealing of meters as per the AVVNL requirement. The ABT meters after inspection by RVPNL / AVVNL inspector at manufactures works & testing at AVVNL laboratory at Ajmer will be transported to Eklingpura RVPNL substation for installation. The contractor shall borne all the charges including the inspection fees , RVPNL/DISCOMs inspectors arrangements / liasion and any other charges up to final clearance and handing over the system to AVVNL/RVPNL/RSMML after commissioning and to be included in the offered prices by the bidders in their scope.
- (7) Any other item like junction boxes etc required as per site condition and any other material required but not mentioned here to complete the works in totality shall be included in the scope of work. No extra payment shall be made on any account in this regard.
- (8) The Shutdown of the 132 KV line (If required) for connecting the ABT meters with existing CT / PT sets shall be arranged in liaison with AVVNL/RVPNL officials.

- (9) The contractor shall also make arrangements for inspecting and other officers of RVPNL / AVVNL at site for witness and final hand over of the installed ABT meters along with panel etc.

(B) Other terms & conditions.

- (1) Before submitting the offer, the bidders are advised to visit 132 KV Substation at Eklingpura to understand the scope of works clearly. Any missed out item / works shall not be the ground for claiming anything extra after submitting the offer against the tender. All the works are to be completed in totality for availing the open access for the captive adjustment of solar power.
- (2) All required tools, tackles etc shall be included in the scope of works of the contractor. The manpower and other required materials for execution of works at the substation shall be on contractors account.
- (3) All the transportation of material / items to be supplied along with loading, unloading etc shall be in the contractor's scope. Any supplied item / material damaged during transportation, erection, testing, commissioning etc shall be replaced free of cost by the contractor.
- (4) RSMML shall not be responsible for any accident to the manpower of the contractor while carrying out the installation, testing and commissioning of the items to be installed as per scope of works or any other related works in this connection.
- (5) All the works shall be carried out following Indian electricity rules, acts safety regulations and standards.
- (6) All electrical works wherever required as per statutory guidelines shall be executed by the agency having valid A class Electrical Contractor License for executing the Electrical works in the state of Rajasthan.

(7)The manufactures standard guarantee / warrantee certificates along with test reports duly witnessed by RVPNL / AVVNL inspectors shall be provided to RSMML. Four sets of all the drawings / manuals etc of all items / material supplied shall also be provided to the RSMML.

(8)The makes of ABT meters, other items to be supplied shall be from the approved vendor list of AVVNL/RVPNL and/or acceptable to the above authorities. All items / material shall be supplied as per latest applicable specifications of RVPNL/AVVNL and shall be acceptable to RVPNL/DISCOM's. Any technical requirements of RVPNL/AVVNL shall be fulfilled while completing the above works in totality.

Signature of Tenderer with official stamps

Place & Date

AT 132 KV GSS, JHAMARKOTRA MINES.

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

(A) SCOPE OF WORKS FOR THE SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF MATERIAL/ITEMS

- (1) ABT compliant meter, accuracy class 0.2S, Operating parameters specifications: CT: -- / 1 Amp, PT: / 110 Volt -- One Nos (Standby meter). along with CMRI meter reading instrument (01 no).**
- (2) The ABT meters shall be supplied, tested and commissioned as per enclosed technical specification for 3 phases, 4-wire 0.2S class AC Static Inter utility tariff Tri-vector meter for open access consumers/wind/solar/IPP generators (as per Annexure XI).
- (3) The ABT meters shall be housed in the separate panel (01 No) which shall be self-standing type complete with MS stand, TTBs etc. The termination of wiring / connection from CTs / PTs shall be made in the mounted ABT meters in the panel. The panel shall have sufficient space for accommodating the ABT meter (Standby) etc and duly painted with colour of relevant IS shade. Suitable canopy arrangement shall also be provided in the panel. The supply, erection etc of the above panel shall be in the contractors account. The panel shall be complete in all respects for the metering purpose.
- (4) The ABT meters shall be required to be tested at the manufactures works as well as in the AVVNL laboratory at Ajmer or at any other place as per the requirements of RRVPNL/DISCOM in presence of RVPNL/DISCOM inspectors.

(5) After inspection & clearance at manufactures works the contractor will arrange the transportation of ABT meters from works to Ajmer HTMT meter lab (or other place as per AVVNL) for testing & sealing of meters as per the AVVNL requirement. The ABT meters after inspection by RVPNL / AVVNL inspector at manufactures works & testing at AVVNL laboratory at Ajmer will be transported to Jhamarkotra substation for installation. The contractor shall borne all the charges including the inspection fees , RVPNL/DISCOMs inspectors arrangements / liasion and any other charges up to final clearance and handing over the system to AVVNL/RVPNL/RSMML after commissioning and to be included in the offered prices by the bidders in their scope.

(6) 132 KV Current Transformers (CT's) – Three Nos , CT ratio:60-30/1-1-1-1

The CTs shall be supplied, erected, tested & commissioned as per enclosed specifications of RRVPNL -- Required technical particulars for 145 KV CTS for metering & protection purpose (as per Annexure XII)

(7) 132 KV Potential Transformers (PT's) – Three Nos

The PTs shall be supplied, erected, tested & commissioned as per enclosed specifications of RRVPNL--Required technical particulars for 145 KV PTS for metering & protection purpose (as per Annexure XIII)

(8) The CT / PT sets shall be required to be tested at the manufactures works and at any other place as per the requirements of RRVPNL/DISCOM in presence of RVPNL/DISCOM inspectors. All the inspection fees to be deposited with RVPNL / DISCOM / Any other agency shall be paid by the contractor and to be included in the offered prices by the bidders.

- (9) The CT / PT sets after inspection by RVPNL / AVVNL inspector at manufactures works will be transported to Jhamarkotra mines and in between if the same are required to be tested at any other lab location of RVPNL/AVVNL the same will be carried out by the contractor . The contractor shall borne all the charges including the inspection fees , RVPNL/DISCOMs inspectors arrangements / liasion and any other charges upto final clearance and handing over the system to AVVNL/RVPNL/RSMML till commissioning .
- (10) Removal of existing 132 KV CVTs (Three nos) in the Substation. The CVTs will be removed in the safe condition and shall be kept at Substation yard in safe condition.
- (11) Removal of exiting 132 KV Lightning Arrestors (LA's) in the Substation. The LA's shall be removed in the safe condition so that there is no damage to the LA,s as the same to be erected and commissioned back at shifted / new location in the Substation.
- (12) The New CTs shall be erected at the exiting CVT structure in the substation.
- (13) The PTs shall be erected at the existing structure of removed 132 KV LA,s
- (14) The LA's shall be erected at new location in the Substation at the incomer side of 132 KV line. The new foundation and tower structure for the three nos LA's shall be supplied erected and completed by the contractor and thereafter the removed LA's shall be installed. The existing boundary wall (Thick Wall) may be used for the LA's foundation / Grouting of Structure of LA's if found suitable or new foundation shall be provided/made by the contractor.
- (15) The required cables for interconnecting the CT's/PT's connections to the ABT meter installed in the control panel (To be installed in the switchyard) shall be provided by the contractor. The cables shall be provided of reputed makes / brands and shall meet the requirements

of RVPNL/AVVNL specifications. The GI pipes shall be used for laying the above cables in the grounds.

- (16) Any other item like junction boxes etc required as per site condition and any other material required but not mentioned here to complete the works in totality shall be included in the scope of work. No extra payment shall be made on any account in this regard
- (17) Any modification or strengthening of the tower structures shall be carried out (Including foundation) for installation of CT's, PT's etc.
- (18) The new tower structures and modified structures shall be galvanized and sections used shall be similar to the existing structures.
- (19) Dismantling of existing conductors for removal of existing PT's and LA's etc. After installing the new CT's, PT's and removed LA's, the conductors shall be connected to the above equipments. All required conductors, connectors / terminating ends/ jumpers etc for connection to the installed CT's/PT's/LA's etc shall be provided by the contractor. Any modification in the existing conductor's arrangement for connection to the installed items / equipments shall be carried out by the contractor without any extra cost.
- (20) Two nos earth pits (Chemical earthing) shall be supplied and provided in the Substation along with excavation. All the erected equipments by the contractor shall be suitably connected to the existing earth grid in the substation. The required size galvanized earth strips to be used for connections shall be in the contractor's scope.
- (21) All required civil, structural works shall also be in the contractor's scope. Any other material required for the installation / erection of CTs/PTs/LA's etc shall be included in the offered prices. No extra payment shall be made on any account.
- (22) After erection of CT's /PT, s /LA's the required statutory testing shall be carried out at site before energization of the system. The

- contractor will arrange all required testing arrangements / equipments for the same.
- (23) The required shutdown of the 132 KV System for installation of 132 KV items shall be provided by RSMML. However, the contractor will inform for the same at least 7 days in advance.
- (24) Portion of boundary along with fencing of 1.8 meter shall be provided /erected by contractor at the incoming end.
- (25) The contractor shall also make arrangements for inspecting and other officers of RVPNL / AVVNL at site for witness and final hand over of the installed ABT meters, CT/PT sets along with panel etc.
- (26) Approval for Energisation of equipments shall be required from DGMS (Elect) which shall be taken by RSMML. However all required test certificates, completion certificates and all other documents etc. required by DGMS shall be provided by contractor.

(B) Other terms & conditions.

- (1)Before submitting the offer, the bidders are advised to visit 132 KV Substation at Jhamarkotra mines to understand the scope of works clearly. Any missed out item / works shall not be the ground for claiming anything extra after submitting the offer against the tender. All the works are to be completed in totality for availing the open access for the captive adjustment of solar power.
- (2)All tools, tackles including cranes required for removal and erection of CT's, PT's; LA's etc shall be included in the scope of works of the contractor. The manpower and other required materials for transportation, removal of existing equipments and erection of items / materials at the substations shall be on contractors account.
- (3)All the transportation of material / items to be supplied along with loading, unloading etc shall be in the contractor's scope. Any supplied item / material damaged during transportation, erection,

testing, commissioning etc shall be replaced free of cost by the contractor.

- (4) RSMML shall not be responsible for any accident to the manpower of the contractor while carrying out the installation, testing and commissioning of the items to be installed as per scope of works or any other related works in this connection.
- (5) All the works shall be carried out following Indian electricity rules, acts safety regulations and standards.
- (6) All electrical works wherever required as per statutory guidelines shall be executed by the agency having valid A class Electrical Contractor License for executing the Electrical works in the state of Rajasthan.
- (7) The manufactures standard guarantee / warrantee certificates along with test reports duly witnessed by RVPNL / AVVNL inspectors shall be provided to RSMML. Four sets of all the drawings / manuals etc of all items / material supplied shall also be provided to the RSMML.
- (8) The makes of ABT meters, CT's, PT's etc to be supplied shall be from the approved vendor list of AVVNL/RVPNL and/or acceptable to the above authorities. All items / material shall be supplied as per latest applicable specifications of RVPNL/AVVNL and shall be acceptable to RVPNL/DISCOM's. Any technical requirements of RVPNL/AVVNL shall be fulfilled while completing the above works in totality.

