

**Volume - I**

**Tender Notification for**

**Three Phase Loose Meter & Prefitted meter with box of 3 ph:  
CMC/BY/17-18/RB/VKS/067**

**Date : 19.02.2018**

**Due Date for Submission of Bids : 12.03.2018**

**BSES YAMUNA POWER LTD (BYPL)**

**SECTION - I**

**REQUEST FOR QUOTATION**

**2017-18**

**Tender Notification : CMC/BY/17-18/RB/VKS/067**

**Event : Procurement of Three Phase Loose Meter & Prefitted  
meter with box of 3 ph**

**Date :- 12.03.2018**

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## SECTION – I: REQUEST FOR QUOTATION

### 1.00 Event Information

- 1.01** BYPL invites Sealed tenders for supply of Three Phase Loose Meter & Prefitted meter with box of 3 ph from reputed manufacturers.

The bidder must qualify the technical requirements as specified in clause 2.0 stated below. The sealed envelopes shall be duly superscribed as — **“BID FOR THREE PHASE LOOSE METER & PREFITTED METER WITH BOX OF 3 PHS TENDER NOTICE: CMC/BY/17-18/RB/VKS/067 DUE FOR SUBMISSION ON DT. 12.03.2018”**.

Sl. No.	Item Description	Specification	Requirement	Estimated Value
			Total Qty.	
BYPL,DELHI				
1	3 phase 4 Wire Static LT Whole Current 20-100 Amps, 3x 240 Volts , Accuracy class:1.0 , as per enclosed GTP	SECTION V	1000 nos.	Rs. 2.73 Cr
2	Prefitted meter with box of 3 phase 4 Wire Static LT Whole Current 20-100 Amps, 3x 240 Volts , Accuracy class:1.0 , as per enclosed GTP		9000 Nos	

**Note: Quantity may vary to any extent of +/- 30% of above mentioned total quantity.**

- 1.02** The schedule of specifications with detail terms & conditions can be obtained from address given below against demand draft/Pay Order of **Rs.1180 per set-**, drawn in favour of **BSES YAMUNA POWER LIMITED**, payable at Delhi. The sale of tender documents will be issued from **19.02.2018** onwards on all working days upto **12.03.2018** The tender documents can also be downloaded from the website **“www.bsedelhi.com”**. However, it is advisable to inform BYPL about your interest in tender.

In case tender papers are downloaded from the above website, then the bidder has to enclose a demand draft covering the cost of bid documents as stated above in a separate envelope with suitable superscription —“Cost of Bid Documents: Tender **Notice Ref: CMC/BY/17-18/RB/VKS/067**. This envelope should accompany the Bid Documents.

- 1.03** Offers will be received upto **11:00 Hrs on dt 12.03.2018** as indicated earlier and will be opened on the same day at the address given below on **12.03.2018 at 11:30** in the presence of authorized representatives of the bidders.. The schedule of specifications with detail terms & conditions are enclosed. It is the sole responsibility of the bidder to ensure that the bid documents reach this office on or before the due date.

**HEAD OF THE DEPARTMENT,  
3rd FLOOR, 'A' BLOCK,  
CONTRACTS & MATERIALS DEPARTMENT,  
BSES YAMUNA POWER LTD,  
SHAKTI KIRAN BUILDING,  
KARKARDOOM, NEW DELHI**

- 1.04** BYPL reserves the right to accept/reject any or all Tenders without assigning any reason thereof and alter the quantity of materials mentioned in the Tender documents at the time of placing purchase orders. Tender will be summarily rejected if:

(i). Earnest Money Deposit (EMD) @ 2% (Two percent) of the Tender value i.e **Rs 5,46,608/-** is not deposited in shape of Bank Guarantee in favour of **BSES YAMUNA POWER LTD**, payable at Delhi or Bank Guarantee executed on favour of **BSES YAMUNA POWER LTD**.

- (ii). The offer does not contain "FOR, NEW DELHI price indicating break-up towards all taxes & duties".
- (iii). Complete Technical details are not enclosed.
- (iv). Sample is not submitted along with the offer.
- (v). Tender is not received after due time due to any reason.

1.05 BYPL reserves the right to reject any or all bids or cancel/withdraw the invitation for bids without assigning any reason whatsoever and in such case no bidder/intending bidder shall have any claim arising out of such action.time of placing purchase orders.

## 2.0 Qualification Criteria:-

The prospective bidder must qualify all of the following requirements to be eligible to participate in the bidding Bidders who meet following requirements will be considered as successful bidder and management has a right to disqualify those bidders who do not meet these requirements.

1. The bidder must be a meter manufacturer of static meter.
2. The tenderers shall either themselves be manufacturers of the equipment offered or accredited representatives of such manufacturers in India or of their Principals abroad with whom they may be having collaboration Such accreditation should be at least of one year old and valid on date of tender.
3. Relevant documents in support of the above must be furnished along with undertaking of the manufacturers. If these documents are not furnished along with the tenders the offer will be rejected summarily.
4. Bidder should have supplied atleast 01 Lakh meters in last three year with LCD, memory, optical port and communication facility as per IS 13779, CBIP-88 publication with latest amendment in the regard. The manufacturer should have experience of supplying to Electricity Distribution Utility/ Undertaking in India with electronic display and communication facility.
5. Offered meters should be in successful operation since at least last 2 year as on the date of opening of Bid.
6. This should be supported by the copies of purchase orders and performance reports from the SEBs/Power Utilities should be Enclosed. Existing supplier with good track record in terms of quality and timely delivery will get preference
7. The bidder must possess valid ISO 9001:2015 certification for meter manufacturing and must possess valid BIS Licence.
8. Firms who are debarred/blacklisted in other utilities in India MAY not be considered.
9. The Bidder should have turnover of Rs.100 Crore in any one of the last three financial years (i.e. 14-15, 15-16 & 16-17) **related to metering item only**.. Bidder should submit report on financial standing such as profit and loss statement, balance sheets for the last three years, along with bankers certificates for turnover of only of metering item only.
10. The audited financial statements of accounts for the last three years submitted by bidder shall be evaluated and last year of audited accounts should show positive net worth.
11. Bidder should have complete volume of type test reports as per IS 13779 (including latest amendments if any) and magnet test as per CBIP- 88 from any NABL accredited lab. The type test report should not be older than 2 years as on the date of opening of tender.

- 12 Purchaser at his own discretion may consider to award trial order of small quantity to those bidders who have proven design and meet our requirement.
- 13 In case of new bidders (not enlisted in BSES), Factory inspection & evaluation may be carried out to ascertain bidder's manufacturing capabilities and quality procedures.
- 14 Bidders already qualified against previous tender(s) for similar meter need not submit the documents in support of qualification criteria.
- 15 The manufacturer should have following facility to meet both quality and quantity requirement of supplies.
- 15.1 **Computerized test bench:** The manufacturer should have sufficient Nos of Computerized test benches. The benches should have electronic supply, Isolated CT/ PT system and data should be directly stored in central server.
- 15.2 **Seal tracking system:** The manufacturer has to put both his own seal and BSES seal(s) on the meter. He should have a seal tracking software to ensure tracking of seal and no duplication of seals and meter nos.,.
- 15.3 **Meter Burn In system:** In order to ensure the reliability of components and that there is no drift in meter accuracy with time; the manufacturer should have burn in facility --- Running meter with load at elevated temperature.
- 15.4 **Routine test data:** During lot acceptance, all routine test data should be made available to inspector. In fact as per BIS, STI all test data should be offered to inspector for verification. **Routine test report should be packed with each meter.**
- 15.5 **Test benches:** During the lot acceptance, BSES inspector can test up to 5% of offered quantity. The manufacturer should agree to provide all test facility to do so. Further he should allow BSES inspector to check shop floor process.
- 15.6 **Test equipments:** Since the meters has lot of anti theft features, the manufacturer should have test set up too check the working of all anti theft features. Same should be available during lot inspection, otherwise inspector has a right to withdraw inspection. The place of inspection should be clearly marked in tender and same should be well equipped.
- 15.7 **PCB assembly facility:-** The PCB facility should have auto- pick n place machine, in- circuit testor, Protection against static charge/ dust etc.; and process to ensure no corrosion of solder points/ tracks. Incase service is taken from other vendor than bidder shall arrange inspection of facility. The bidder should be taking the service from the vendor since last two years and so far have procured & one million 50,000 3ph meter PCB from vendor.

The manufacturer should send the compliance of above mentioned parameters in technical offer and has to give an undertaking about **No Objection** to verify his manufacturing facility as a part of tender process. Further in relevance to above clause (13.1 to 13.7), vendor should submit details of facilities.

### 3.00 Bidding and Award Process

Bidders are requested to submit their questions regarding the RFQ or the bidding process after review of this RFQ. BYPL response to the questions raised by various bidders will be distributed to all participating bidders through an RFQ Update. Otherwise BYPL will organize a prebid meeting to clarify all doubts on **dated 12.03.2018 at 11:00 Hrs.**

#### a. Time schedule of the bidding process

The bidders on this RFQ package should complete the following within the dates specified as under:

S. No.	Steps	Activity description	Due date
1	Technical Queries	<ul style="list-style-type: none"> <li>All Queries related to RFQ</li> </ul>	On or before Pre-bid meeting
2	Technical Offer	<ul style="list-style-type: none"> <li>It include clause by clause commentary, GTP, Type test report from NABL Lab(Not more than 2 year old), BIS report, Quality assurance plan, Deviation from the specs, component deviation, undertaking of software protocol, List of Plant and machinery, list of anti theft testing equipment available at works.</li> <li>Receipt of tender sample submission.</li> <li>Compliance of Qualification criteria (cl. 2.0) and</li> </ul>	12.03.2018, 11:00 Hrs

S. No.	Steps	Activity description	Due date
		Documentary evidence in support of qualifying criterion as per format attached in Annexure V. <ul style="list-style-type: none"> <li>• Acceptance of delivery, commercial terms and conditions.</li> <li>• Deviation from the General Conditions of the contract/commercial terms and conditions.</li> <li>• Original Tender documents duly stamped and signed on each page as token of acceptance.</li> </ul>	
3	Commercial Officer	<ul style="list-style-type: none"> <li>• Price for Three Phase Loose Meter &amp; Prefitted meter with box of 3 ph. No separate price for additional features.</li> <li>• Break up regarding basic price and taxes.</li> <li>• Delivery commitment</li> </ul>	12.03.2018, 11:00 Hrs
4	Samples (2nos.)	<ul style="list-style-type: none"> <li>• Sample with meter routine report as per bidder offer. Not applicable for existing vendor/ vendor who has already given sample in past(unless vendor wants to change it) 6 months.</li> <li>• Samples will be submitted at BYPL Laboratory, at Savita Vihar New Delhi <b>on or before the due date</b></li> <li>• Optical cord to be demonstrated for mechanical fixing and downloading</li> </ul>	12.03.2018, 11:00 Hrs
5	Performance guarantee quality system report	<ul style="list-style-type: none"> <li>• As per RFQ</li> </ul>	Only for successful bidders.
6	Opening of technical bid	<ul style="list-style-type: none"> <li>• As per RFQ</li> </ul>	12.03.2018, 11:30 Hrs

This is a two part bid process. Bidders are to submit the bids a) Technical Bid b) Price Bid. Both these parts should be furnished in separate sealed covers superscribing specification no. validity etc, with particulars as **Part-I Technical Particulars & Commercial Terms & Conditions** and **Part-II "Financial bid"** and these sealed envelopes should again be placed in another sealed cover which shall be submitted before the due date & time specified.