Signature with Office Seal of tenderer

Place:
Date:

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

**TECHNICAL SPECIFICATION FOR 3 PHASE, 4 WIRE 0.2S CLASS AC
STATIC INTER UTILITY TARIFF TRIVECTOR METER FOR OPEN ACCESS
CONSUMERS/WIND/SOLAR/IPP GENERATORS.**

SCOPE

- 1.1 This specification covers the design, engineering, manufacture, assembly inspection, testing at manufacturer's works before dispatch, supply and delivery at site / FOR destination anywhere in Rajasthan of class 0.2S accuracy static HT trivector tariff meters as per requirement given in this specification. The meters shall be used for commercial / tariff metering for bulk and inter utility power flows as well for T&D loss calculation.
- 1.2 The meter shall be installed on various EHV lines as a self contained device for measurement of parameters in a programmable time clock initially set at 15 minute blocks. Meter shall also measure and display reactive energy (lag and lead) under voltage low (97%) and voltage high (103%) conditions as per tariff requirement. The meter shall also measure and display true cumulative energy import and export on daily and monthly basis.
- 1.3 Manufacturer should possess fully computerized meter test bench system for carrying out the relevant routine / acceptance tests as well facility to generate test reports for each and every meter tested.
- 1.4 The manufacturer should have duly calibrated Electronic Reference Standard (ERS) meter of accuracy class 0.02 or better.
- 1.5 The meter should be 3 phase 4 wire type suitable for connection to 3 phase 4 wire as well as 3 phase 3 wire system. The meter shall be capable of measuring in all the 4 quadrants. The meter should be capable of recording and displaying active, reactive and apparent energy and maximum demand for 3 phase 4 wire as well as 3 phase 3 wire AC balanced / unbalanced loads without affecting the accuracy for a power factor range of zero (lagging), unity and zero (leading) for export and import as per requirement given in this specification.
- 1.6 Meters shall be supplied alongwith related Basic Computer Software (BCS) as per details given in this specification. The meter shall have following features:
 - a) Modem interface connectable and compatible to MPLS/GPRS system for transfer of data to remote stations.

- b) For transfer of data, meter should have multiple communication ports for local reading and remote communication facility. It should support simultaneous communication over different ports.
- c) Individual meter should derive operating power from VT/CVT supply. It should operate normally on VT/CVT supply and automatically switch over to DC auxiliary supply. The provision of auxiliary supply of 220 V DC/110V DC should be made in the meter. The voltage regulation in the auxiliary supply shall be within +/- 20%.
- d) The meter should have facility for time synchronization with GPS clock or any other means for uniformity.

1.7 It is not the intent to specify completely herein all the details of the design and construction of material. The material shall, however, conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing for continuous commercial operation in a manner acceptable to the purchaser, who will interpret the meaning of drawings and specification and shall have the power to reject any work or material which in his judgement is not in accordance therewith. The offered materials shall be complete with all accessories, hardware, software and components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of bidder's supply irrespective of whether those are specifically brought out in this specification and / or the commercial order or not.

2.0 STANDARDS APPLICABLE

2.1 Unless otherwise specified elsewhere in this specification, the performance and testing of the meters shall conform to the following Indian / International Standards and all related Indian / International standards to be read with up to date and latest amendments/ revisions thereof:

S. No.	Standard No.	Title
1	IS 14697- 1999 with latest amendment	AC static transformer operated Watthour and VAR – Hour meters, class 0.2S & 0.5S.
2	CBIP Publication No. 304	Manual on Standardization of AC Static Electricity Energy

Meters.

To be referred for tests for immunity against AC & DC magnetic induction of external origin as per revised values given at Clause 4.6.4, Table – 17, Influence Quantities.

- | | | |
|---|--|---|
| 3 | IEC – 60687 – 2000
with latest amendment | AC static Watthour meters for active energy, class 0.2S & 0.5S. |
| 4 | CBIP Technical Report No. 111 with latest amendments. | Specification for Common Meter Reading Instrument. |
| 5 | IS – 9000
with latest amendment | Basic environmental testing procedures for electronic and electrical items. |
| 6 | IS 15959 – 2011 | Indian Standard – Data Exchange for Electricity Meter Reading, Tariff and Load Control – Companion Specification. |
| 7 | IEC – 61000 – 4 – 5 (2001 – 04)
with latest amendment | For Electro-magnetic compatibility – Testing and measurement techniques, surge immunity test. |
| 8 | IS – 15707:2006 | Specification for testing evaluation, installation and maintenance of AC Electricity Meters – Code of practice. |

2.2 The meters shall bear BIS Certification mark.

2.3 Meters matching with requirements of other national or international standards which ensure equal or better performance than the standards mentioned above shall also be considered. When the equipment offered

by the tenderer conforms to standards other than those specified above, salient points of difference between standards adopted and the standards specified in this specification shall be clearly brought out in the relevant schedule and copy of such standards alongwith their English translation shall invariably be furnished alongwith the offer.

3.0 CLIMATIC CONDITIONS:

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

- | | |
|--|-----------------|
| a) Maximum ambient air temperature in shade : | 50 deg.C. |
| b) Minimum temperature of air in shade : | (-) 5 deg.C |
| c) Maximum relative humidity : | 95% |
| d) Minimum relative humidity : | 10% |
| e) Height above mean sea level meters : | Upto 1,000 |
| f) Dust storms likely to occur : | March to July |
| g) Average number of thunderstorm days per annum : | 40 |
| h) Average No. of tropical monsoon (conditions) per annum. : | 4 months |
| i) Average rain fall : | 10 cm to 100 cm |

The temperature range and relative humidity for performance of meters shall be as per relevant standards.

4.0 PRINCIPAL PARAMETERS

- 4.1 Supply system:
- | | |
|----------------------|---|
| Rated voltage (Vref) | 3 x 110/ $\sqrt{3}$ V, phase to neutral |
| (Through PT) | (3 phase 4 wire system) |
| | 3 x 110 V, phase to phase |

Meter shall be programmed for

-/3x110 V (Phase – Phase)

-/3x110/ $\sqrt{3}$ V (Phase – Neutral)

Rated current (basic current, 3x -/1 Amps, or
Ib)

3x -/5 Amp as per requirement

(Connected through CT)

Multiplying factor to arrive at actual primary values wherever applicable, shall be calculated from the CT and PT ratio of the installed CTs and PTs.

5.0 GENERAL TECHNICAL REQUIREMENTS:

- 5.1 The micro processor based 3 phase 4 wire metering system shall conform to class 0.2S as per IS:14697-1999 and meter shall be draw – out type modular unit with facility of automatic CT shorting.
- 5.2 The active energy measurement (Wh) shall be carried out on 3 phase 4 wire principle with an accuracy as per class 0.2S of IS:14697-1999. In the meters, the energy shall be computed directly in CT/VT secondary quantities and indicated in Watthours. The meters shall compute the active energy (Wh) import and export from the sub station during each successive 15 minute block and store in its memory. It shall also display on demand the Wh import and export during the previous 15 minutes block.
- 5.3 Further, the meter shall continuously integrate and display on demand the accumulative active energy import and export from the sub station upto date & time. The cumulative Watthour reading at each midnight shall be stored in the meter memory. Separate register shall be maintained for active energy import and export.
- 5.4 The meter shall count the number of cycles in VT/CVT output during each successive 15 minute block and divide the same by 900 to arrive at the average frequency. This shall be available in the report generated as a two digit code, which shall be arrived at by subtracting 49 from the average frequency, multiplying by 50 and neglecting all decimals. For example 49.89 Hz. shall be recorded as 44. In case the average frequency is less than 49 Hz. it shall be recorded as 00. In case it is 51.0 Hz. or higher it shall be recorded as 99. The average frequency of the previous 15 minute block shall also be displayed on demand in Hertz.
- 5.5 The meter shall continuously compute the average of the RMS value (fundamental only) of the 3 phases to neutral VT/CVT secondary voltage and then display the same on demand.

- 5.6 The meter shall also compute the reactive power (VAr) on 3 phase 4 wire principle and integrate the reactive energy (VArh) algebraically in two separate registers, one for the period for which RMS voltage is 103% or higher and the other for the period for which the RMS voltage is below 97%. Limits of error shall conform to IS 14697 for class 0.5S. The current reactive power (VAr), with a minus sign if negative, and cumulative reactive energy (VArh) reading of the two registers shall be displayed on demand. The readings of the two registers at each midnight shall also be stored in the meter's memory. In the meter, the reactive power and reactive energy transmittals shall be computed in VAr / VArh directly calculated in VT/CVT and CT secondary quantities. When lagging reactive power is being sent out from the Sub Station, VAr display shall have no sign and VArh registers shall move forward. When reactive power flow is in the reverse direction, VAr display shall have a negative sign and VArh registers shall move backwards.
- 5.7 Four cumulative energy registers for reactive energy should be available on meter display.
- a) Reactive energy lag while active energy import.
 - b) Reactive energy lag while active energy export.
 - c) Reactive energy lead while active energy import.
 - d) Reactive energy lead while active energy export.
- 5.8 Each meter shall have a built in calendar in clock. The maximum drift permissible in the real time clock shall be +/- 2 minutes / year for 0.2 S class meters. The calendar and clock shall be correctly set at the manufacturer's works. The date (day - month - year) and time (hour - minute - seconds) shall be displayed on the meter front on demand. Clock adjustment shall be possible at site using the Common Meter Reading Instrument (CMRI) or remotely using time synchronization signal through modem and MPLS/GPRS system. For the purpose of getting standard time, the computer from where the meter will be read shall be equipped with GPS signal receiver.
- 5.9 Each meter shall have a unique identification code, which shall be marked permanently on the front as well as in its memory.
- 5.10 Each meter shall have a non volatile memory in which the following shall be automatically stored. The non volatile memory should retain data for a period not less than 10 years under un-powered condition. Battery back up memory will not be treated as NVM and shall not be accepted.

- 5.10.1 Average frequency for each successive 15 minutes block upto second decimal.
- 5.10.2 Wh transmittal during each successive 15 minutes block upto second decimal for import and export separately.
- 5.10.3 Cumulative Wh transmittal at each mid night.
- 5.10.4 Cumulative VArh transmittal for voltage high condition at each mid night.
- 5.10.5 Cumulative VArh transmittal for voltage low condition at each mid night.
- 5.10.6 Failure of VT supply on any one phase as a star (*) mark in load survey data.
- 5.11 The meters shall store all the above listed data in their memories for a period of 22 days. The data older than 22 days shall get erased automatically.
- 5.12 It shall be possible to obtain data from the meter in the following form.

<u>Date:</u> <u>Time</u>	<u>Frequenc</u> <u>y</u>	<u>Wh.</u> <u>(import)</u>	<u>Wh</u> <u>(Export)</u>	<u>Wh (Net)</u>
00: 15		12.22	25.22	-13.00
00:30		13.91	23.91	-10.00
-				
-				
-				
24:00		37.23	27.23	+ 10.00

- 5.13 All meters shall be totally identical in all respects except for their unique identification codes. They shall also be totally sealed with no possibility of any adjustment at site except for clock correction.
- 5.14 The meters shall safely withstand the usual fluctuation arising during faults, in particular ,115% of rated VT/CVT secondary voltage applied continuously and 190% of rated secondary voltage for 3 seconds, and 120 % of rated CT secondary current applied continuously and 20 times of maximum current applied for 0.5 seconds, shall not cause any damage to or the maloperation of the meters.

- 5.15 Individual meter should derive operating power from VT/CVT supply. It should operate normally on VT/CVT supply and automatically switch over to DC auxiliary supply when VT / CVT supply fails. The provision of auxiliary supply of 220 V DC/110V DC should be made in the meter. The voltage regulation in the auxiliary supply shall be within +/- 20%.
- 5.16 An automatic back up for the continued operation of the offered meters clock and calendar shall be provided through a long life battery which shall be capable of supplying the required power for atleast two years under meter un-powered conditions. The offered meters shall be supplied duly fitted with the battery that shall not be required to be changed for at least 10 years, as long as total VT interruption does not exceed two years.
- 5.17 Power Factor Range:

The meter shall be suitable for full power factor range from zero (lagging) through unity to zero (leading). The meter should work as an active energy import and export and reactive (lag and lead) energy meter.

5.18 Power Supply Variation

The meter should be suitable for working with following supply variations:

Specified operating range - 0.8 to 1.1 Vref.

Limit range of operation - 0.7 to 1.2 Vref

Frequency - 50 Hz ± 5 %.

5.19 Accuracy

Class of accuracy of the meter shall be 0.2S for active energy & 0.5S for reactive energy. The accuracy should not drift with time. The measurement of accuracy of the parameters shall be as under:

<u>Parameter</u>	<u>Accuracy class of meter</u>
	0.2S
Wh -	0.2
VArh -	0.5

5.20 Power Consumption

- i) Voltage Circuit: The active and apparent power consumption in each voltage circuit including the power supply of meter at reference voltage, reference temperature and reference frequency shall not exceed 1.5 Watt per phase and 10 VA per phase respectively.
- ii) Current Circuit: The apparent power taken by each current circuit at basic current, reference frequency and reference temperature shall not exceed 1 VA per phase.

5.21 Starting Current

The meter should start registering the energy at 0.1% I_b at unity power factor.

5.22 Maximum Current

The rated maximum current of the meter shall be 120% I_b .

6.0 GENERAL AND CONSTRUCTIONAL REQUIREMENTS

6.1 Meters shall be designed and constructed in such a way so as to avoid causing any danger during use and under normal conditions. However, the following should be ensured:

- a) Personnel safety against electric shock
- b) Personnel safety against effects of excessive temperature.
- c) Protection against heat & spread of fire.
- d) Protection against penetration of solid objects, dust and water.
- e) Protection against radio interference.
- f) Protection against electro-magnetic & electro-static fields.
- g) Protection against shock & vibration.
- h) Protection against fraud.
- i) Prevention against pilferage.

6.2 All the material and electronic power components used in the manufacture of the meter shall be of highest quality and reputed make to ensure higher reliability, longer life and sustained accuracy.

6.3 The meter shall be designed with application specific non-editable integrated circuits/microprocessors. The electronic components shall be mounted on the printed circuit board using latest technology.

- 6.4 All insulating materials used in the construction of meters shall be non-hygroscopic non-ageing and of tested quality. All parts that are likely to develop corrosion shall be effectively protected against corrosion by providing suitable protective coating.
- 6.5 Each meter shall have a test output device (visual) for checking the accuracy of active energy (Wh) and reactive energy (VARh) measurement using a suitable test equipment. The test output shall not be software configurable. It should be possible to select the output for active energy import / export and reactive energy lag / lead by operation of the push button(s)/ keypad provided on the meter for scrolling through the menu / display.
- 6.6 The meter shall have an operation indication device such as a blinking LED/LCD. The operation indicator shall be visible from the front window. Separate indicators shall preferably be provided for Wh & VARh pulse indication. In case only one indicator is provided, it should be possible to select Wh or VARh pulse with the use of push buttons/ keypad/ menu selection provided on the meter (access through software should not be required).
- 6.7 The meter shall be suitable for being connected through test terminal blocks to the voltage transformer having a rated secondary line to neutral voltage of $110/\sqrt{3}$ V and to current transformers having a rated secondary current of 1A or 5A as per requirement. Any further transformers / transducers required for their functioning shall be in-built in the meters. Necessary isolation and / or suppression shall also be built-in for protecting the meters from surges and voltage spikes that may occur in the VT/CVT/CT circuits of the EHV switchyards.
- 6.8 A keypad / Push buttons(s) shall be provided on the front of the main control module for switching on the display of the metering module / parameters selected and for changing from one indication to the next. Menu driven or other forms of display can also be accepted provided they meet RVPN requirements. Such arrangements shall be demonstrated and got approved from RVPN.
- 6.9 The meter shall have communication facilities as per IS 15959 – 2011: Indian Standard – Data Exchange for Electricity Meter Reading, Tariff and Load Control – Companion Specification.
 - a) It shall also be possible to retrieve on line simultaneously data through communication port and CMRI/Pen Drive through USB Port.
 - b) The meter shall be provided with the following ports:
 - i) RS 485 port for periodic data transfer to Sub Station data logger / Computer. RS 485 communication port shall be

suitable for interfacing multiple Energy Meters. It shall be possible to download stored meter data on polling basis with the aid of a software schedule by addressing one meter at a time and downloading the stored data into the Sub Station data logger / Computer / Data Acquisition Server.

- ii) Network port (TCP / IP based) for periodic transfer through communication medium MPLS/GPRS to the Data Acquisition Server.
- iii) Galvanically isolated optical communication port in front of the meter for data transfer to or from a hand held data Collection Device (Common Meter Reading Instrument 'CMRI') – conforming to IEC 62056 or CBIP Technical Report No. 111.
- iv) A USB port which will be an integral part of meter and available at front side of meter covered suitably for sealing purpose. This USB port shall support reputed make pen-drive for reading the meter data as an alternate media for CMRI meter reading from optical port. The Base Computer Software should be able to schedule the pen drive for meter reading. The protocol used shall be open (DLMS).

c) It should support simultaneous communication over different ports.

6.10 The 15 minute block wise data (energy, anomaly, average parameters, etc.) in the meter shall be required to be communicated to a common central station of the RVPN metering scheme. The communication with the meter shall be as described at 6.9 above. The meter shall be capable of such communication.

6.11 Each meter shall have an optical galvanically isolated communication port compatible to RS 232 on its front/USB Port for tapping all data stored in its memory. The communication protocol should be open as per DLMS, IS 15959-2011. Common Meter Reading Instruments (CMRI)/Pen Drive shall be used for this purpose as per requirement to serve as interface between the meters specified above and data acquisition server. The overall intention is to tap the data stored in the meter memory ON LINE using the modem and a remote central computer through

MPLS/GPRS system and the CMRI/Pen Drive as a back up in case of break down of the communication system. It shall also be possible to obtain a print out (hard copy) of all data collected from the meters using the PC. Remote meter reading software shall be supplied by the bidder.

- 6.12 The meter shall conform to the degree of protection IP 51 of IEC 60687 for protection against ingress of dust, moisture and vermin.
- 6.13 The meter-base, meter-cover, terminal block shall be made of unbreakable, high grade, fire-resistant, reinforced, non-inflammable, high grade and good quality engineering plastic / suitable material to ensure safety. The manufacturer shall clearly indicate the material used.
- 6.14 The meter cover shall have one window. The window shall be of transparent, UV stabilized polycarbonate or equivalent high grade engineering plastic for easily reading all the displayed values/parameters, name plate details and observation of operation indicator. The window shall be ultrasonically welded with the meter cover such that it cannot be removed undamaged without breaking the meter cover seals.
- 6.15 The terminal block shall be of high grade non hygroscopic, fire retardant, low tracking, fire-resistant, high grade engineering plastic (not bakelite) which should form an extension of the meter case, meeting the requirement of clause No.6.4 of IS 14697/ Clause No. 4.2.4 of IEC 1036-1996.
The current circuit conductors of a meter shall be connected to its current terminals inside the meter terminal block adopting any of the recommended methods given in clause 6.4 – Annexure B of IS-13779 – 1999.
- 6.16 The manner of fixing the conductors to the terminal block shall ensure adequate and durable contact such that there is no risk of loosening or undue heating. Screw connections transmitting contact force and screw fixings which may be loosened and tightened several times during the life of the meter shall screw into a metal nut. All parts of each terminal shall be such that the risk of corrosion resulting from contact with any other metal part is minimized. Two screws shall be provided in each current terminal for effectively clamping the external leads of thimbles. Each screw shall engage at least 3 threads in the terminal. The ends of screws shall be such as not to pierce the conductor. Electrical connections shall be so designed that contact pressure is not transmitted through insulating material. The internal diameter of the terminal holes shall be 5.5 mm. The clearances and creepage distances shall conform to clause 6.6 of IS 14697 -1999.

Minimum center to center clearance between adjacent connections shall be 13.5 mm.

- 6.17 In case of the terminal block and the meter case, reasonable safety shall be ensured against the spread of fire. The material should not be ignited by thermic overload of live parts in contact with them.
- 6.18 The meter shall be compact in design. The entire design and construction shall be capable of withstanding stresses likely to occur in actual service and rough handling during transportation. The meter shall be convenient to transport and immune to shock and vibrations during transportation and handling.
- 6.19 SEALING OF THE METER:
- a) Reliable sealing arrangement should be provided to make the meter tamper - proof and to avoid tampering by unauthorized persons.
 - b) The body / cover of the meters shall be sealed by the manufacturer at his works. In addition, one more body / cover sealing point shall be provided for sealing the meters after installation.
 - c) Two Nos. sealing points shall be provided for sealing the meter terminal cover.
 - d) One sealing point shall also be provided for each communication port.
 - e) One sealing point shall also be provided for the MD reset button (if such button is provided).
 - f) A tracking and recording software for all new seals shall be provided by the manufacturer of the meters so as to track total movement of seals starting from manufacturing, procurement, storage, record keeping, installation, series of inspections, removal and disposal.
 - g) Only the patented seals (seal from the manufacturer who has official right to manufacture the seal) shall be used.
 - h) Polycarbonate or acrylic seals or plastic seals or holographic seals or any other superior seal shall be used. Lead seals shall not be used in the meters.
 - i) Rear side sealing arrangement will not be preferred, unless specifically agreed to.

6.20 MARKING OF METER :

The meter terminal marking and mounting arrangement should be as per Indian installation practices. The marking on every meter shall be in accordance with IS 14697-1999 / IEC 60687-2000.