**The Part – I** Eligibility and Technical Bid should not contain any cost information whatsoever.

In case of Bids where the qualification requirements, technical suitability and other requirements are found to be inadequate, Part-II "Financial Bid" will be returned unopened.

b). Qualified bidders will be intimated after technical evaluation of all the bids is completed.

Notwithstanding anything stated above, the Purchaser reserves the right to assess bidders capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.

**Reverse Auction Clause** : Purchaser reserves the right to use the online reverse auction as optional tool through SAP – SRM as an integral part of the entire tendering process. All the bidders who are techno-commercially qualified on the basis of tender requirements shall participate in reverse auction. Notwithstanding anything stated above, the Purchaser reserves the right to assess bidder's capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.

#### 4.00 Award Decision

4.01 The purchaser reserves all the rights to award the contract to one or more bidders so as to meet the delivery requirement or nullify the award decision without any reason.

#### 4.02 Splitting of tendered quantity in two or more bidders:

BSES reserves the right to split the tender quantity among techno-commercially qualified bidders on account of delivery requirement in tender, quantity under procurement etc.

Splitting of tender quantity amongst more than one bidder shall be governed by below mentioned guidelines:

- a) For the purpose of splitting, the offers of all the bidders whose "Post Reverse Auction prices" are within price consideration zone of 10% above "Post reverse auction L-1 rate" shall be considered eligible.
- b) The tender quantity shall be split in following ratio:
  - (i) In case where no bidder falls within price consideration zone of 10% above post RA L-1 rate or more none of the eligible bidders accept the post RA L-1 rate, 100% quantity shall be ordered on post RA L-1 bidder.
  - (ii) If the quantity is to be split among 2 bidders, it will be done in the ratio of 60:40 on L1 price.
  - (iii) If the quantity is to be split among 3 bidders, it will be done in the ratio of 50:30:20 on L1 price.
  - (iv) Any deviation in regards to above will have deviation approval from management.

In case any supplier is found unsatisfactory during the delivery process, the award will be cancelled and BYPL reserves the right to award other suppliers who are found fit.

### 5.00 Market Integrity

We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules prior to participating. In addition to other remedies available, we reserves the right to exclude a bidder from participating in future markets due to the bidder's violation of any of the rules or obligations contained in the Terms & Condition. Bidders who violate the marketplace rules or engage in behavior that disrupts the fair execution of the marketplace restricts a bidder to length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

- Failure to honor prices submitted to the marketplace.
- Breach of the terms of the published in Request For Quotation.

### 6.00 Supplier Confidentiality

All information contained in this RFQ is confidential and may not be disclosed, published or advertised in any manner without written authorization from BYPL. This includes all bidding information submitted .

All RFQ documents remain the property of BYPL and all suppliers are required to return these documents to BYPL upon request.

Suppliers who do not honor these confidentiality provisions will be excluded from participating in future bidding events.

### 7.0 Contact Information

All communication as regards this RFQ shall be made (i) in English, (ii) in writing and (iii) sent by mail, facsimile to

	Technical	Commercial
Contact Name	Ashwani Aggarwal	Rakesh Bansal
Address	3 <sup>rd</sup> Floor, B Block, Shakti Kiran Building, Karkardooma, Delhi-32	3 <sup>rd</sup> Floor, A Block, Shakti Kiran Building, Karkardooma, Delhi-32
Fax No.	011-39999636	011-39999230
Email Id	Ashwani.Aggarwal@relianceada.com	Rakesh.Bansal@relianceada.com

**Note:- Those who are downloading tender notice from website. It is advisable to inform BYPL Technical contact, so as they can be contacted in case of any amendment in tender or for prebid conference.**



**SECTION – II**

**INSTRUCTION TO BIDDERS (ITB)  
2017-18**

**Three Phase Loose Meter & Prefitted meter with box of 3 ph:  
CMC/BY/17-18/RB/VKS/067**

**Dated : 19.02.2018.**

## **A. GENERAL**

- 1.00 BYPL Yamuna power Ltd, hereinafter referred to as the Purchaser“are desirous of implementing the various Systems Improvement/Repair & Maintenance works at their respective licensed area in Delhi The Purchaser has now floated this tender for procurement Three Phase Loose Meter & Prefitted meter with box of 3 ph as notified earlier in this bid document.

### **2.00 SCOPE OF WORK**

The scope shall include Design, Manufacture,Testing of Three Phase Loose Meter & Prefitted meter with box of 3 phs at works conforming to theTechnical Specifications enclosed along with Packing,Forwarding,Freight upto Purchaser's stores.

### **3.0 DISCLAIMER**

- 3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/Bidding Consortium should conduct its own estimation and analysis and should check the accuracy, reliability and completeness of the information in this Document and obtain independent advice from appropriate sources in their own interest.
- 3.02 Neither Purchaser nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this Document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Purchaser or its employees, or otherwise arising in anyway from the selection process for the Supply.
- 3.03 Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy itself that Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.
- 3.04 This Document and the information contained herein are Strictly Confidential and are for the use of only the person(s) to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors).

## **4 COST OF BIDDING**

The Bidder shall bear all cost associated with the preparation and submission of its Bid and Purchaser will in no case be responsible or liable for those costs.

## **B. BIDDING DOCUMENTS**

### **5.0 BIDDING DOCUMENTS**

- 5.01 The Scope of Work, Bidding Procedures and Contract Terms are described in the Bidding Documents. In addition to the covering letter accompanying Bidding Documents, the Bidding Documents include:

#### **Volume -I**

- |                                       |                |
|---------------------------------------|----------------|
| (a) Request for Quotation (RFQ)       | - Section - I  |
| (b) Instructions to Bidders (ITB)     | - Section – II |
| (c) General Conditions of Contract    | - Section -III |
| (d) Quantity and delivery requirement | - Section –IV  |
| (e) Technical Specifications (TS)     | - Section –V   |

#### **Volume - II**

- |                |             |
|----------------|-------------|
| (a) Bid Form - | Annexure –I |
|----------------|-------------|

(b) Bid Format -	Annexure –II
(c) Reverse Auction Event	Annexure –III
(d) Price Schedule -	Annexure –IV
(e) Commercial Terms & Conditions -	Annexure-V
(f) No Deviation Sheet-	Annexure- VI
(g) Qualification Criterion-	Annexure- VII

- 5.02 The Bidder is expected to examine the Bidding Documents, including all Instructions, Forms, Terms and Specifications. Failure to furnish all information required by the Bidding documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect will may result in the rejection of the Bid.

## 6.0 AMENDMENT OF BIDDING DOCUMENTS

- 6.01 At any time prior to the deadline for submission of Bids, the Purchaser may for any reasons, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.
- 6.02 The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified in writing by Fax/e-mail to all the Bidders who have received the Bidding Documents and confirmed their participation to Bid, and will be binding on them .
- 6.03 In order to afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids.

## C. PREPARATION OF BIDS

### 7.0 LANGUAGE OF BID

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in the English Language. Any printed literature furnished by the Bidder may be written in another Language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

### 8.0 DOCUMENTS COMPRISING THE BID

The Bid prepared and submitted by the Bidder shall comprise the following components:

- (a) Bid Form , Price & other Schedules (STRICTLY AS PER FORMAT) and Technical Data Sheets completed in accordance with Clause 9.0, 10.0, 11.0 and Technical Specification ;
- (b) All the Bids must be accompanied with the required EMD as mentioned in the Section-I against each tender.
- (c) Power of Attorney indicating that the person(s) signing the Bid have the authority to sign the Bid and thus that the Bid is binding upon the Bidder during the full period of its validity, in accordance with clause 12.0.

### 9.0 BID FORM

- 9.01 The Bidder shall complete an "Original" and another one "Copy" of the Bid Form and the appropriate Price & Other Schedules and Technical Data Sheets.

## 9.02 EMD

Pursuant to Clause 8.0(b) above, the bidder shall furnish, as part of its bid, a EMD amounting to 2% of the total bid value (FOR Destination) i.e **Rs 5,46,608/-**. The EMD is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture.

The EMD shall be denominated in the currency of the bid, and shall be in the following form :

- (a) A bank guarantee issued by any scheduled bank strictly as per the form at enclosed and shall be valid for a period of thirty (30) days beyond the validity of the bid
- (b) Bank Draft in favour of BSES YAMUNA POWER LIMITED, payable at Delhi.

Unsuccessful bidders' EMD will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity.

The successful bidder's EMD will be discharged upon furnishing the performance security. The EMD may be forfeited :

- (a) if the Bidder:
  - i) withdraws its bid during the period of bid validity specified by the Bidder in the Bid Form ; or
- (b) in the case of a successful Bidder, if the Bidder fails:
  - (i) to sign the Contract, or
  - (ii) to furnish the required performance security.

## 10.0 BID PRICES

10.01 Bidders shall quote for the entire Scope of Supply with a break-up of prices for individual items. The total Bid Price shall also cover all the Supplier's obligations mentioned in or reasonably to be inferred from the Bidding Documents in respect of Design, Supply, Transportation to site, all in accordance with the requirement of Bidding Documents. The Bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total Price.

10.02 The prices offered shall be inclusive of all costs as well as Duties, Taxes and Levies paid or payable during execution of the supply work, breakup of price constituents, should be there.

Prices quoted by the Bidder shall be—Firm “and not subject to any price adjustment during the performance of the Contract. A Bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

## 11.0 BID CURRENCIES

Prices shall be quoted **in Indian Rupees (₹) Only**.

## 12.0 PERIOD OF VALIDITY OF BIDS

12.01 Bids shall remain valid for **120 days** post bid date.

12.02 Notwithstanding Clause 12.01 above, the Purchaser may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing by Fax/e-mail.

## 13.0 ALTERNATIVE BIDS

Bidders shall submit Bids, which comply with the Bidding Documents. Alternative Bids will not be considered. The attention of Bidders is drawn to the provisions of Clause 22.03 & 22.04 regarding the

rejection of Bids, which are not substantially responsive to the requirements of the Bidding Documents.