Every meter shall have name plate beneath the meter cover such that the name plate cannot be accessed without opening the meter

cover and without breaking the seals of the meter cover. The name plate shall be marked indelibly. The name plate marking should not fade or otherwise be adversely affected by UV exposure with lapse of time. The basic markings on the meter name plate shall be as follows:-

- i. Manufacturer's name and trade mark.
- ii. Type designation.
- iii. Number of phases and wires.
- iv. Serial Number.
- v. Month and year of manufacture.
- vi. Reference voltage and PT ratio.
- vii. Rated secondary current of CT (-/1 A) or (-/5 A) as per requirement.
- viii. Principal unit(s) of measurement.
- ix. Meter constant (Imp/kWh, Imp/kVArh).
- x. Class index of meter.
- xi. Guarantee period.
- xii. BIS Certification Mark.
- xiii. ABT Meter.

6.21 Connection Diagram And Terminal Markings :

The connection diagram of the meter for 3 phase 4 wire system as well as 3 phase 3 wire system shall be clearly shown on meter body. The meter terminals shall also be marked and this marking should appear in the above diagram.

6.22 SOFTWARE:

Licensed copy of the following software shall be supplied in addition to those installed on CMRI and BCS by the supplier without extra cost. The supplier shall provide free demonstration regarding installation and use of the above software.

- a) Software for reading, down loading data, time setting in the meter to be installed in the Common Meter Reading Instrument (CMRI).

The software shall be suitable for Windows or higher version. The software shall be installed in the CMRI as well as supplied separately in the form of CDs. Software should be suitable and

configurable to other kinds of tariff within the recorded parameters / data provided by the meter.

Time setting and ABT programming should be enabled at Basic Computer System under multi level password protected security system for specified meter(s).

- b) Windows based Basic Computer Software (BCS) for receiving data from CMRI/Pen Drive through USB port and from meter directly through RS 485 port and optical port or other specified communication system and downloading/programming instructions from base computer to CMRI/ Pen Drive through USB port. This BCS should have, amongst other requirements and features and facilities described in detail in the specifications for CMRI, the facility to convert meter reading data into user definable ASCII format so that it may be possible for the user to integrate the same with the user's billing data and process the selected data on line in desired manner. The necessary demonstration and documentation for this purpose shall also be provided free of charge.
- c) Necessary software for loading application program via CMRI serial port shall be made available separately.
- d) Any other special application software of the manufacture for the meter.

Any future upgradation made by the bidder in any of the above software shall also be provided free of cost.

7.0 SALIENT FEATURES:

The meter shall have the following additional salient features:

- 7.1 The 3 line to neutral voltages shall be continuously monitored by individual phase wise LEDs or by any other indications. In case any of these voltages falls below 60%, the normally flashing / steady lamp / indication provided on the meters front becomes steady/off. The time blocks in which such a voltage failure occurs/persists shall also be recorded in the meter's memory. The indication shall automatically resume normal function when corresponding VT secondary voltage is healthy again. The two VARh

registers specified in clause 5.6 shall remain stay put while VT supply is unhealthy.

- 7.2 Individual meter should drive operating power from VT/CVT supply. It should operate normally on VT/CVT supply and automatically switch over to DC auxiliary supply when VT supply fails. The provision of auxiliary supply of 220 V DC/110V DC should be made in the meter. The voltage regulation in the auxiliary supply shall be within +/- 20%.
- 7.3 The meters should be provided with pulse output coincident with end of its demand period.
- 7.4 The meter should have LCD multiple display with backlit/LED and should have page wise display of multiple parameters with option of configuration favorite parameters under the favorite page.
- 7.5 It should be possible to check the healthiness of phase voltages by displaying all the voltages on the meter display.
- 7.6 The meter should work accurately irrespective of phase sequence of the mains supply.
- 7.7 It should be possible to check the correctness of connections of CT/VT/CVT to the meter with proper polarity. This feature may be made available on the meter display or on CMRI. For this purpose, suitable software for field diagnosis of meter connections with the help of meter and CMRI should be supplied as per Annexure – G – 15 of IS 14697-1999.
- 7.8 The meter should continue to record accurately as per prevailing electrical conditions even if the neutral of potential supply gets disconnected.
- 7.9 The meter shall be provided with adequate magnetic shielding so that any external magnetic field (AC electro magnet or DC magnet) as per the values specified in CBIP Publication No. 304 (with latest amendments) applied on the meter shall not affect the proper functioning and recording of energy as per error limits prescribed by CBIP.
- 7.10 It shall not be possible to change the basic meter software by any means in the field. Moreover, critical events like time set, MD reset operation and tariff change shall be logged by the meter. Such events shall be logged in roll over mode for minimum ten events.
- 7.11 Display Of Measured Values:
 - a) The measured value(s) shall be displayed through Liquid Crystal Display (LCD backlit) or Light Emission Diode (LED) display.
 - b) The data should be stored in Non Volatile Memory. The non volatile memory should retain data for a period of not less than

10 years under un-powered condition. Battery backup memory will not be considered as NVM.

- c) It should be possible to easily identify the single or multiple displayed parameters through symbols / legend on the meter display itself or through display annunciator. A separate legend plate indicating the symbols shall be supplied by manufacturer along with each meter.
- d) The register shall be able to record and display, starting from zero, for a minimum of 1500 hours, the energy corresponding to rated maximum current at reference voltage and unity power factor for CT ratio up to 1000/1A for 1 Amp meters and for PT ratio up to 400 KV/110 V. The register should not roll over in between this duration.
- e) Any interrogation/read operation shall not delete or alter any stored meter data. The meter should continue to read & store data even during simultaneous interrogation/read operation through BCS/CMRI/Pen Drive through USB port and should not stop working on this account.

7.12 Meter Serial Number:

In addition to providing serial number of the meter on the display plate, the meter serial number shall also be programmed into meter memory for identification through CMRI /Pen Drive meter reading print out and optionally on meter display.

7.13 Display Sequence:

The meter shall display the required parameters on suitable selection through key pad or push button(s) or menu selection.

- a) LED / LCD segment check.
- b) Real time – Hour, Minutes, Seconds.
- c) Date – dd, mm, yy.
- d) Meter serial number.
- e) Power On hours.
- f) Cumulative MD reset count.
- g) Active energy import (Wh on 15 minutes block basis for previous block)

- h) Active energy export (Wh on 15 minutes block basis for previous block)
- i) Average frequency of previous block in Hz.
- j) Average voltage.
- k) Cumulative Reactive energy for voltage high condition. (i.e., net VARh when RMS voltage is $\geq 103\%$ Vn).
- l) Cumulative Reactive energy for voltage low condition. (i.e., net VARh when RMS voltage is $< 97\%$).
- m) Energy registers of active, reactive and apparent energies for True import / export cumulative readings :
 - i) Cumulative Active energy import (Wh).
 - ii) Cumulative Active energy export (Wh).
 - iii) Cumulative Reactive energy lag (VARh lag) while Wh import.
 - iv) Cumulative Reactive energy lag (VARh lag) while Wh export.
 - v) Cumulative Reactive energy lead (VARh lead) while Wh import.
 - vi) Cumulative Reactive energy lead (VARh lead) while Wh export.
 - vii) Cumulative Apparent energy (VAh) while Wh import.
 - viii) Cumulative Apparent energy (VAh) while Wh export
 - ix) High resolution energy registers (Minimum 4 digits after decimal).
 - i) Wh - **.****
 - ii) VARh lag - **.****
 - iii) VARh lead - **.****
 - iv) Vah - **.****

Note: If energy readings upto 4 decimal or more digits are provided on the main registers, then high resolution energy registers as given at sequence (m (ix)) will not be required separately. Alternatively, the same can be given on the CMRI.

- n) Instantaneous power factor with sign for lag / lead.
- o) Cumulative maximum demand (VA)
- p) Instantaneous phase voltage.
 - i) R phase voltage
 - ii) Y phase voltage

- iii) B phase voltage
- q) Instantaneous line currents (Amps.)
 - i) R phase line current
 - ii) Y phase line current.
 - iii) B phase line current
- r) Frequency
- s) Phase sequence of voltages.
- t) Detailed phase wise anomaly information should, however, be logged in the meter memory and be available for downloading to the BCS directly and through the CMRI.
- u) VARh import during the block when voltage was less than 97% of nominal voltage.
- v) VARh export during the block when voltage was more than 103% of nominal voltage.
- w) Instantaneous load in
 - i) W
 - ii) VA
 - iii) VAR
- x) Maximum demand in VA / W since last reset.
- y) Anomaly data:
 - i) Present status of anomaly
 - a) Missing potential with phase identification
 - b) CT polarity reversal with phase identification
 - c) Current unbalance.
 - ii) Date and time of last anomaly occurrence with type of anomaly.
 - iii) Date and time of last anomaly restoration with type of anomaly.
 - iv) Cumulative anomaly count of all types of anomalies and all phases.

Detailed phase wise anomaly information should, however, be logged in the meter memory and be capable of down loading through the BASIC COMPUTER SOFTWARE through the CMRI and be available for viewing.

7.14 Output Device :

The meter shall have a test output accessible from the front and be capable of being monitored with suitable testing equipment. The operation indicator, if fitted, must be visible from the front. Test output device shall be provided in the form of one common LED / LCD for Wh & VARh with the provision of selecting the parameter being tested by the use of the keypad / push button(s)/ menu selection. Alternatively, test output device in the form of separate LEDs / LCDs for Wh & VARh is also acceptable.

The relation between test output and the indication on display shall comply with the marking on the name plate (impulse per Wh/VARh).

The manufacturer shall state the necessary number of pulse count(s) to ensure measurement accuracy of at least 1/10th of class of the meter at the different test points.

The resolution of the test output pulse(s) should be sufficient to enable conduction of the starting current test in less than 10 minutes and accuracy test at the lowest load with desired accuracy within 5 minutes.

7.15 Time Synchronization:

The meter shall support one minute advance and retard command from CMRI Port through password protected security system which shall be adjusted in six 15 minutes blocks with an adjustment of 10 seconds each block. If one time advance/ retard command is accepted, then meter shall not accept time adjustment command for next seven days. The clock adjustment correction shall be registered in the meter's memory and suitably shown on print out of load survey data. The time synchronization should also be possible from remote through communication port(s) of the meter using time synchronization signal received through MPLS system and modem.

7.16 Maximum Demand (MD) registration:

The meter shall continuously monitor and calculate the average demand in VA/ W during the integration period set, and the maximum out of these shall be stored in the meter memory along with date and time when it occurred. The maximum registered value shall also be made available on meter display.

The integration period shall be set as 15 minutes on real time basis which shall be capable of being changed to other integration period also, if required.

The principal of maximum demand calculation used by the bidder should be explained in the offer.

A pulse output coincident with end of each demand period shall be provided in the meter.

7.17 Maximum demand reset:

Facility for auto reset of MD at predefined date and time shall be provided. The meter shall display the maximum demand reset count.

7.18 Load survey capability and billing point requirements:

The meter shall be capable of recording following data for 15 minutes integration period for at least last 22 days.

- a) Wh Import.
- b) Wh Export.
- c) VARh Lag when Wh is Import.
- d) VARh Lag when Wh is Export.
- e) VARh Lead when Wh is Import.
- f) VARh Lead when Wh is Export.
- g) VAh when Wh is Import.
- h) VAh when Wh is Export.
- i) VARh Import when voltage was less than 97%.
- j) VARh Export when voltage was more than 103 %.

The meter shall also be capable of recording the 15 minute average values of the following data for at least last 22 days.

- i) W Import.
- ii) W Export.
- iii) VA Import.

- iv) VA Export.
- v) All the three phase voltages i.e. RN, YN and BN.
- vi) All the three phase currents i.e. R, Y & B.
- vii) Power Factor.
- viii) Frequency

It shall be possible to select either demand or energy view in the Basic Computer Software.

The average frequency should be logged with a marking of time advance / retard and voltage low event if occurred in that survey integration period. Voltage low marking should be locked when average voltage goes below 60% of Vref.

The load survey data should be available in the form of bar charts as well as in spread sheets. The Basic Computer Software shall have the facility to give the complete load survey data both in numeric and graphic forms.

The figures of 24 hourly Wh import, Wh export and VAh import, VAh export should also be made available under each date in the load survey or otherwise, it should be possible to calculate such figures through Basic Computer Software.

The predefined date and time for registering the billing parameters of Wh import, Wh export, VAh import, VAh export, PF import, PF export and VA MD import, VA MD export shall be 00.00 hours of the first day of each calendar (billing) month. All billing parameters shall be transferred to billing registers and shall be displayed on display mode referred to as 'BILLING PARAMETERS'.

The above billing data, load survey data, anomaly information and instantaneous parameters data shall all be retrievable as stored in the preset cyclic order through the meter's communication ports through a Common Meter Reading Instrument (CMRI) and the other communication ports. It shall be possible to transfer (download) this data to a PC with windows based software to get complete details in numerical and graphic forms. The necessary Basic Computer Software (BCS) for this purpose shall be provided

by the bidder with complete details. The 15 minute data required for on line transmission to the RVPN metering scheme through the communication ports shall be as given at clause 7.26. However, the software/tool required for obtaining the information through the communication ports of the meter as above shall be supplied by the manufacturer.

Further, apart from instantaneous parameters like voltage, current, PF and readings of billing parameters, energy registers, etc., the following additional parameters should be made available at the Basic Computer Software end:

- a) Meter programming count.
- b) MD reset count.
- c) Billing parameters for last three months.

7.19 Harmonics measurements:

The meter should be capable of measuring fundamental energy as well total energy, i.e., fundamental plus harmonics energy. Fundamental energy should be made available on meter display and the same only shall be used for billing purpose.

The supplier shall indicate the sampling rate so that it shall be sufficient for the user to determine the accuracy of total energy.

The values of total energy shall be made available either on meter display or on CMRI with proper resolution.

The total energy (fundamental plus harmonic energy) shall be logged in the meter memory and be capable of down loading to the BCS directly or through the CMRI.

7.20 Self Diagnostic Feature:

The meter shall be capable of performing complete self diagnostic check to monitor the circuits for any malfunctioning to ensure integrity of data memory location all the time.

The meter shall have indications for unsatisfactory / non – functioning / malfunctioning of the following as per the requirement under G 19 of IS 14697:

- a) Time and date, and
- b) All display segments.

The meter shall have indications for unsatisfactory / non – functioning of the following as per clause 6.10 of the CBIP Publication No. 304.

- a) Time and Calendar
- b) Real Time Clock
- c) RTC Battery
- d) Non – Volatile Battery

The details of malfunctioning of time and date should be recorded in the meter memory. The details of self diagnostic capability feature should be furnished by the bidder.

7.21 Tamper and Anomaly detection features:

The meter should have features to detect the occurrence and restoration of at least the following common ways of tamper/anomaly:

- a) Missing potential: The meter shall be capable of detecting and recording occurrences and restoration of missing potential (1 phase or 2 phases) which can happen due to intentional / accidental disconnection of potential leads, along with the total number of such occurrences for all phases. Absence of one or more phase voltage from mains side should not be recorded as missing potential.
- b) CT polarity reversal: The meter shall be capable of detecting and recording occurrences and restoration of CT polarity reversal of one or more phases.
- c) CT Short (Bypass) / Open: The meter shall be capable of detecting and recording occurrences and restoration of shorting (bypassing) / opening of any one or two phases of CT when the meter is connected to a 3 phase 4 wire system. This feature shall not be available if and when the meter is connected to a 3 phase 3 wire system.
- d) Current and voltage unbalance: The meter shall be capable of detecting and recording occurrences and restoration of current and voltage unbalance separately as an anomaly event.

Snap shots (numerical values) of voltage, current, power factor and energy (Wh/kWh) readings as well as the date and time of logging of the occurrence and restoration of all anomaly events,

subject to meter memory space as described herein under, should be logged in the meter memory and available for retrieving through the meter's optical port via CMRI and downloading to the Basic Computer Software.

- e) Power On/Off: If all the voltages are not available, power OFF event should be logged, and power ON event should be logged when supply is available. The power on and off event should be logged with date and time.

Minimum hundred (100) events (occurrence and restoration) of all types of anomaly with date and time shall be available in the meter memory on first-in, first-out basis. It shall be possible to retrieve the anomaly data along with all related snap shots data through the meter's optical port with the help of communication system available and download the same to the Basic Computer Software where it shall be available for viewing. All this information shall be available in simple and easily understandable format.

7.22 Anomaly detection logic:

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

The threshold values and logic for voltage, current and PF, etc. for the purpose of logging occurrence and restoration of various types of anomalies are given below at clause 7.23.

7.23

S.No.	Tamper event with date and time	Occurrence	Restoration
1	Missing Potential :		
a)	Voltage	<20% Vref	>40% Vref
b)	Line current	>10 % Ib	Ignored
c)	Persistence Time	5 Min.	120 Seconds
Notes : 1)	Missing potential should be phase wise.		

S.No.	Tamper event with date and time	Occurrence	Restoration
2)	Absence of one or more phase voltages from supply side should not be recorded as missing potential.		
2.	CT Polarity Reversal : (Phase wise)		
a)	Line current in tampered phase	>5% Ib(Current direction negative)	Current direction becomes positive
b)	Power Factor	>0.2	Not applicable
c)	Persistence Time	5 Min.	120 Seconds
Notes : 1)	Current reversal detection will be phase wise.		
3	Current Short / Bypass:		
a)	Vector sum of line currents	$(I_R + I_Y + I_B) > 20\% I_b$	$(I_R + I_Y + I_B) < 5\% I_b$
b)	Persistence Time	5 Min.	120 Seconds
Notes : 1)	Current Short / Bypass detection shall be phase wise.		
4	Current Unbalance:		
a)	Max. Current – Min. Current	> 5% Ib	<1% Ib
b)	Persistence Time	5 Min.	120 Sec.

S.No.	Tamper event with date and time	Occurrence	Restoration
5	Voltage Unbalance		
a)	$\frac{\{(\text{Max. Voltage}-\text{Min. Voltage}) \times 100\}}{\text{Avg. Voltage}}$	> 5% Vref.	<1% Vref.
b)	Persistence Time	5 Min.	120 Sec.
Note: Any temper event will be logged only when the meter senses all respective threshold conditions.			

7.24 There shall be four separate compartments for logging of different type of anomalies as follows:

Compartment No.1 :

25% of total anomaly memory space shall be allocated for the following current related anomalies:

- CT polarity reversal
- CT open circuit
- CT short (by pass)

Compartment No.2:

25% of total anomaly memory space shall be allocated for missing potential and voltage unbalance anomalies.

Compartment No.3 :

50% of total anomaly memory space shall be allocated for current unbalance anomalies.

Compartment No.4 :

Twenty (20) events of power ON / OFF.

The logging of various anomalies in each compartment should be as under:

Once one or more compartments have become full, the last anomaly event pertaining to the same compartment will be entered and the earliest (first one) anomaly event should disappear. Thus, in this manner each succeeding anomaly event will replace the earliest recorded event, compartment wise. Events of one compartment/category should overwrite the events of their own compartment/ category only.

Anomaly count should increase as per occurrence (not restoration) of anomaly events. The total number of anomaly counts should also be provided on the meter display as well as at the Basic Computer Software end.

7.25 Anomaly Persistence Time:

The persistence time for logging/registration of an occurrence of an anomaly should be 5 minutes \pm 10 seconds. The persistence time for logging of restoration of anomaly should not be more than 120 seconds.

7.26 Transmission of Data:

The following parameters (15 minutes block time) are required to be transmitted from the ABT meters to the CBS.

Load Survey Parameters :- The parameters listed below in this Table are for load survey purpose and are logged as per the block period time i.e 15 minutes for which the data storage will be 22 days.

S.No.	Parameters
1	Real time clock, date and time.
Average Value of 15 minutes block period.	
1	Frequency
2	Voltage V_{RN}
3	Voltage V_{YN}
4	Voltage V_{BN}
Actual Energy consumption during 15 minutes Time Block	

1	Energy – Active Import
2	Energy – Net active energy
3	Energy - Active Export
4	Energy kVarh, Quadrant -I
5	Energy kVarh, Quadrant -II
6	Energy kVarh, Quadrant -III
7	Energy kVarh, Quadrant -IV

Daily Load Profile Parameter :- The parameters listed below in the Table are meant for billing purpose and shall be logged at mid night (00.00 Hours). The storage time for these parameters is 22 days.

S.No.	Parameters
1	Real time clock, date and time.
2	Cumulative energy, kWh (Import)
3	Cumulative energy, kWh (Export)
4	Cumulative energy, kVAh while kW import
5	Cumulative energy, kVAh while kW Export
6	Reactive energy high (V > 103 percent)
7	Reactive energy low (V < 97 percent)
8	Cumulative energy, kVarh, Quadrant-I
9	Cumulative energy, kVarh, Quadrant-II
10	Cumulative energy, kVarh, Quadrant-III
11	Cumulative energy, kVarh, Quadrant-IV

The following parameters shall also be available for transmission through the communication ports indicated at clause 6.10.

a) Instantaneous Parameters:

i)	Real Time Clock –	ii)	Current – IR
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	Date and Time		
iii)	Current - IY	iv)	Current - IB
v)	Voltage - VRN	vi)	Voltage - VYN
vii)	Voltage - VBN	viii)	Voltage - VRY
ix)	Voltage - VBY	x)	Signed Power Factor - R Phase
xi)	Signed Power Factor - Y Phase	xii)	Signed Power Factor - B Phase
xiii)	Three Phase Power Factor - PF	xiv)	Frequency
xv)	Apparent Power - kVA	xvi)	Signed Active Power - kW (+ Import; - Export)
xvii)	Signed Reactive Power - kVAr (+ Lag; - Lead)	xviii)	Cumulative Energy - kWh (Import)
xix)	Cumulative Energy - kWh (Export)	xx)	Cumulative Energy - kVAh (Import)
xxi)	Cumulative Energy - kVAh (Export)	xxii)	Number of Power Failures
xxiii)	Cumulative Power Failure Duration	xxiv)	Cumulative Tamper Count
xxv)	Cumulative Billing Count	xxvi)	Cumulative Programming Count
xxvii)	Billing Date		

7.27 Accuracy Requirement:

The accuracy of parameters measured by meters shall be tested in accordance with the relevant standards described in clause 2.0 of this specification. For apparent energy, accuracy testing shall be done in accordance with the provisions of annexure G 7 of IS 14697-1999. Time accuracy of the meter should be as per annexure G 18 of IS-14697-1999.