#### 14.0 **FORMAT AND SIGNING OF BID**

- 14.01 The original Bid Form and accompanying documents(as specified in Clause9.0),clearly marked "Original Bid",plus one copy must be received by the Purchaser at the date, time and place specified pursuant to Clauses15.0 and16.0. In the event of any discrepancy between the original and the copies,the original shall govern.
- 14.02 The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the Bidder. Such authorization shall be indicated by written Power-of-Attorney accompanying the Bid.
- 14.03 The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.

### **D. SUBMISSION OF BIDS**

#### 15.0 **SEALING AND MARKING OF BIDS**

- 15.01 Bid submission: One original & one Copy (hard copies) of all the Bid Documents shall be sealed and submitted to the Purchaser before the closing time for submission of the bid.
- 15.02 The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with —**Technical & EMD**“. The Financial bid shall be inside another sealed envelope with superscription — **Financial Bid** “.Both these envelopes shall be sealed inside another big envelope.All the envelopes should bear the Name and Address of the Bidder and marking for the Original and Copy.The envelopes should be superscribed with —“**Tender Notice No, Due date of submission, Tender opening date**“.
- 15.03 The Bidder has the option of sending the Bids in person.Bids submitted by Telex/Telegram /Fax will not be accepted.No request from any Bidder to the Purchaser to collect the proposals from Airlines/Cargo Agents etc shall be entertained by the Purchaser.
- 15.04 The Bidder, along with the bid documents has to **submit two samples along with detailed GTP & Drawings**. The sample should clearly indicate (i) Name of the bidder (ii )TenderN o.,(iii) Group & Item Sr.N o.etc. Samples will be submitted at BYPL Laboratory, at Savita Vihar New Delhi on or before the due date of tender submission. **Bidders are required to submit the receipt of sample submission along with the technical bid**. The samples shall not be returned back to the bidder.Sample submission is not applicable for existing vendor and for vendor who has supplied meter in the past 6 months (unless supplier wants to change it)

#### 16.0 **DEADLINE FOR SUBMISSION OF BIDS**

- 16.01 The original Bid,together with the required copies, must be received by the Purchaser at the address specified not **later than 11:00 Hrs on dt: 12.03.2018**
- 16.02 The Purchaser may,at its discretion,extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause9.0,in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended

#### 17.0 **ONE BID PER BIDDER**

Each Bidder shall submit only one Bid either by itself, or as a partner in a Joint Venture. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

#### 18.0 **LATE BIDS**

Any Bid received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, pursuant to Clause 16.0, will be declared "Late" and rejected and returned unopened to the Bidder.

#### **19.0 MODIFICATIONS AND WITHDRAWAL OF BIDS**

19.01 The Bidder is not allowed to modify or withdraw its Bid after the Bid's submission.

### **E. EVALUATION OF BID**

#### **20.0 PROCESS TO BE CONFIDENTIAL**

Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence the Purchaser's processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

#### **21.0 CLARIFICATION OF BIDS**

To assist in the examination, evaluation and comparison of Bids, the Purchaser may, at its discretion, ask the bidder for a clarification of its Bid. All responses to requests for clarification shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.

#### **22.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS**

22.01 Purchaser will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.

22.02 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price per item that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price per item will be corrected. If there is a discrepancy between the Total Amount and the sum of the total price per item, the sum of the total price per item shall prevail and the Total Amount will be corrected.

22.03 Prior to the detailed evaluation, Purchaser will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability and acceptable quality of the Goods offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation.

22.04 Bid determined as not substantially responsive will be rejected by the Purchaser and/or the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

#### **23.0 EVALUATION AND COMPARISON OF BIDS**

23.01 The evaluation of Bids shall be done based on the delivered cost competitiveness basis.

23.02 The evaluation of the Bids shall be a stage-wise procedure. The following stages are identified for evaluation purposes: In the first stage, the Bids would be subjected to a responsiveness check. The Technical Proposals and the Conditional ties of the Bidders would be evaluated.

Subsequently, the Financial Proposals along with Supplementary Financial Proposals, if any, of Bidders with Techno-commercially Acceptable Bids shall be considered for final evaluation.

23.03 The Purchaser's evaluation of a Bid will take into account, in addition to the Bid price, the following factors, in the manner and to the extent indicated in this Clause:

(a) Supply Schedule

(b) Deviations from Bidding Documents

Bidders shall base their Bid price on the terms and conditions specified in the Bidding Documents.

The cost of all quantifiable deviations and omissions from the specification , terms and conditions specified in Bidding Documents shall be evaluated. The Purchaser will make its own assessment of the cost of any deviation for the purpose of ensuring fair comparison of Bids.

- 23.04 Any adjustments in price, which result from the above procedures, shall be added for the purposes of comparative evaluation only to arrive at an "Evaluated Bid Price". Bid Prices quoted by Bidders shall remain unaltered.

## **F. AWARD OF CONTRACT**

### **24.0 CONTACTING THE PURCHASER**

- 24.01 From the time of Bid submission to the time of contract award, if any Bidder wishes to contact the Purchaser on any matter related to the Bid, it should do so in writing.

- 24.02 Any effort by a Bidder to influence the Purchaser and/or in the Purchaser's decisions in respect of Bid evaluation, Bid comparison or Contract Award, will result in the rejection of the Bidder's Bid.

### **25.0 THE PURCHASER 'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS**

The Purchaser reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at anytime prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser's action.

### **26.0 AWARD OF CONTRACT**

The Purchaser will award the Contract to the successful Bidder whose Bid has been Determined to be the lowest-evaluated responsive Bid, provided further that the Bidder has been determined to be qualified to satisfactorily perform the Contract. Purchaser reserves the right to award order other bidders in the tender, provided it is required for progress of project & provided he agrees to come to the lowest rate.

### **27.0 THE PURCHASER 'S RIGHT TO VARY QUANTITIES**

The Purchaser reserves the right to vary the quantity i.e. increase or decrease the numbers/quantities without any change in terms and conditions during the execution of the Order.

### **28.0 LETTER OF INTENT/ NOTIFICATION OF AWARD**

The letter of intent/ Notification of Award shall be issued to the successful Bidder whose bids have been considered responsive, techno-commercially acceptable and evaluated to be the lowest (L1). The successful Bidder shall be required to furnish a letter of acceptance within 7 days of issue of the letter of intent /Notification of Award by Purchaser.

### **29.0 PERFORMANCE BANK GUARANTEE**

The successful Bidder shall furnish the Performance Bank Guarantee for an amount of 10% (Ten percent) of the Contract Price in accordance with the format provided. The Performance Bond shall be valid for a period of Sixty months (60) from the date of the commissioning or Sixty six months (66) from the date of receipt of material (last consignment) at site/stores whichever is earlier plus 3 months towards claim period. Upon submission of the performance security, the EMD shall be released.

### 30.0 CORRUPT OR FRADULENT PRACTICES

30.01 The Purchaser requires that the Bidders observe the highest standard of ethics during the procurement and execution of the Project. In pursuance of this policy, the Purchaser:

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

(i) "Corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them ,or induce others to do so,by misusing the position in which they are placed, and it includes the offering, giving, receiving, orsoliciting of anything of value to influence the action of any such official in the procurement process or in contract execution;and

(ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders(prior to or after Bid submission ) designed to establish Bid prices at artificial non competitive levels and to deprive the Purchaser of the benefits of free and open competition .

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

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

30.02 Furthermore, Bidders shall be aware of the provision stated in the General Conditions of Contract.



**SECTION – III**

**GENERAL CONDITIONS OF CONTRACT (GCC)**

**2017-18**

**Three Phase Loose Meter & Prefitted meter with box of 3 ph: CMC/BY/17-18/RB/VKS/067**

**Dated : 19.02.2018**

## **GENERAL TERMS AND CONDITION**

### **1.0 General Instructions**

- 1.01** All the Bids shall be prepared and submitted in accordance with these instructions.
- 1.02** Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Purchaser will in no case shall be responsible or liable for these costs.
- 1.03** The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred/sold to the other party.
- 1.04** The Purchaser reserves the right to request for any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Purchaser, the data in support of RFQ requirement is incomplete.
- 1.05** The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Purchaser's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Purchaser.

### **2.0 Definition Of Terms**

- 2.01** "Purchaser" shall mean BYPL Limited, on whose behalf this bid enquiry is issued by its authorized representative / officers.
- 2.02** "Bidder" shall mean the firm who quotes against this bid enquiry issued by the Purchaser. "Supplier" or "Supplier" shall mean the successful Bidder and/or Bidders whose bid has been accepted by the Purchaser and on whom the "Letter of Acceptance" is placed by the Purchaser and shall include his heirs, legal representatives, successors and permitted assigns wherever the context so admits.
- 2.03** "Supply" and " " shall mean the Scope of Contract as described.
- 2.04** "Specification" shall mean collectively all the terms and stipulations contained in those portions of this bid document known as RFQ, Commercial Terms & Condition, Instructions to Bidders, Technical Specifications and the Amendments, Revisions, Deletions or Additions, as may be made by the Purchaser from time to time.
- 2.05** "Letter of Acceptance" shall mean the official notice issued by the Purchaser notifying the Supplier that his proposal has been accepted and it shall include amendments thereto, if any, issued by the Purchaser. The "Letter of Acceptance" issued by the Purchaser shall be binding on the "Supplier" The date of Letter of Acceptance shall be taken as the effective date of the commencement of contract.
- 2.06** "Month" shall mean the calendar month and "Day" shall mean the calendar day.
- 2.07** "Codes and Standards" shall mean all the applicable codes and standards as indicated in the Specification.
- 2.08** "Offer Sheet" shall mean Bidder's firm offer submitted to BYPL in accordance with the specification.
- 2.09** "Contract" shall mean the "Letter of Acceptance" issued by the Purchaser.
- 2.10** "Contract Price" shall mean the price referred to in the "Letter of Acceptance".
- 2.11** "Contract Period" shall mean the period during which the "Contract" shall be executed as agreed between the Supplier and the Purchaser in the Contract inclusive of extended contract period for reason beyond the control of the Supplier and/or Purchaser due to force majeure.
- 2.12** "Acceptance" shall mean and deemed to include one or more of the following as will be stipulated in the specification:

- a) The written acceptance of material by the inspector at suppliers works to ship the materials.
- b) Acceptance of material at Purchaser site stores after its receipt and due inspection/ testing and release of material acceptance voucher.
- c) Where the scope of the contract includes supplyg, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.

### **3.0 Contract Documents & Priority**

- 3.01** Contract Documents: The terms and conditions of the contract shall consist solely of these RFQ conditions and the offer sheet.
- 3.02** Priority: Should there be any discrepancy between any term hereof and any term of the Offer Sheet, the terms of these RFQ shall prevail.

### **4.0 Scope Of Supply -General**

- 4.01** The "Scope of Supply" shall be on the basis of Bidder's responsibility, completely covering the obligations, responsibility and supplies provided in this Bid enquiry whether implicit or explicit.
- 4.02** Bidder shall have to quote for the Bill of quantities as listed in Section – IV of this RFQ.
- 4.03** Quantity variation and additional requirement if any shall be communicated to successful bidder during project execution.
- 4.04** All relevant drawings, data and instruction manuals.

### **5.0 Quality Assurance and Inspection**

- 5.01** Immediately on award of contract, the bidder shall prepare detailed quality assurance plan / test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc.
- 5.02** Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the Purchaser. Final inspection is a mandatory hold point. The supplier to proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BYPL.
- 5.03** The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.
- 5.04** On completion of manufacturing the items can be dispatched only after issue of MDCC document by the Purchaser.
- 5.05** All testing and inspection shall be done with out any extra cost.
- 5.06** Purchaser reserve the right to send any material out of the supply to any recognized laboratory for testing and the cost of testing shall be borne by the Purchaser. In case the material is found not in order with the technical requirement / specification, the charges along with any other penalty which may be levied is to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of bidders representative.
- 5.07** Bidder has to sign quality agreement before supply of the material.

## **6.0 Packing, Packing List & Marking**

**6.01 Packing:** Supplier shall pack or shall cause to be packed all Commodities in boxes and containers and otherwise in such a manner as shall be reasonably suitable for shipment by road or rail to BYPL without undue risk of damage in transit.

**6.02 Packing List:** The contents of each package shall be itemized on a detailed list showing the exact weight and the extreme outside dimensions (length, width and height) of each container or box. One copy of the packing list shall be enclosed in each package delivered. There shall also be enclosed in one package a master packing list identifying each individual package, which is part of the shipment. On any packaging where it is not feasible to place the packing list inside the container, all pertinent information shall be stenciled on the outside and will thus constitute a packing list.

## **7.01 Prices basis for supply of materials**

Bidder to quote their prices on Landed Cost Basis and separate price for each items.  
For Supply to BYPL Delhi the price shall be inclusive of packing, forwarding, Excise Duty, Sales Taxes, VAT and Freight. *Octroi is presently not applicable in Delhi and however if applicable shall be reimbursed at actuals.*

The above supply prices shall also include unloading at site stores.  
Transit and storage insurance will be arranged by BYPL, however bidder to furnish required details in advance for arranging the same by BYPL.

Purchaser shall issue Form 'C' and accordingly bidder to consider applicable taxes in the quoted price.

## **8.0 Variation in taxes, duties & levies:**

**8.01** The total order value shall be adjusted on account of any variations in Statutory Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period only. However, incase of reduction in taxes, duties and levies, the benefits of the same shall be passed on to BUYER.

**8.02** No other Taxes, Duties & Levies other than those specified above will be payable by BUYER except in case of new Levies, Taxes & Duties imposed by the Competent Authorities by way of fresh notification(s) subsequent to the issue of PURCHASE ORDER but within the stipulated delivery period.

**8.03** Notwithstanding what is stated above, changes in Taxes, Duties & Levies shall apply only to that portion PURCHASE ORDER not executed on the date of notification by Competent Authority. Further, changes in Taxes, Duties & Levies after due date of Delivery shall not affect PURCHASE ORDER Terms and Value.

**8.04** PURCHASE ORDER value shall not be subject to any variation on account of variation in Exchange rate(s).

## **9.0 Taxes & Duties on raw materials & bought out components:**

**9.01** Taxes & Duties on raw materials & bought out components are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.

**9.02** Taxes & Duties on raw materials & bought out components procured indigenously are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.

## **10.0 Terms of payment and billing**

**10.01** For Supply of Equipments:

- 100% payment shall be made within 45 days from the date of receipt of material at store/ site against submission of 10 % performance bank guarantee. (Refer 10.01)

**10.02** Bidder to submit the following documents against dispatch of each consignment:  
i. Consignee copy of LR

- ii. Supplier detailed invoice showing commodity description, quantity, unit price, total price and basis of delivery.
- iii. Original certificate issued by BYPL confirming receipt of material at site and acceptance of the same.
- iv. Dispatch clearance / inspection report in original issued by the inspection authority
- v. Packing List.
- vi. Test Reports
- vii. Guarantee Certificate.
- viii. Insurance policy to be obtained by supplier

## **11.0 Price Validity**

- 11.01** All bids submitted shall remain valid, firm and subject to unconditional acceptance by BYPL Delhi for 120 days post bid-date. For awarded suppliers, the prices shall remain valid and firm till contract completion.

## **12.0 Performance Guarantee**

- 12.01** Supplier shall establish a performance bond in favor of BYPL in an amount not less than Ten percent (10%) of the total price of the Contract(ex-work) (the "Performance Bond"). The Performance Bond shall be valid for a period of Sixty months (60) from the date of the commissioning or Sixty six months (66) from the date of receipt of material (last consignment) at site/stores which ever is earlier plus 3 months towards claim period. It shall be in accordance with one of the following terms:

- (a) Depositing pay order /demand draft of the relevant amount directly with BYPL at the address listed above or as otherwise specified by BYPL, either of which shall constitute the Performance Bond hereunder; or
- (b) Bank guarantee from any nationalized bank in favour of BSES YAMUNA POWER LIMITED. The performance Bank guarantee shall be in the format as specified by BSES YAMUNA POWER LIMITED.

## **13.0 Forfeiture**

- 13.01** Each Performance Bond established under Clause 10.0 shall contain a statement that it shall be automatically and unconditionally forfeited without recourse and payable against the presentation by BYPL of this Performance Bond to the ICICI Bank at Mumbai, or to the relevant company/ correspondent bank referred to above, as the case may be, together with a simple statement that supplier has failed to comply with any term or condition set forth in the Contract.
- 13.02** Each Performance Bond established under will be automatically and unconditionally forfeited without recourse if BYPL in its sole discretion determines that supplier has failed to comply with any term or condition set forth in the contract.

## **14.0 Release**

All Performance Bonds will be released without interest within seven (7) days from the last date up to which the Performance Bond has to be kept valid (as defined in Clause 10.0) except for the case set forth in Clause 21.0.

## **15.0 Defects Liability Period**

- 15.01** The bidder to Guarantee the materials / items supplied against any defect of failure, which arise due to faulty materials, workmanship or design for the entire defects liability period. The Defect liability period shall be 60 months from the date of commissioning or 66 months from the date of delivery whichever is earlier. If during the defects liability period any materials / items are found to be defective, these shall be replaced or rectified by the bidder at his own cost within 30 days from the date of receipt of intimation.

## **16.0 Return, Replacement or Substitution.**

BYPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BYPL may in its discretion elect to return defective Commodities to Supplier for replacement, free of charge to BYPL, or may reject such Commodities and purchase the same or similar Commodities from

any third party. In the latter case BYPL shall furnish proof to Supplier of the cost of such substitute purchase. In either case, all costs of any replacement, substitution, shipping, labour and other related expenses incurred in connection with the return and replacement or for the substitute purchase of a Commodity hereunder should be for the account of Supplier. BYPL may set off such costs against any amounts payable by BYPL to Supplier. Supplier shall reimburse BYPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid.

#### **17.0 Effective Date of Commencement of Contract:**

**17.01** The date of the issue of the Letter of Acceptance shall be treated as the effective date of the commencement of Contract.

#### **18.0 Time – The Essence Of Contract**

**18.01** The time and the date of completion of the “Supply” as stipulated in the Letter Of Acceptance / Purchase order issued to the Supplier shall be deemed to be the essence of the “Contract”. The Supply has to be completed not later than the aforesaid Schedule and date of completion of supply .

#### **19.0 The Laws and Jurisdiction of Contract:**

**19.01** The laws applicable to this Contract shall be the Laws in force in India.

**19.02** All disputes arising in connection with the present Contract shall be settled amicably by mutual consultation failing which shall be finally settled as per the rules of Arbitration and Conciliation Act, 1996 at the discretion of Purchaser. The venue of arbitration shall be at Mumbai in India

#### **20.0 Events of Default**

**20.01** Events of Default. Each of the following events or occurrences shall constitute an event of default ("Event of Default") under the Contract:

- (a) Supplier fails or refuses to pay any amounts due under the Contract;
- (b) Supplier fails or refuses to deliver Commodities conforming to this RFQ/ specifications, or fails to deliver Commodities within the period specified in P.O. or any extension thereof
- (c) Supplier becomes insolvent or unable to pay its debts when due, or commits any act of bankruptcy, such as filing any petition in any bankruptcy, winding-up or reorganization proceeding, or acknowledges in writing its insolvency or inability to pay its debts; or the Supplier's creditors file any petition relating to bankruptcy of Supplier;
- (d) Supplier otherwise fails or refuses to perform or observe any term or condition of the Contract and such failure is not remediable or, if remediable, continues for a period of 30 days after receipt by the Supplier of notice of such failure from BYPL.

#### **21.0 Consequences of Default.**

- (a) If an Event of Default shall occur and be continuing, BYPL may forthwith terminate the Contract by written notice.
- (b) In the event of an Event of Default, BYPL may, without prejudice to any other right granted to it by law, or the Contract, take any or all of the following actions;
  - (i) present for payment to the relevant bank the Performance Bond;
  - (ii) purchase the same or similar Commodities from any third party; and/or
  - (iii) recover any losses and/or additional expenses BYPL may incur as a result of Supplier's default.

#### **22.0 Penalty for Delay**

- 22.01** If supply of items / equipments is delayed beyond the supply schedule as stipulated in purchase order then the Supplier shall be liable to pay to the Purchaser as penalty for delay, a sum of 1% (one percent) of the contract price(ex-work) for every week delay or part thereof for individual mile stone deliveries.
- 22.02** The total amount of penalty for delay under the contract will be subject to a maximum of ten percent (10%) of the contract price (ex-work).
- 22.03** The Purchaser may, without prejudice to any method of recovery, deduct the amount for such damages from any amount due or which may become due to the Supplier or from the Performance Bond or file a claim against the supplier.

## **23.0 Force Majeure**

### **23.01 General**

An "Event of Force Majeure" shall mean any event or circumstance not within the reasonable control directly or indirectly, of the Party affected, but only if and to the extent that:

- (i) Such event or circumstance materially and adversely affects the ability of the affected Party to perform its obligations under this Contract, and the affected Party has taken all reasonable precautions, due care and reasonable alternative measures in order to prevent or avoid the effect of such event on the affected party's ability to perform its obligations under this Contract and to mitigate the consequences thereof.
- (ii) For the avoidance of doubt, if such event or circumstance would not have materially and adversely affected the performance of the affected party had such affected party followed good industry practice, such event or circumstance shall not constitute force majeure.
- (iii) Such event is not the direct or indirect result of the failure of such Party to perform any of its obligations under this Contract.
- (iv) Such Party has given the other Party prompt notice describing such events, the effect thereof and the actions being taken in order to comply with above clause.