7.28 Electrical Requirement:

The electrical requirement of meter shall be as specified in the relevant standards described in clause 2.0 of this specification.

7.29 Electro Magnetic Compatibility And Interference Requirements:

The meter shall meet EMI / EMC requirements as specified in the relevant standards described in clause 2.0 of this specification.

7.30 Mechanical Requirement:

The meter shall meet the mechanical requirements as specified in the relevant standards described in clause 2.0 of this specification.

7.31 Climatic Influence Requirement:

The meter shall meet dry heat / cold / damp heat cyclic test requirements as per the relevant standards described in clause 2.0 of this specification.

8.0 LIFE EXPECTANCY:

The meter shall be designed to meet the life expectancy of 20 years.

9.0 TESTS FOR THE METER:

9.01 TYPE TESTS

The energy meters offered shall be fully type tested at NABL accredited Test Laboratories as per relevant standards described in clause No. 2.0 of the specification. The bidder must furnish **one** set of type test reports in respect of AC static HT trivector meter of 0.2S accuracy class of both current ratings alongwith the bid. These type tests must not have been conducted earlier than seven

years from the date of opening of bid. Bids without type test reports will be treated as non responsive.

- 9.02 Names of Competent Laboratories as given in the CBIP Publication no. 304 (National Physical Laboratory or Laboratory accredited by NABL, India for the particular testing) where type tests can be conducted are listed below:

No.	Short Name	Full Name of Testing Laboratories
1	NPL	National Physical Laboratory, New Delhi
2	CPRI (Bangalore)	Central Power Research Institute, Bangalore
3	CPRI (Bhopal)	Central Power Research Institute, Bhopal
4	ERTL (N)	Electronics Regional Test Laboratory (North), New Delhi
5	ERTL (E)	Electronics Regional Test Laboratory (East), Kolkata
6	ERDA	Electronics Research &Development Association, Vadodara
7	ETDC (Chennai)	Electronics Test & Development Centre, Chennai
8	YMPL	Yadav Measurements Private Ltd., Udaipur
9	SML	Secure Meters Ltd., Udaipur
10	Torrent Power	Torrent Power Ltd., Ahmedabad
11	MPSE	MPS Electrical Test Laboratory, L&T Ltd., Mysore

9.03 TYPE TESTS REPORTS SHALL BE FURNISHED ALONGWITH OFFER, AS PER RELEVANT STANDARD NO. 14697 – 1999/ IEC 687- 1992/ CBIP PUBLICATION NO. 304 / IS – 9000, FOR THE FOLLOWING.

a) Test of insulation properties

- i) Impulse voltage test
- ii) AC High voltage test
- iii) Insulation test

b) Test of accuracy requirement

- i) Tests on limits of error
- ii) Test on starting condition
- iii) Test on no load condition
- iv) Test of Ambient Temperature influence
- v) Test of repeatability of error
- vi) Test of influence quantities

c) Test of electrical requirement

- i) Test for power consumption
- ii) Test for influence of supply voltage
- iii) Test of influence short time over current
- iv) Test of influence of self heating
- v) Test of influence of heating

iv) Test of electromagnetic compatibility

- i) Radio interference measurement
- ii) Fast transient burst test
- iii) Test of immunity to electrostatic discharges

- iv) Test of immunity to electromagnetic HF field
- v) Test for climatic influences
 - i) Dry heat test
 - ii) Cold test
 - iii) Damp heat cyclic test
- vi) Test for mechanical requirements
 - i) Vibration test
 - ii) Shock test
 - iii) Spring hammer test
 - v) Protection against penetration of dust and water
 - vi) Test of resistance to heat and fire

9.04 Tests Before Dispatch:

The AC static HT trivector meter shall be subjected, at the manufacturer's works before dispatch, to the following tests as per ISS / IEC / CBIP Publication No. 304 described in clause No. 2 of the specification.

ACCEPTANCE TESTS ON EACH UNIT AS PER RELEVANT STANDARD NO. IS 14697-1999/ IEC 60687-2000 / CBIP PUBLICATION NO. 304 / IS - 9000:

- i) AC Voltage test
- ii) Insulation resistance test
- iii) Tests of limits of errors
- iv) Test of meter constant
- v) Test of starting condition
- vi) Test of no load condition
- vii) Repeatability of error test

viii) Test of power consumption

9.05 Routine / Acceptance Tests:

All acceptance tests as specified at clause No. 9.04 shall be got conducted in the presence of Purchaser's representative as per relevant standards described in clause No. 2.0 of the specification. All routine tests as stipulated in the relevant standards and described in clause No. 2.0 of the specification shall be carried out and routine test-certificates / reports shall be submitted to the purchaser for approval and also placed inside individual meter packing.

9.06 Tests At Site:

The Purchaser reserves the right to conduct all tests on the meters after arrival at site and the Contractor shall guarantee test certificate figures under actual service conditions.

The supplier should furnish detailed write up for the procedure to be adopted for error testing of the meters in the laboratory and at site/field.

10.0 INSPECTION:

All the tests (as mentioned at clause 9.4) and inspection shall be made at the place of manufacturer unless otherwise specially agreed upon by the bidder and purchaser at the time of purchase. The bidder shall afford the inspection officer (s) representing the purchaser all reasonable facilities without charges, to satisfy himself that the material is being furnished in accordance with this specification. The purchaser has the right to have the tests carried out at his own cost by an independent agency whenever there is a dispute regarding the quality of supply.

Inspection and acceptance of any material under the specification by the purchaser shall not relieve the bidder of his obligation of furnishing material in accordance with the specification and shall not prevent subsequent rejection if the material (s) is /are found to be defective.

The bidder shall give 15 days advance intimation to enable the purchaser to depute his representative for witnessing the acceptance and routine test.

11.0 DOCUMENTATION:

All drawings shall conform to International Standards Organization (ISO) 'A' series of drawing sheet / Indian standards specification IS – 656. All drawings shall be printed and soft copy in the form of CD(s) shall be supplied. All dimensions and data shall be in S.I. units.

The bidder shall furnish the following drawings and documents alongwith bid:

- a) Two sets of drawings showing clearly the general arrangements, fitting details, electrical connections, etc.
- b) Technical leaflets (User's manual) giving operating instructions for the meter.

The successful bidder shall be required to furnish the following drawings and documents at the time of supply of the meters.

- a) Four sets of operating manuals / technical leaflets.
- b) Four sets of routine test certificates.
- c) The acceptance test certificates in case of pre – dispatch inspection or, in cases where inspection is waived, routine test certificates duly approved by the purchaser.

12.0 PACKING & FORWARDING:

- a) The equipments shall be suitably packed in order to avoid damage or disturbance during transit or handling. Each meter may be suitably packed in the first instance to prevent ingress of dust and moisture and then placed in a cushioned carton of a suitable material to prevent damage due to shocks during transit. The lid of the carton shall be suitably sealed. A suitable number of sealed cartons may be packed in a case of adequate strength with extra cushioning, if considered necessary. The cases may then be properly sealed against accidental opening in transit. The packing case shall be marked to indicate the fragile nature of the contents.
- b) The following information shall be furnished with each consignment:
 - i) Name of the consignee.
 - ii) Details of the consignment.

- iii) Destination.
- iv) Total weight of consignment.
- v) Sign showing upper / lower side of the crate.
- vi) Sign showing fragility of the material.
- vii) Handling and unpacking instructions.
- viii) Bills of materials indicating contents of each package and spare materials.

13.0 GUARANTEE:

The equipments supplied should be guaranteed for its performance for a minimum period of two years from the date of commissioning. The equipment found defective within the above guarantee period shall be repaired / replaced by the bidder free of cost within one month of receipt of intimation.

The OEM shall also furnish an undertaking that there shall be no drift in the accuracy class of the meter for a minimum period of 10 years from the date of supply.

14.0 AFTER SALES SUPPORT AND TRAINING:

The OEM shall provide competent and timely after sales service support. The supplier shall also provide free demonstration to the working personnel at site for use of meter / Computer Software, etc.

Signature of Tenderer with official stamps

Place & Date

Annexure –XII**e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017**

TECHNICAL PARTICULARS FOR 145 KV CTs FOR METERING & PROTECTION PURPOSE.

No.	Particulars	Requirements
1.	Application	Outdoor
2.	Type of mounting	Pedestal type
3.	Design	Oil filled Live Tank
4.	Nominal system voltage	132 kV
5.	Highest system voltage	145 kV
6.	Rated system frequency / phases	50 Hz / 3 phase
7.	Type of earthing	Effectively earthed
8.	No. of phases for CTs	Single phase
9.	No. of secondary windings	Four
10.	CT Ratio	60-30/1-1-1-1
	i) Core 1 and Core 2	- / 1 – 1 A
	ii) Core 3 and Core 4	- / 1 – 1 A
11.	Rated secondary current	
	i) Core 1 and Core 2	1 Amp
	ii) Core 3 and Core 4	1 Amp
12.	Class of accuracy of each secondary winding	

	i) Core 1 and Core 2	0.2S for metering
	ii) Core 3 and Core 4	0.2S for metering / 5P for protection.
13.	Rated burden of each secondary winding	
	i) Core 1 and Core 2	5VA (Each) for 1 Amp
	ii) Core 3 and Core 4	15VA (Each) for 1 Amp
14.	Accuracy Limit Factor (ALF / ISF)	≤ 5
15.	Maximum current ratio error	Within limits as per IS / IEC 60044-1,2003 (Latest amendment)
16.	Maximum phase angle displacement error	Within limits as per IS / IEC 60044-1,2003 (Latest amendment)
17.	Maximum current density for conductor of primary winding corresponding to rated short time current	160 Amp / sq. mm.
18.	Rated continuous thermal current	120% of highest current rating
19.	Rated short time thermal current of primary for 1 sec.	40 kA
20.	Rated dynamic withstand current of primary (kA peak)	78.75 kA peak
21.	Temperature category	Above (-)10°C to (+)50°C
22.	Maximum temperature rise at rated continuous thermal current at rated frequency and with rated burden over maximum ambient temperature of 50 deg. C.	Within limits as per IS / IEC 60044-1,2003 (Latest amendment)

23.	Insulation Class	Within limits as per IS / IEC 60044-1,2003 (Latest amendment)
24.	Rated insulation level for primary winding:	
	i) 1.2 / 50 μ S impulse withstand voltage	650 kV peak
	ii) One minute power frequency withstand voltage	275 kV rms
25.	One minute power frequency withstand voltage test for secondary winding	
	i) Each secondary winding to earth	3 kV rms
	ii) Between secondary windings	3 kV rms
26.	Acceptable Partial Discharge level 1.1 times the rated voltage	Less than 10 pico coulombs
27.	Tangent of loss angle at rated frequency and rated voltage	Not more than 5×10^{-3}
28.	Minimum creepage distance of porcelain housing	3625 mm
29.	Tank	Galvanized
30.	Safety devices / Accessories / Fittings to be provided	a) Pressure Relief Device
		b) Oil filling / drain valve
		c) Oil level indicator
		d) Nitrogen blanket for hermetical sealing
		e) Weather proof secondary terminal box with sealing arrangement.

		f) Terminal connectors suitable for ACSR Panther
		g) Two earthing pads
31.	Insulating oil used	EHV grade oil, and as per IS: 335

Note: Two Separate terminal boxes shall be provided i.e. one for core 1 & Core 2 and another for core 3 & Core 4.

Signature of Tenderer with official stamps

Place & Date

Annexure -XIII

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

TECHNICAL PARTICULARS FOR 145 KV PTs FOR METERING & PROTECTION PURPOSE.

No.	Particulars	Requirements
1.	Application	Outdoor
2.	Type of mounting	Pedestal type
3.	Nominal system voltage	132 kV
4.	Highest system voltage	145 kV
5.	Rated system frequency / phases	50 Hz / 3 phase
6.	Type of earthing	Effectively earthed
7.	No. of phases for PTs	Single phase
8.	No. of secondary windings	Four
9.	Transformation ratio	
	i) Winding -1 and Winding -2	$\frac{132 \text{ kV}}{\sqrt{3}}$ / $\frac{110 \text{ V}}{\sqrt{3}}$
	ii) Winding -3 and Winding -4	$\frac{132 \text{ kV}}{\sqrt{3}}$ / $\frac{110 \text{ V}}{\sqrt{3}}$
10.	Rated secondary voltage	
	i) Winding -1 and Winding-2	110 / $\sqrt{3}$ volts
	ii) Winding -3 and winding -4	110 / $\sqrt{3}$ volts
11.	Class of accuracy of each secondary winding	

	i) Winding -1 and Winding -2	0.2 for metering
	ii) Winding -3 and Winding -4	0.2 for metering /3P for Protection
12.	Rated output of each secondary winding	
	i) Winding -1 and Winding -2	15 VA (Each)
	ii) Winding -3 and Winding-4	15 VA (Each)
13.	Simultaneous burden	30 VA X 2
14.	Maximum voltage ratio error	Within limits as per IS: 3156 (Latest amendment)
15.	Maximum phase angle displacement error	-- d o --
16.	Voltage factor	1.2 Continuous 1.5 for 30 seconds
17.	Temperature category	Above (-)10°C to (+)50°C
18.	Maximum temperature rise (Limits of temperature rise of winding)	Within limits as per IS: 3156 (Latest amendment)
19.	Rated insulation level:	
	i) 1.2 / 50 μ S impulse withstand voltage	650 kV peak
	ii) One minute power frequency withstand voltage	275 kV rms

No.	Particulars	Requirements
20.	One minute power frequency test	
	i) Withstand voltage between low voltage terminal & earth terminal	3 kV rms
	ii) Withstand voltage for secondary winding	3 kV rms

21.	Visual corona extinction voltage	106 kV rms
22.	Tangent of loss angle at rated frequency and 3 KV	Not more than 5×10^{-3}
23.	Minimum creepage distance of porcelain housing	3625 mm
24.	Tank	Galvanized
25.	Safety devices / Accessories / Fittings to be provided	a) Pressure Relief Device b) Oil filling / drain valve c) Oil level indicator d) Nitrogen blanket for hermetical sealing e) Weather proof secondary terminal box with sealing arrangement. f) Terminal connector suitable for ACSR Panther g) Two earthing pads
26.	Insulating oil used	EHV grade oil, and as per IS: 335

Note: Two Separate terminal boxes shall be provided i.e. one for Winding 1 & Winding 2 and another for Winding 3 & Winding 4.

Signature of Tenderer with official stamps

Place & Date

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

Check list for Supply, Installation & commissioning of ABT compliant meter, CT/PT sets etc at 132 KV Substation , Jhamarkotra mines.

S.N.	Description	Confirmation details
1	Confirmation for the supply , installation , testing & commissioning of ABT meter (01 no) along with panel etc as per detailed specification & scope of works as per terms & conditions of tender and relevant annexures.	
2.	Confirmation for the supply , installation , testing & commissioning of CT (03 nos) /PT (03 nos) etc as per detailed specification & scope of works as per terms & conditions of tender and relevant annexures.	
3	Confirmation for the supply , installation , testing & commissioning of all other items / materials as per detailed specification & scope of works as per terms & conditions of tender and relevant annexures.	
4	Confirmation for the completion of all other required works as per detailed specification & scope of works as per terms & conditions of tender and relevant annexures.	
5	Confirmation for “All electrical works shall be executed by the agency having valid A class Electrical Contractor License for executing the Electrical works in the state of Rajasthan”.	

6	<p>Please furnish technical details of ABT meter in compliance of tender specifications along with offered make & acceptance letter of AVVNL/RVPNL in support of offered make.</p> <p>Specify the Offered make-</p>	
7	<p>Please furnish technical details of CT/PT sets in compliance of tender specifications along with offered make & acceptance letter of AVVNL/RVPNL in support of offered make.</p> <p>Specify the Offered make-</p>	
8	<p>Confirm that we have visited 132 KV Substation at Jhamarkotra mines & clearly understood the scope of works. Any missed out item / works shall not be the ground for claiming anything extra after submitting the offer against the tender. All the works are to be completed in totality for availing the open access for the captive adjustment of solar power.</p>	

Signature of Tenderer with official stamps

Place & Date

Annexure -XV

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017
Supply, Installation & commissioning of ABT compliant meter etc at
Eklingpura 132 KV Substation of RVPNL

S.No	Description	Confirmation details
1	Confirmation for the supply , installation , testing & commissioning of ABT meter (02 nos) along with panel etc as per detailed specification & scope of works as per terms & conditions of tender and relevant annexures.	
2	Confirmation for the supply , installation , testing & commissioning of all other items / materials as per detailed specification & scope of works as per terms & conditions of tender and relevant annexures.	
3	Confirmation for the completion of all other required works as per detailed specification & scope of works as per terms & conditions of tender and relevant annexures.	
4	Confirmation for “All electrical works shall be executed by the agency having valid A class Electrical Contractor License for executing the Electrical works in the state of Rajasthan”.	

5	<p>Please furnish technical details of ABT meter in compliance of tender specifications along with offered make & acceptance letter of AVVNL/RVPNL in support of offered make.</p> <p>Specify the Offered make-</p>	
6	<p>Confirm that we have visited 132 KV Substation at Eklingpura & clearly understood the scope of works. Any missed out item / works shall not be the ground for claiming anything extra after submitting the offer against the tender. All the works are to be completed in totality for availing the open access for the captive adjustment of solar power.</p>	

Signature of Tenderer with official stamps

Place & Date

e TENDER NO. RSMM CO MM NIT 10 2017-18 Dated 27.07.2017

PROFORMA OF GUARANTEE BOND FOR SECURITY DEPOSIT

(To be issued by a Public Sector /ICICI/HDFC/AXIS Bank having its Branch office at Udaipur on the non-judicial stamp paper of value equal to @ 0.25% (zero point twenty five percent) of the total Security Deposit Amount subject to maximum of Rs. 25000/- or as applicable at the time of submission of BG.

B.G. _____ Dated _____

Contact details of Banker:

- Postal Address:-
- Telephone Nos.:-
- Fax No.:-
- e-mail Address:-
- Contact person e-mail:-

This Deed of Guarantee executed between _____ having its registered office at (mention complete postal address with contact nos./mail address etc.)_____ and its head office at (mention complete postal address with contact nos./mail address etc.)_____ and wherever the context so required include its successors and assignees (hereinafter called the Surety/Bank) AND Rajasthan State Mines and Minerals Limited, a company incorporated and registered under Indian companies Act, 1956, having its registered office at C-89/90 Lal Kothi Scheme, Janpath, Jaipur and Corporate office at 4 Meera Marg, Udaipur and wherever its context so required includes its successors and assignees (hereinafter called 'the company').

Whereas the Company having agreed to exempt M/s. _____ a company/partnership firm _____ (address of registered/H.O.) where ever the context so require includes its successors and assignees (hereinafter called 'the Contractor/supplier/RC holder') from the demand under the terms and conditions of Letter of Acceptance/ Purchase Order/ Rate Contract no. _____ dated _____ issued in favour of the Contractor/supplier/RC holder, hereinafter called 'the said Letter of Acceptance/ Purchase Order/ Rate Contract' which expression shall also include any amendment, modification or variations thereof made in accordance with the provision thereof, of cash security deposit for the due fulfillment by the said Letter of Acceptance/ Purchase Order/ Rate Contract on

production of unconditional and irrevocable Bank Guarantee for Rs. _____(Rs. _____) being Contract .

Now this deed witnesseth that in consideration of said bank having agreed on the request of the Contractor/supplier/RC to stand as surety for payment of Rs. _____ as security deposit to the company subject to the following conditions.

- a)** We, _____ (Bank) do hereby undertake to pay to the company as amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the company by reason of any breach by the said contractor/supplier/RC holder of any of the terms and/or conditions contained in the Letter of Acceptance/ Purchase Order/ Rate Contract. The decision of the Company, as to any such breach having been committed and loss/damage suffered to shall be absolute and binding on us.
- b)** We, _____ (bank) do hereby undertake without any reference to the Contractor/supplier/RC holder or any other person and irrespective of the fact whether any dispute is pending between the Company and the Contractor/supplier/RC holder before any court or tribunal or Arbitrator relating thereto, to pay the amount due and payable under this guarantee without any demur, and/or protest merely on the very first demand from the Company stating that the amount claimed is due by way of loss or damage caused to or suffered by or would be caused to or suffered by the Company by reason of any breach by the said contractor/supplier/RC holder of any of the terms and conditions contained in the said Letter of Acceptance/ Purchase Order/ Rate Contract by reason of the said contractor's/supplier's/RC holder's failure to perform the covenants contained in said Letter of Acceptance/ Purchase Order/ Rate Contract. Any such demand made on the bank shall be conclusive, absolute and unequivocal as regards the amount due and payable by the bank under this guarantee. However, bank's liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.
- c)** We, _____(bank) further agree that the guarantee herein above contained shall remain in full force and effect during the period that would be taken for the performance of the contract and that it shall continue to be enforceable till all the dues of the company under or by virtue of the contract have been fully paid and its claim/s satisfied or discharged or till the company certifies that the terms and the conditions of the said Letter of Acceptance/ Purchase Order/ Rate Contract have been fully and properly carried out by the said contractor/supplier/RC holder and accordingly discharges the guarantee, unless a demand or claim under this guarantee is made on the bank in writing on or before _____(scheduled completion date, plus six months or period which is required), the bank shall be discharged from all liability under this guarantee thereafter unless otherwise further extended by the bank.
- d)** In order to give full effect to the guarantee herein contained the company

shall be entitled to act as if, we(bank) are your principal debtor in respect of all your claims against the Contractor/supplier/RC holder hereby guaranteed by us as aforesaid and we hereby expressly waive all our rights of surety-ship and other rights, if any which are in any way inconsistent and/or contrary to the above or any other provision of this guarantee, the bank's guarantee to pay hereunder will not be determined or affected by your proceeding against the Contractor/supplier/RC holder and the bank will be liable to pay the said sum as and when demanded by you merely on first demand being made on the bank by you and even before any legal or other proceedings taken against the contractor/supplier/RC holder. Any letter of demand delivered at the bank's above branch/divisional office or Udaipur branch office

_____ (specify the name & address)
under the signatures of the company's Financial Advisor/ Group General Manager/ General Manager or any of the Directors shall deemed to be sufficient demand under this guarantee.