### **23.02 Specific Events of Force Majeure subject to the provisions of above clause, Events of Force Majeure shall include only the following to the extent that they or their consequences satisfy the above requirements :**

- (i) The following events and circumstances :
  - a) Effect of any natural element or other acts of God, including but not limited to storm, flood, earthquake, lightning, cyclone, landslides or other natural disasters.
  - b) Explosions or fires
- (ii) War declared by the Government of India, provided that the ports at Mumbai are declared as a war zone.
- (iii) Dangers of navigation, perils of the sea.

### **23.03 Notice of Events of Force Majeure If a force majeure event prevents a party from performing any obligations under the Contract in part or in full, that party shall:**

- i) Immediately notify the other party in writing of the force majeure events within 7(seven) working days of the occurrence of the force majeure event
- ii) Be entitled to suspend performance of the obligation under the Contract which is affected by force majeure event for the duration of the force majeure event.
- iii) Use all reasonable efforts to resume full performance of the obligation as soon as practicable

- iv) Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis.
- v) Provide prompt notice of the resumption of full performance or obligation to the other party.

**23.04 Mitigation of Events of Force Majeure Each Party shall:**

- (i) Make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any delay occasioned by an Event of Force Majeure including recourse to alternate methods of satisfying its obligations under the Contract;
- (ii) Use its best efforts to ensure resumption of normal performance after the termination of any Event of Force Majeure and shall perform its obligations to the maximum extent practicable as agreed between the Parties; and
- (iii) Keep the other Party informed at regular intervals of the circumstances concerning the event of Force Majeure, with best estimates as to its likely continuation and what measures or contingency planning it is taking to mitigate and or terminate the Event of Force Majeure.

**23.05 Burden of Proof** In the event that the Parties are unable in good faith to agree that a Force Majeure event has occurred to an affected party, the parties shall resolve their dispute in accordance with the provisions of this Agreement. The burden of proof as to whether or not a force majeure event has occurred shall be upon the party claiming that the force majeure event has occurred and that it is the affected party.

**23.06 Termination for Certain Events of Force Majeure.** If any obligation of any Party under the Contract is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 3 months, the Parties shall promptly discuss in good faith how to proceed with a view to reaching a solution on mutually agreed basis. If a solution on mutually agreed basis cannot be arrived at within a period of 30 days after the expiry of the period of three months, the Contract shall be terminated after the said period of 30 days and neither Party shall be liable to the other for any consequences arising on account of such termination.

**23.07 Limitation of Force Majeure event.** The Supplier shall not be relieved of any obligation under the Contract solely because cost of performance is increased, whether as a consequence of adverse economic consequences or otherwise.

**23.08 Extension of Contract Period due to Force Majeure event** The Contract period may be extended by mutual agreement of Parties by way of an adjustment on account of any period during which an obligation of either Party is suspended due to a Force Majeure event.

**23.09 Effect of Events of Force Majeure.** Except as otherwise provided herein or may further be agreed between the Parties, either Party shall be excused from performance and neither Party shall be construed to be in default in respect of any obligations hereunder, for so long as failure to perform such obligations shall be due to and event of Force Majeure."

**24.0 Transfer And Sub-Letting**

**24.01** The Supplier shall not sublet, transfer, assign or otherwise part with the Contract or any part thereof, either directly or indirectly, without prior written permission of the Purchaser.

**25.0 Recoveries**

**25.01** When ever under this contract any money is recoverable from and payable by the bidder, the purchaser shall be entitled to recover such sum by appropriating in part or in whole by detecting any sum due to which any time thereafter may become due from the supplier in this or any other contract. Should the sum be not sufficient to cover the full amount recoverable the bidder shall pay to the purchaser on demand the remaining balance.

**26.0 Waiver**

**26.01** Failure to enforce any condition herein contained shall not operate as a waiver of the condition itself or any subsequent breach thereof.

**27.0 Indemnification**



**27.01** Notwithstanding contrary to anything contained in this RFQ, Supplier shall at his costs and risks make good any loss or damage to the property of the Purchaser and/or the other Supplier engaged by the Purchaser and/or the employees of the Purchaser and/or employees of the other Supplier engaged by the Purchaser whatsoever arising out of the negligence of the Supplier while performing the obligations under this contract.

**SECTION – IV: QUANTITY AND DELIVERY REQUIREMENT**

Sl. No.	Item Description	Specification	Requirement		Location
			Total Qty.	Delivery Schedule	
BSES YAMUNA POWER LIMITED					
1	3 phase 4 Wire Static LT Whole Current 20-100 Amps, 3x 240 Volts , Accuracy class:1.0 , as per enclosed GTP	SECTION V	1,000 Nos	1. Submission of GTP/Drawing within 7-10 days from the date of LOI/ Purchase order. 2. Commencement of 2 k meter per month within 30 days from the date of clearance of GTP/ Drawing from BYPL.	Stores BYPL Delhi
2	Prefitted meter with box of 3 phase 4 Wire Static LT Whole Current 20-100 Amps, 3x 240 Volts , Accuracy class:1.0 , as per enclosed GTP		9,000 Nos		

**SECTION – V:**

**TECHNICAL SPECIFICATION(TS)**

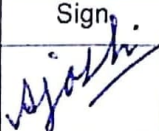

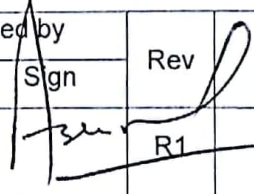
**Three Phase Loose Meter & Prefitted meter with box of 3 ph:  
CMC/BY/17-18/RB/VKS/067**

**Dated : 19.02.2018**

**The detailed meter specification No. : I-10-3A of  
Three Phase Meter is enclosed**

## Specification for 3 Phase Whole Current meter

Specification no – SP-EMWC-08-R1

Prepared by		Reviewed by		Approved by		Rev	Date
Name	Sign	Name	Sign	Name	Sign		
AJ		GS		AA		R1	21/02/2018

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**RECORD OF REVISION**

Revision No	Item / clause no.	Nature of Change	Approved By
R1	5.1	Meter with enclosure as Meter type 1 added	AA
R1	6.9, annexure 'E'	Requirement of meter enclosure added	AA
R1	6.13	Protection against memory chip removal added	AA
R1	7, 13.2, 13,.4 and 16.2.5	Meter category C2 as per IS 15959 Part 1 added	AA
R1	7.7	Parameter profiles added	AA
R1	7.7.1, 8.19,9.7.2	Requirement of harmonic parameters added	AA

## **1.0 SCOPE OF SUPPLY**

This specification cover the following for Three Phase 4 wire 20-100 Amps Static Watt hour meters of accuracy class 1.0 with and without enclosure.

- a. Design, manufacture, testing at manufacturer works before dispatch, packing, delivery and submission of all documentation.
- b. Any accessories / hardware required for installation and operation for the meter.
- c. Software (BCS and CMRI).

## **2.0 CODES & STANDARDS**

Following codes and standards (with latest amendments) are applicable-

<b>S No.</b>	<b>Code/Standard</b>	<b>Title</b>
2.1	Latest Edition	CEA Regulation on meter operation and installation
2.2	Latest Edition	Indian Electricity Act 2003
2.3	CEA	Regulation for installation and operation of meters
2.4	CBIP 325	CBIP Guide on static energy meters- Specification and testing
2.5	IS 13779	AC Static Watt-hour Meters, Class 1 and 2 - Specification
2.6	IS 11448	Application Guide for AC Electricity Meters
2.7	IS 15707	Testing, Evaluation, Installation and maintenance of AC electricity meters.
2.8	IS 1401	Protection of Persons and Equipment by Enclosure
2.9	IS 15959	Data Exchange for Electricity meter- Reading Tariff and Load control- Companion specification
2.10	IS 4905	Methods of Random Sampling
2.11	IEC 60050	International Electro Technical Vocabulary
2.12	IEC 60736	Testing Equipment for Electrical Energy Meters
2.13	IEC 61000	Electromagnetic Compatibility
2.14	IEC 62052	Electricity Metering Equipment General Requirement, Tests & Test Conditions
2.15	IEC 62053	Electricity Metering Equipment Particular Requirements
2.16	IEC 62058	Electricity Metering Equipment - Acceptance Testing

In the event of direct conflict between various order documents, the precedence of authority of documents shall be as follows -

- i. Guaranteed Technical Particulars (GTP)
- ii. Specification including applicable codes & standards
- iii. Approved Vendor Drawings
- iv. Other documents

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER****3.0 SERVICE CONDITIONS**

3.1	Temperature Range	Operation range: -10 Deg C to 55 Deg C Limit range of operation: -25 to 60 Deg C Limit range of storage / transport : -25 to 70 Deg C
3.2	Relative Humidity	0 to 96 %

**4.0 DISTRIBUTION SYSTEM DATA**

4.1	Supply	3 phase 4 wire system
4.2	Voltage	11KV
4.3	Frequency	50 Hz $\pm$ 5%
4.4	System neutral	Solidly Earthed

**5.0 ELECTRICAL AND ACCURACY REQUIREMENTS**

5.1	Meter Type	Type 1. 3 phase 4 wire static energy meter with 50 mm extended type terminal cover. Type 2: 3 phase 4 Wire static energy meter along with short type terminal cover fitted in polycarbonate enclosure as per annexure 'E'.
5.2	Accuracy Class	1.0 as per IS13779 (accuracy class for reactive energy should be same as that for active energy)
5.3	Connection	Direct / whole current
5.4	Rated Voltage	240V (P-N), 415V (P-P) with variation of +30% & -40%. However meter should withstand the maximum system voltage across terminals.
5.5	Rated basic current	20A
5.6	Rated maximum Current	100A
5.7	Rated Frequency	50Hz $\pm$ 5%
5.8	Power factor range	Zero Lag – unity – Zero lead
5.9	Power Consumption in Voltage circuit	Less than 1 Watt & 4 VA per phase
5.10	Power consumption in Current circuit	1 VA per phase
5.11	Starting current	0.2% of Ib
5.12	Meter constant	To be specified by bidder
5.13	Calibration	Meter shall be software calibrated at factory and modification in calibration shall not be possible at site by any means or external influence.
5.14	Insulation Level	Meter shall withstand an insulation test of 4 KV and impulse test at 8 KV
5.15	Accuracy	Meter shall comply as per IS 13779.
5.16	Repeatability of error test	As per IS 13779
5.17	Starting and Running with No-Load	Meter shall be fully functional within 5 seconds of applying rated voltage to meter terminals. Meter shall not produce more than one output pulse count when voltage is applied with no current flowing in the current circuit. Meter shall pass test for No-load condition.
5.18	Voltage dips and interruptions	Voltage dips and interruptions shall not produce a change in the register of more than 0.001KWH and test output shall not