- e) We, _____(bank) further agree that the company shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said letter/Purchase Order/ or to extend time of performance by the said supplier/RC from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor/supplier/RC and to for bear or enforce any of the terms and conditions relating to the Purchase Order/ and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor/supplier/RC holder or for any fore bearance act, or omissions on the part of the company or any indulgence of the Company to the said Contractor/supplier/RC holder or by any such matter or things whatsoever which under the law relating to the sureties would but for this provisions have effect of so relieving us.
- f) This guarantee herein contained would come into force from the date of issue and would not be affected by any change in the constitution of the supplier/RC or ourselves or liquidation or winding up or dissolution or insolvency of the contractor/supplier/RC holder nor shall it be affected by any change in company's constitution or by any amalgamation or any absorption thereof or therewith but shall ensure for and be available to and enforceable by absorbing or amalgamated company or concern till the payment or amount not exceeding Rs. _____ is made by the Bank.
- g) The guarantee will not be discharged or affected if the Company holds/obtain any other security/guarantee/promissory note from any person and/or the contractor/supplier/RC holder and this guarantee shall be in addition to any such guarantees.
- h) We, _____(Bank) lastly undertake not to revoke this guarantee during this currency except with the previous consent of the company in writing.
- i) The bank has power to issue this guarantee in favour of the Company and the undersigned has full powers to do so under power of Attorney dated _____ granted to him by the bank.
- j) For the purpose of enforcing legal rights in respect of this guarantee

Udaipur courts in the state of Rajasthan alone shall have jurisdiction.

IN WITNESSETH I, HEREBY _____ SON OF
_____(designation)_____(branch) constituted attorney of the said
bank have set my signatures and bank seal on this guarantee which is being
issued on non-judicial stamp of proper value as per Stamp Act prevailing in the
state of _____executed at _____ this the _____
day of _____2017.

Annexure A : Compliance with the Code of Integrity and No Conflict of Interest

Any person participating in a procurement process shall –

- a) Not misrepresent or omit that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;
- b) Not offer any bribe, reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in procurement process or to otherwise influence the procurement process;
- c) Not indulge in any collusion, Bid rigging or anti-competitive behaviour to impair the transparency, fairness and progress of the procurement process;
- d) Not misuse any information shared between the procuring Entity and the Bidders with an intent to gain unfair advantage in the procurement process;
- e) Not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;
- f) Not obstruct any investigation or audit of a procurement process;
- g) Disclose conflict of interest, if any, and
- h) Disclose any previous transgressions with any Entity in India or any other country during the last three years or any debarment by any other procuring entity.

Conflict of Interest :-

The Bidder participating in a bidding process must not have a Conflict of Interest.

A Conflict of Interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations.

- 1) A Bidder may be considered to be in Conflict of Interest with one or more parties in a bidding process if, including but not limited to:
 - a) Have controlling partners/shareholders in common; or
 - b) Receive or have received any direct or indirect subsidy from any of them; or
 - c) Have the same legal representative for purposes of the bid; or
 - d) Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Procuring Entity regarding the bidding process; or
 - e) The Bidder participates in more than one bid in a bidding process. Participation by a Bidder in more than one bid will result in the disqualification of all bids in which the Bidder is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a Bidder, in more than one bid; or
 - f) The Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the Goods, Works or Services that are the subject of the bid; or
 - g) Bidder or any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as engineer-in-charge/consultant for the contract.

Annexure B: Declaration by the Bidder regarding qualifications

Declaration by the Bidder

In relation to my/our Bid submitted tofor procurement ofin response to their Notice Inviting Bids No..... datedI/we hereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act 2012, that :

1. I/we possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entity;
2. I/we have fulfilled my/our obligation to pay such of the taxes payable to the Union and the State Government or any local authority as specified in the Bidding Document;
3. I/we are not insolvent, in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons;
4. I/we do not have, and our directors and officers not have been convicted of any criminal offence related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to enter into a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
5. I/we do not have a conflict of interest as specified in the Act, Rules and the Bidding Document, which materially affects fair competition;

Date: Signature of bidder

Place: Name:

Designation:

Address:

Annexure C: Grievance Redressal during Procurement Process

The designation and address of the First Appellate Authority is : Mines Dept, Govt. of Rajasthan

The designation and address of the Second Appellate Authority is: Finance Dept., Govt. of Rajasthan

1.Filing an appeal

If any Bidder or prospective bidder is aggrieved that any decision, action or omission of the Procuring Entity is in contravention to the provisions of the Act or the Rules or the Guidelines issued thereunder, he may file an appeal to First Appellate Authority, as specified in the Bidding Document within a period of ten days from the date of such decision or action, omission, as the case may be clearly giving the specific ground or grounds on which he feels aggrieved:

Provided that after the declaration of a Bidder as successful the appeal may be filed only by a Bidder who has participated in the procurement proceedings:

Provided further that in case a Procuring Entity evaluates the technical bids before the opening of the financial Bids, an appeal related to the matter of Financial Bids may be filed only by a Bidder whose Technical Bid is found to be acceptable.

- 2.** The officer to whom an appeal is filed under para (1) shall deal with the appeal as expeditiously as possible and shall endeavour to dispose it of within thirty days from the date of the appeal.
- 3.** If the officer designated under para (1) fails to dispose of the appeal filed within the period specified in para (2) or if the Bidder or prospective bidder or the Procuring Entity is aggrieved by the order passed by the First Appellate Authority, the bidder or prospective bidder or the Procuring Entity, as the case may be, may file a second appeal to Second Appellate Authority specified in the Bidding Document in this behalf within fifteen days from the expiry of the period specified in para (2) or of the date of receipt of the order passed by the First Appellate Authority, as the case may be .

4. Appeal not to lie in certain cases

No appeal shall lie against any decision of the Procuring Entity relating to the following matters, namely:-

- a. Determination of need of procurement;
- b. Provisions limiting participation of Bidders in the Bid process;
- c. The decision of whether or not to enter into negotiations ;
- d. Cancellation of a procurement process;
- e. Applicability of the provisions of confidentiality.

5. Form of Appeal

- a. An appeal under para (1) or (3) above shall be in the annexed form alongwith as many copies as there are respondents in the appeal;
- b. Every appeal shall be accompanied by an order appealed against, if any, affidavit verifying the facts stated in the appeal and proof of payment of fee.
- c. Every appeal may be presented to First Appellate Authority or Second Appellate Authority, as the case may be, in person or through registered post or authorized representative.

6. Fee for filing appeal

- a. Fee for the first appeal shall be rupees two thousand five hundred and for second appeal shall be rupees ten thousand, which shall be non-refundable.
- b. The fee shall be paid in the form of bank demand draft or bankers' cheque of a Scheduled Bank in India payable in the name of Appellate Authority concerned.

7. Procedure for disposal of appeal

- a. The First Appellate Authority or Second Appellate Authority, as the case may be, upon filing of appeal, shall issue notice accompanied by copy of appeal, affidavit and documents, if any, to the respondents and fix date of hearing.
- b. On the date fixed for hearing, the First Appellate Authority or Second Appellate Authority , as the case may be, shall –
 - i) Hear all the parties to appeal present before him; and
 - (ii) Peruse or inspect documents, relevant records or copies thereof relating to the matter.
- c. After hearing the parties, perusal or inspection of documents and relevant records or copies thereof relating to the matter, the Appellate Authority concerned shall pass an order in writing and provide the copy of order to the parties to appeal free of cost.
- d. The order passed under sub-clause (c) above shall also be placed on the State Public Procurement Portal.

Memorandum of Appeal under the Rajasthan Transparency in Public Procurement Act 2012

Appeal No..... of

Before the(First /Second Appellate Authority)

1. Particulars of appellant :
(i) Name of the appellant :
(ii) Official address, if any:
(iii) Residential address:
2. Name and address of the respondent(s) :
(i)
(ii)
(iii)
3. Number and date of the order appealed against and name and designation of the officer/authority who passed the order (enclose copy), or a statement of a decision, action or omission of the Procuring Entity in contravention to the provisions of the Act by which the appellant is aggrieved:
4. If the Appellant proposes to be represented by a representative, the name and postal address of the representative :
5. Number of affidavits and documents enclosed with the appeal :
6. Ground of appeal
:.....
.....(Supported by an affidavit)
7. Prayer:.....
.....
.....

Place :

Date:

Appellant's signature :

Annexure D : Additional Conditions of Contract

1. Correction of arithmetical errors

Provided that a Financial Bid is substantially responsive, the Procuring Entity will correct arithmetical errors during evaluation of Financial Bids on the following basis:

- (i) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Procuring Entity there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
- (ii) If there is an error in a total corresponding to the addition or subtraction of sub totals, the subtotals shall prevail and the total shall be corrected; and
- (iii) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.

If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified and its Bid Security shall be forfeited or its Bid Securing Declaration shall be executed.

2. Procuring Entity's Right to Vary Quantities

- (i) At the time of award of contract, the quantity of Goods, works or services originally specified in the Bidding Document may be increased or decreased by a specified percentage, but such increase or decrease shall not exceed twenty percent, of the quantity specified in the Bidding Document. It shall be without any change in the unit price or other terms and conditions of the bid and the conditions of contract.
- (ii) If the Procuring Entity does not procure any subject matter of procurement or procures less than the quantity in the Bidding Document due to change in circumstances, the bidder shall not be entitled for any claim or compensation except otherwise provided in the conditions of contract.
- (iii) In case of procurement of goods or services, additional quantity may be procured by placing a repeat order on the rates and conditions of the original order. However, the additional quantity shall not be more than 50% of the value of goods of the original contract and shall be within one month from the date of expiry of last supply. If the supplier fails to do so, Procuring Entity shall be free to arrange for the balance supply by limited bidding or otherwise and the extra cost incurred shall be recovered from the supplier.

**3. Dividing quantities among more than one bidder at the time of award
(In case of procurement of goods)**

As a general rule all the quantities of the subject matter of procurement shall be procured from the bidder, whose bid is accepted. However, when it is considered that the quantity of the subject matter of procurement to be procured is very large and it may not be in the capacity of the bidder, whose bid is accepted, to deliver the entire quantity or when it is considered that the subject matter of procurement to be procured is of critical and vital nature, in such cases, the quantity may be divided between the bidder, whose bid is accepted and the second lowest bidder or even more bidders in that order, in a fair, transparent and equitable manner at the rates of the bidder, whose bid is accepted.