**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

		produce a signal more than 0.001KWH as per IS 13779.
5.19	Short time over current	Meter shall not get damaged due to short time over currents. Meter shall perform correctly when back to its initial working conditions and the variation in error shall not exceed 0.1% @ $I_b$ and unity power factor. Meter shall be able to carry a short time over current of 20 times the maximum current for a period of 0.5 second as per IS 13779.
5.20	Influence of heating and self-heating	As per IS 13779
5.21	Immunity to earth/phase fault	As per IS 13779
5.22	Limits of error due to Current variation	As per IS 13779
5.23	Limits of error due to influence quantities	<p>Meter shall work within guaranteed accuracy as per IS 13779/ IEC62053/ CBIP325 (most stringent standard to be followed) under and after influence of following :-</p> <ol style="list-style-type: none"> <li>Voltage variation</li> <li>Frequency variation</li> <li>10% third harmonic in current</li> <li>Reversed phase sequence</li> <li>Voltage unbalance</li> <li>Harmonic components in current and voltage circuit</li> <li>DC and even harmonics in AC current circuit</li> <li>Odd harmonics in AC current circuit</li> <li>Sub harmonics in AC current circuit</li> <li>Continuous (DC) "stray" magnetic induction of 67mT+/-5%.</li> <li>Continuous (DC) "abnormal" magnetic induction of 0.27T+/-5%.</li> <li>Alternating (AC) "stray" magnetic induction of 0.5mT+/-5%</li> <li>Alternating (AC) "abnormal" magnetic induction of 10mT.</li> <li>Alternating (AC) "abnormal" magnetic induction of 0.2T+/-5%.</li> <li>External magnetic field 0.5 T</li> <li>Electromagnetic HF fields</li> <li>Radio frequency interference</li> <li>DC immunity test</li> </ol>
5.24	Limits of error due to ambient temperature variation	As per IS 13779
5.25	Electromagnetic compatibility	Meter shall remain immune to electrostatic discharge, electromagnetic HF field and fast transient burst as per IS 137 79
5.26	Radio Interference	Meter shall not generate conducted or radiated noise which interferes with other equipment

**6.0 CONSTRUCTION REQUIREMENTS**

6.1	General	Construction should be in accordance with IS13779.
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**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

6.2	Base Body	Opaque, UV stabilized polycarbonate of grade LEXAN 142A/ 943AA or Equivalent with V0 inflammability level
6.3	Top Cover	Transparent, UV stabilized polycarbonate of grade LEXAN 142A/ 943AA or Equivalent with V0 inflammability level
6.4	Assembly of base body and top cover	By ultrasonic welding
6.5	Terminal block	<ul style="list-style-type: none"><li>a. Material - Flame retardant glass filled polycarbonate of grade 500 R or equivalent.</li><li>b. Terminal block shall be capable of passing the tests as per ISO-75 for a temperature of 135C and pressure of 1.8MPa. The terminals shall be designed so as to ensure adequate and durable contact such that there is no risk of loosening or undue heating.</li></ul>
6.6	Terminal Cover	<ul style="list-style-type: none"><li>a. Type 1: 50 mm extended type terminal cover with U cut suitable for 50 mm<sup>2</sup> Cable.</li><li>b. Type 2: Short type terminal cover suitable for 50 mm<sup>2</sup> Cable.</li><li>c. Material - UV stabilized transparent polycarbonate cover</li><li>d. Provision of sealing at two points through sealing screw.</li><li>e. The terminal cover shall be extended type with baffle wall above the cable entry base wall so that access to the terminals is not possible (even with thin metallic wire) without breaking the seal. Terminal cover should have provision for cable entry from bottom.</li><li>f. Diagram of external connections should be embossed on terminal cover. Sticker is not acceptable.</li></ul>
6.7	Terminals	<ul style="list-style-type: none"><li>a. Suitable for 50mm<sup>2</sup> aluminium cable.</li><li>b. Material of terminals, screws and washers should be brass or tinned copper. Two flat head screws of appropriate size should be provided per terminal.</li><li>c. Terminals shall be tested for continuous current of 150 % I<sub>max</sub>.</li><li>d. Terminals shall be clearly marked for phase/neutral/incoming/outgoing etc.</li></ul>
6.8	Ingress Protection	IP 51 or better, but without suction in the meter.
6.9	Meter Enclosure	Meter shall be factory fitted using unidirectional screw in a polycarbonate enclosure confirming specifications provided in annexure 'E' for Meter 'Type 1' only.
6.10	Output device	Meter should have flashing LED visible from the front as output device to represent energy recording. LED shall be configurable for KWH, KVAh and KVArh. The resolution shall be such that satisfactory accuracy test can be conducted at the lowest load in less than 5 minutes and starting current test in less than 10 minutes.
6.11	RTC	Meter shall have internal real time clock to set date and time. Time accuracy should be as per relevant IS/IEC. Meter should have facility for time synchronization locally through CMRI. It is preferable to have facility for remote synchronization through AMR. Clock correction events shall

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

		be registered in meter's memory.
6.12	Battery	Lithium ion battery with guaranteed shelf life of 10 years and capacity life of 15 years. Battery removal or total discharge should not affect the working of the meter.
6.13	Memory	<ul style="list-style-type: none"> <li>a. Non volatile memory independent of battery backup to store complete meter data. Data should be retained in the memory up to 10 year without any auxiliary power.</li> <li>b. Memory chip of a meter shall not work in circuit of another meter. Hardware/ firmware level security in microcontroller of meter shall be provided in this regard.</li> </ul>
6.14	Self Diagnostic feature	<p>Meter shall have self diagnostic for the following</p> <ul style="list-style-type: none"> <li>a. Date and RTC</li> <li>b. Battery</li> <li>c. Non volatile memory</li> <li>d. Display</li> </ul>
6.15	Clearance and Creepage distance	As per IS 13779
6.16	Mounting	Surface / Flush mounted
6.17	Resistance against heat and fire	The terminal block and Meter case shall have safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them as per IS 13779.
6.18	Electronic components	All active & passive components should be surface mounting type and shall be assembled by state of the art assembly processes.
6.19	Power Supply	The power supply should comply with the relevant standards. Power supply unit of the meter should not be affected in case maximum voltage of the system appears across the terminals due to faults or due to wrong connections.
6.20	Measurement/ computing chips	Measurement/computing ASICs should be surface mounting type.
6.21	Protection against Corrosion	<ul style="list-style-type: none"> <li>a. Internal electrical components should be of electrolytic copper &amp; should be protected from corrosion, rust etc.</li> <li>b. Mechanical components should be protected from rust, corrosion etc. by suitable plating/painting methods.</li> </ul>
6.22	Meter Sealing Arrangement	Sealing should be in accordance with IS and CEA metering regulations with latest amendments. Approval shall be taken from purchaser for location of seals.
6.22.1	Manufacturer's Seals	One Polycarbonate seal to be provided on meter cover.
6.22.2	BSES Seals	<ul style="list-style-type: none"> <li>a. One Hologram seal should be provided on each side of meter i.e two hologram seals should be provided. Meter sides should not have sharp edges to avoid damage to hologram seals.</li> <li>b. Polycarbonate seal should be provided on top cover.</li> <li>c. Seals will be issued to manufacturer free of cost.</li> </ul>
6.22.3	Seal record	Record of all seals shall be forwarded to purchaser with each lot.

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

6.23	Guarantee/ Warranty	66 months from the date of dispatch or 60 months from date of commissioning, whichever is earlier
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**7.0 FUNCTIONAL REQUIREMENTS**

7.1	Meter category	Meter shall comply C2 category as per IS 15959 part 1 with additional parameters specified in this specification.																					
7.2	Tariff Basis	Lag only: KVAh is computed based on KVArh and KWH value. If PF=1, or leading, then KVAh = KWH. At no instance KVAh < KWH.																					
7.3	MD Registration	Meter shall store and display MD upto two decimal in every 30 min. period along with date & time. At the end of every 30 min, new MD shall be computed & compared with previous MD and store whichever is higher and the same shall be displayed. It is preferred that MD is computed using separate counter rather than by difference of initial and final energy counter.																					
7.4	Auto Reset of MD	Auto resetting shall be 1st of every month at 00:00hrs.																					
7.5	TOU Metering	<p>a. Meter shall be capable of doing TOD metering in minimum 4 tariff rate registers programmable for minimum 8 time zones and 4 seasonal profiles.</p> <p>b. TOU metering shall be implemented by the activity colander method of IS 15959 Part 1 clause 9/ DLMS UA-1000-1</p> <p>c. Special Day table shall be defined as per DLMS UA-1000-1</p> <p>d. Default TOU programming shall be as follow:</p> <table border="1"> <thead> <tr> <th>SL</th><th>Time Zones</th><th>1 Jan to 31 Dec</th></tr> </thead> <tbody> <tr> <td>i</td><td>0000-0300</td><td>R1</td></tr> <tr> <td>ii</td><td>0300-0900</td><td>R3</td></tr> <tr> <td>iii</td><td>0900-1300</td><td>R1</td></tr> <tr> <td>iv</td><td>1300-1700</td><td>R2</td></tr> <tr> <td>v</td><td>1700-2100</td><td>R1</td></tr> <tr> <td>vi</td><td>2100-2400</td><td>R2</td></tr> </tbody> </table> <p>e. Tariff rate registers shall be as follow  R1: Rate register for Peak  R2: Rate register for Normal  R3: Rate Register for Off Peak</p>	SL	Time Zones	1 Jan to 31 Dec	i	0000-0300	R1	ii	0300-0900	R3	iii	0900-1300	R1	iv	1300-1700	R2	v	1700-2100	R1	vi	2100-2400	R2
SL	Time Zones	1 Jan to 31 Dec																					
i	0000-0300	R1																					
ii	0300-0900	R3																					
iii	0900-1300	R1																					
iv	1300-1700	R2																					
v	1700-2100	R1																					
vi	2100-2400	R2																					
7.6	Security	<p>a. As per IS 15959 part 1</p> <p>b. Programmable facility to restrict the access to the information recorded at different security level such as read communication, write communication etc.</p> <p>c. Only RTC and TOD zone timing should be programmable in field. Every transaction for RTC and TOD change shall be logged in non volatile memory of the meter with date and time stamps.</p>																					
7.7	Parameters profiles	Meter shall support all the parameters profile as per IS 15959 part 1 with additional parameters specified in this specification:																					
7.7.1	Instantaneous parameters	All the parameters as per table 27 of IS 15959 Part 1 shall be continuously updated by the meter hardware/software as per internal sampling and computation time and last																					

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

		updated value shall be available for downloading as and when required along with following additional parameters: <ol style="list-style-type: none"> <li>1. Neutral Current</li> <li>2. % THD in R Phase Voltage</li> <li>3. % THD in Y Phase Voltage</li> <li>4. % THD in B Phase Voltage</li> <li>5. % THD in R Phase Current</li> <li>6. % THD in Y Phase Current</li> <li>7. % THD in B Phase Current</li> <li>8. Displacement PF</li> </ol>
7.7.2	Billing Parameters	All the parameters mentioned in Table 29 of IS 15959 part.
7.7.3	Block load survey parameters	<ol style="list-style-type: none"> <li>1. All the parameters as per Table 28 of IS 15959 part 1 for 60 power ON days.</li> <li>2. Default profile capture period shall be 1800 sec.</li> <li>3. Load survey</li> </ol>
7.7.4	Daily Load Profile	All the parameters as per table 57 of IS 15959 Part 1 shall be measured and recorded at each midnight i.e. 00:00 hrs for last 60 power ON days.
7.7.5	General Purpose Parameters	Following parameters shall be provided in Non Volatile memory (NVM) of the meter.
7.7.5.1	Name plate details	Provided As per table xx of IS 15959 Part 1.
7.7.5.2	Programmable parameters	<ol style="list-style-type: none"> <li>1. Parameters mentioned in table xx of IS 15959 part 1 shall be provided.</li> <li>2. These parameters can be programmed by BCS or CMRI via proper security. Every transaction shall be logged in non volatile memory of the meter with date and time stamp.</li> </ol>
7.7.6	Transaction events	All transaction shall be logged in memory of meter.

**8.0 EVENT AND TAMPER MONITORING**

8.1	Top Cover Open	Meter shall have top cover open detection and same shall be logged. Detection and logging mechanism shall work even when the meter is de-energized. Top cover open event should not get reset.
8.2	External Magnetic tamper	<ol style="list-style-type: none"> <li>1. Meter should either be immune or should log the events of attempt of tampering by external magnetic field as per relevant IS13779/ CBIP 325 with latest amendments.</li> <li>2. If the working of the meter gets affected under the influence of external magnetic field, meter should record energy at I<sub>max</sub> and UPF. Meter should not compute MD during this period. Counter for reactive energy should not increase in this case. The meter shall record energy as per actual load once the magnetic field is removed.</li> </ol>
8.3	Protection against HV spark/ESD	If the meter is subjected to HV spark/ ESD, meter shall continue to record energy or log the event. Upto 35 KV meter should remain immune. Communication port shall also be immune upto 35KV. Bidder should have valid test report from Sameer/ UL lab for the same.

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

8.4	Neutral disturbance	Meter should log the event when AC/DC/ Pulsating voltage is injected in neutral circuit.
8.5	Phase sequence reversal	Meter should work accurately irrespective of the phase sequence of the supply. Meter should log the event.
8.6	Detection of missing potential	Absence of potential on any phase should be logged. Restoration of normal supply shall also be recorded. The threshold value of voltage should be programmable at factory end.
8.7	Low Voltage	Meter should log low voltage event if average voltage is below 75% of Vref.
8.8	High Voltage	Meter should log high voltage event if average voltage is above 115% of Vref.
8.9	Voltage Imbalance	Meter should log voltage imbalance event when the difference between minimum and maximum phase voltage is more than 10% of Vref.
8.10	Abnormal/Invalid Voltage	Meter should log invalid voltage if phase angle between voltages deviates from the standard values by more than +/-10 degrees i.e. 120 +/- 10 degrees.
8.11	Reversal of Current Coil Polarity	Meter should log the event of reversal of C.C polarity. Meter should register energy consumed correctly with any one, two or all three current coils reversed.
8.12	Current Circuit Shorting / Bypass	Meter should log the event of current coil shorting/bypass. Threshold value of current should be programmable at factory end.
8.13	Current Circuit Open	Meter should log the event of current coil open. Threshold value of current should be programmable at factory end.
8.14	Over current	If the current in any phase exceeds the rated current, meter should log overcurrent event.
8.15	Current Imbalance	Meter should log current imbalance event when the difference between minimum and maximum phase current is more than 30% of I average.
8.16	Invalid Phase Association	Meter should log invalid phase association event if the voltage sequence does not match with the current sequence.
8.17	High neutral Current	Meter should log high neutral current when neutral current is greater than 50% of I basic.
8.18	Power On/Off	Meter shall detect power OFF (minimum power off period 5 mins) if all phase voltages are absent. This event shall be recorded at the time of each power OFF. At the same time power ON event shall be recorded.
8.19	Harmonic events	Meter shall log high harmonic events if meter detect %THD in phase voltage or current more than 5%. Threshold value and occurrence/ restoration time should be factory programmable. Meter shall capture detailed harmonic profile while logging of this event.
8.20	Tamper Logging	Last 200 nos. tamper events shall be recorded in meter memory on FIFO basis excluding top cover open. Last 20 events of top cover open tamper should be recorded in the

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

		memory including the first occurrence.
8.20.1	Parameter Snapshot	<ol style="list-style-type: none"><li>Snapshot of Date, time, voltage, Phase current, neutral current, power factor, active power, apparent power, cumulative kWH, cumulative KVAH etc should be recorded for each tamper event</li><li>Detailed harmonic profile shall be captured at occurrence of High harmonic events.</li></ol>
8.20.2	Tamper Indication	For each tamper event, appropriate Indication/Icon should appear on the meter display either continuously or in auto display mode. Icons appearing continuously are preferable.
8.21	Tamper Logics	Logic sheet for tamper/ event detection and logging should be submitted for purchaser's approval. Following details should be provided for each tamper in tabular form <ol style="list-style-type: none"><li>Detailed Tamper logic</li><li>Threshold values</li><li>Persistence time</li><li>Restoration time</li></ol>

**9.0 DISPLAY**

9.1	Type	STN Liquid crystal, Pin type with backlight
9.2	Viewing angle	Minimum 160 degrees
9.3	UV Protection	The display modules should be well protected from the external UV radiations
9.4	Size	Minimum 10X5mm
9.5	Digits	Minimum 8 digits
9.6	Language	English
9.7	Display Parameters	Parameters to be displayed are given below
9.7.1	Auto scroll mode	<ul style="list-style-type: none"><li>Meter SL No.</li><li>Display test</li><li>Real Date</li><li>Real Time</li><li>Cumulative active energy (Forwarded)</li><li>Cumulative Apparent Energy (Forwarded)</li><li>Cumulative reactive energy Lag</li><li>Active maximum demand with date and time</li><li>Apparent maximum demand with date and time</li><li>Instantaneous average power factor with sign for lag/ lead</li><li>R phase voltage (P-N)</li><li>Y phase Voltage (P-N)</li><li>B phase Voltage (P-N)</li><li>R Phase Current</li><li>Y Phase Current</li><li>B Phase Current</li><li>Neutral Current</li><li>R Phase power Factor</li><li>Y Phase power Factor</li><li>B Phase power Factor</li><li>System Power factor- PF</li></ul>



**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

		<ul style="list-style-type: none"> <li>• Displacement Power Factor</li> <li>• Frequency (Hz)</li> <li>• Cumulative tamper count.</li> <li>• Tamper Status</li> </ul> <p>Scroll time should be 10 Sec.</p>
9.7.2	Manual Display mode (push button mode)	<p>Following parameters should be displayed in addition to parameters displayed in Auto display mode –</p> <ul style="list-style-type: none"> <li>• Signed Active Power – kW</li> <li>• Signed Reactive Power – kVAr (Lag/Lead)</li> <li>• Apparent Power – kVA</li> <li>• Cumulative billing count</li> <li>• Cumulative programming count</li> <li>• Billing date</li> <li>• Last month billing Active energy reading</li> <li>• Last month billing reactive energy reading</li> <li>• % THD in Voltage</li> <li>• % THD in Current</li> </ul> <p>Bidder to submit details of display with technical bid.</p> <p>The meter display should return to Default Display mode (mentioned above) if the 'push button' is not operated for more than 10 seconds. Scroll lock facility should be provided by pressing scroll push button for long duration (10-15 sec). Lock should be released by repeat action.</p>
9.7.3	Tamper indications	As per clause 8.20.2.
9.7.4	Self Diagnostic Indications	Appropriate indication for each self diagnostic feature should be displayed continuously irrespective of display mode (auto/manual).
9.7.5	Connection check	Appropriate indication to be displayed continuously in case of current/voltage connection error

**10.0 SOFTWARE AND COMMUNICATION**

10.1	Base computer software	<p>The BCS shall ensure that data downloaded / displayed cannot be tampered. BCS shall be able to display data in tabular (text) as well as graphical format. Software shall have polling feature with optional selection of parameters to be downloaded through AMR in daily / weekly / monthly / annual format. Any software upgrade shall also be provided free in future by the bidder.</p> <p>Licensed Software with the following features should be supplied for free</p>
10.1.1	Operating System	BCS should be compatible for latest Windows OS with backward compatibility.
10.1.2	Security	System shall be password protected where user can login only if login ID is provided by administrator. BCS shall have rights management system so that access rights can be provided as per requirement to maintain security.
10.1.3	Data access	BCS shall be capable of accessing complete data stored in meter memory locally through PC and remotely through modem (RF/ GSM/ GPRS/ PSTN etc.) for connectivity to



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		AMR.
10.1.4	Database	BCS shall maintain master database according to desired area, location, and region etc.
10.1.5	Reporting	<ul style="list-style-type: none"> <li>a. BCS shall have option of user defined report generation in format of Excel, Word and CSV etc.</li> <li>b. All the data available in the meter shall be convertible to user defined ASCII file format.</li> <li>c. BCS shall have capability to export data in ASCII format at desired location so that the same could be integrated with BSES billing data for processing.</li> </ul>
10.2	CMRI Software	Manufacturer has to provide software capable of downloading data through CMRI.
10.2.1	Integration	In the event of order, bidder shall work with BSES IT team to integrate CMRI software with BSES AMR and billing system i.e meter downloading, uploading data on computer etc. Meter reading protocols shall be shared with BSES.
10.2.2	Data access	CMRI software should be capable of downloading complete data stored in the meter memory. Software should have option for selection of parameters to be downloaded from meter i.e billing data, event/tamper logging data etc. Billing data should be downloadable using CMRI within 1 minute.
10.2.3	Suitability	CMRI software shall work both on SANDS & Analogic make CMRI.
10.3	Training	Manufacturer shall impart training to BSES personnel for usage of software
10.4	Communication Ports	Communication ports required in meter are as follows
10.4.1	RJ11 Port	RS232 compatible RJ11 6P4C shall be provided. PIN configuration shall be as per annexure 'A'
10.4.1	Optical Port	Meter shall have optical port in the front for data download. Portable hand held device shall also be provided along with meter for meter reading.
10.4.3	Port protection	All ports shall be galvanically isolated from the power circuit.
10.4.4	Operation	Both ports should work independently. Failure of one port (including display) should not affect the working of other port.
10.5	Communication protocol	<ul style="list-style-type: none"> <li>a. IS 15959 part 1.</li> <li>b. Integration of meters with BSES system will be supplier's responsibility.</li> </ul>
10.6	Data transfer rate	BCS and communication ports should support data transfer rate of 9600 bps (minimum).

**11.0 NAME PLATE**

11.1	Meter Serial number shall be of 8 digits. Serial number shall be printed in black colour. Embossing is not acceptable. (Should also be stored in meter memory and should be downloadable)
11.2	Size of the digit shall be minimum 5X3mm
11.3	Bar code shall be printed along with serial number
11.4	BIS registration mark (ISI mark)

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

11.5	'BSES' logo should be printed above LCD display.
11.6	BSES PO No. & date
11.7	Manufacturers name and country of origin
11.8	Model type / number of meter
11.9	Month and Year of manufacturing (Should also be stored in meter memory and should be downloadable)
11.10	Reference voltage and current rating
11.11	The number of phases and the number of wires for which the meter is suitable. Graphical symbol as per IS 12032 can be used.
11.12	Principal units in which meter reads
11.13	Meter constant
11.14	Class index of meter
11.15	Reference frequency
11.16	Warranty period
11.17	Reference temperature if different from 27 Deg C
11.18	Connections, diagrams and terminals shall be marked / provided in accordance with Indian Standard.

**12.0 APPROVED MAKES OF COMPONENTS**

12.1	Measurement or computing chips	Analog Devices, Cyrus Logic, Atmel, Phillips, Texas Instruments, SAMES, NEC
12.2	Memory chips	USA: Atmel, National Semiconductors, Texas Instruments, Phillips, ST, Microchip Japan: Hitachi or Oki
12.3	Display modules	Japan: Hitachi, Sony Holland / Korea: Phillips Truly Semiconductor Tianma/Hijing Electronics
12.4	Communication modules	USA: National Semiconductors, HP, Optonica, ST, Holland / Korea: Phillips Japan: Hitachi Germany: Siemens
12.5	Optical port	USA: National Semiconductors, HP Holland / Korea: Phillips Japan: Hitachi, Truly Semiconductor, Agilent, OSRAM, Everlight
12.6	Power supply unit	SMPS Type, reputed make
12.7	Active & passive components	USA: National Semiconductors, Atmel, Phillips, Texas Instruments, ST, Onsemi, Japan: Hitachi, Oki, AVX or Ricoh, Samsung, Everlight, Agilent
12.8	Battery	Varta, Texcell, SAFT
12.9	RTC	USA: Philips, Dallas Atmel, Motorola, Microchip, NEC or Oki
12.10	Note	<p>a. Manufacturer shall intimate deviation if any from make of components. Any deviation is subject to approval of BSES based on supporting documents and performance feedback of the components.</p> <p>b. Manufacturer should have complete tracking of material used in meter. BSES reserve the right to carry out audit of inventory/ manufacturing process at manufacturer's works and sub vendor's work.</p>

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER****13.0 QUALITY ASSURANCE, INSPECTION AND TESTING**

13.1	Quality Assurance Plan (QAP)	To be submitted for Purchaser's approval.
13.1.1	Inspection Hold-Points	To be mutually identified, agreed and approved in QAP.
13.1.2	Sampling Method	Sampling Method for quality checks shall be as per relevant IS/ IEC/ CBIP guidelines and Purchaser's prior approval shall be taken for the same.
13.2	Type Tests	<ul style="list-style-type: none"><li>a. The meter shall be of type tested quality as per relevant IS/IEC/CBIP. Type test conducted at CPRI/ ERDA labs will be treated as valid.</li><li>b. The test report should not be more than 5 years old. In case any modification affecting only part of meter is made after type test, only specific type tests on the affected parts shall be repeated.</li><li>c. Type test certificate should be submitted along with offer for scrutiny.</li><li>d. For a manufacturer supplying meter for the first time, complete type tests will have to be carried out on sample randomly selected from the lot offered for inspection in event of order. 35kV ESD test will also be carried out on the sample at Sameer/UL lab.</li><li>e. For regular suppliers, revalidation of meter design should be carried out by repeating the type tests on sample randomly selected from BSES lot at CPRI/ERDA every three years</li><li>f. Any other component supplied in addition to meter shall also be type tested as per IS /IEC if applicable.</li><li>g. Conformance test report of IS15959 part 1 shall be submitted.</li></ul>
13.3	Routine tests	All test marked "R" as per IS13779
13.4	Acceptance Tests	<ul style="list-style-type: none"><li>a. All tests marked "A" as per IS13779.</li><li>b. Dimensional and drawing verification.</li><li>c. Display parameters/ sequence.</li><li>d. Data Downloading from CMRI and PC.</li><li>e. Tamper detection/logging features as per approved documents. Tamper conditions will be simulated at varying load up to I<sub>max</sub>. Accuracy will also be checked during tamper simulation.</li><li>f. Burn in chamber test.</li><li>g. Component verification.</li><li>h. Testing of Profile parameters and communication protocol.</li><li>i. Purchaser reserves the right to formulate any other test method to verify guaranteed parameters of Meter.</li></ul>
13.5	Inspection	<ul style="list-style-type: none"><li>a. Purchaser reserves the right to inspect /witness all tests on the meters at Seller's works at any time, prior to dispatch, to verify compliance with the specification/ standards.</li><li>b. Manufacturer should have all the facilities/ equipments to conduct all the acceptance tests as</li></ul>

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

		per IS during inspection. All the testing equipment should be calibrated. c. In-process and / or final inspection call intimation shall be given at least 15 days in advance to the purchaser.
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**14.0 SHIPPING, HANDLING AND SITE SUPPORT**

14.1	Packing	Every meter shall be properly sealed / packed in environmental friendly boxes/ cartons for protection against damage, vibration and ingress of dust and moisture.
14.2	Packing for accessories and spares	Robust wooden non returnable packing case with all the above protection & identification Label.
14.3	Marking	Following details are required on each packing case: a. Individual serial number b. Purchaser's name c. PO number (along with SAP item code, if any) & date d. Equipment Tag no. (if any) e. Destination f. Manufacturer / Supplier's name g. Address of Manufacturer / Supplier / it's agent h. Type , rating and other description of equipment i. Country of origin j. Month & year of Manufacturing k. Case measurements l. Gross and net weights in kilograms m. All necessary slinging and stacking instructions
14.4	Test reports	Routine test report to be provided with each meter
14.5	Shipping	The seller shall be responsible for all transit damage due to improper packing.
14.6	Handling and Storage	Manufacturer instruction shall be followed. Detail handling & storage instruction sheet /manual to be furnished before commencement of supply.

**15.0 DEVIATIONS**

15.1	Deviation	Deviations from this Specification shall be stated in writing with the tender by reference to the Specification clause/GTP/Drawing and a description of the alternative offer. In absence of such a statement, it will be assumed that the bidder complies fully with this specification.
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**16.0 DOCUMENT AND DRAWING SUBMISSION**

16.1	The seller has to submit following along with bid
16.1.1	GTP (duly filled-in) (as per Annexure — A)
16.1.2	Deviation sheet, if any.
16.1.3	GA / cross sectional drawing of Meter showing all the dimensions
16.1.4	01 no sample meter with enclosure and 01 no sample meter without enclosure along with software and accessories.
16.1.5	Tamper logic sheet.
16.1.6	Detailed reference list of customers using the offered product during the last 5 years with similar design and rating.

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

16.1.7	Manufacturer's quality assurance plan and certification for quality standards
16.1.8	Type test reports for the same type, size & rating of Meter offered
16.1.9	Complete product catalogue and Manual.
16.1.10	Details of recommended accessories / software or any other hardware for five years of operation.
16.2	Seller has to submit following drawings for buyer's Approval/ Reference after award of contract -
16.2.1	Program for production and testing
16.2.3	4 no's samples along with software and accessories for Lab testing, CMRI integration and installation testing.
16.2.4	Guaranteed Technical Particulars
16.2.5	Specification documents containing all parameters, Services, Methods in addition to companion specification of IS 15959 (part 1).
16.2.6	GA / cross sectional drawing of Meter showing all the dimensions
16.2.7	Tamper logic sheet.
16.2.8	Makes of components
16.2.9	Terminal arrangement with dimensions
16.2.10	Detailed installation and commissioning instructions
16.2.11	Quality assurance plan
16.3	Submittals required prior to dispatch
16.3.1	Inspection and test reports, carried out in manufacturer's works
16.3.2	Test certificates of all bought out items
16.3.3	Operation and maintenance Instruction as well as trouble shooting charts/ manuals
16.3.4	Drawing and document sizes Standard size paper A4
16.3.5	Duly signed & stamped copies of the drawings / documentation
16.3.6	Consolidated report including routine test, seal record and initial reading record as per BSES format.

**ANNEXURE – A GUARANTEED TECHNICAL PARTICULARS (DATA BY SUPPLIER)**

Bidder shall furnish the GTP as per format provided below. All the clauses of the specification shall be covered in GTP. Any deviation or comments shall be specifically mentioned against each clause. No comments or deviation will be treated as acceptance.

Complete GA drawing, technical literature, operation and maintenance manual of hardware/ software shall be provided with technical bid.

Incomplete technical bids are liable to be rejected without any intimation.

Clause no	Description	Compliance of the clause YES / NO	Deviation / Remarks
1			
2			
3			
4			
5			



SP-EMWC-08-R1

TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER

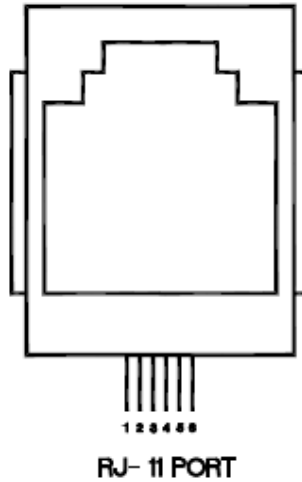
6			
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Bidder / Vendor seal / signature -----

Name of the bidder	
Address of bidder	
Name of contact person	
Telephone no & email id	

**ANNEXURE – B      RECOMMENDED ACCESSORIES / SPARES (DATA BY SUPPLIER)**

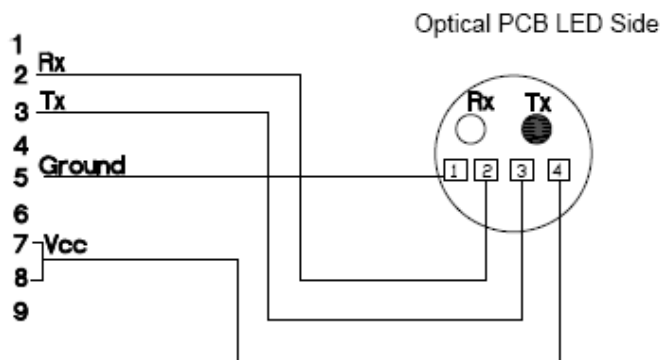
S No	Description of spare part	Unit	Quantity
1			
2			
3			
4			
5			
6			

**ANNEXURE – C – RJ11 PORT DETAILS**

PIN OUT DETAIL		
PIN	SIGNAL	DESCRIPTION
1	NC	---
2	GND	GROUND
3	TXD	RS 232 TRANSMIT
4	GND	GROUND
5	RXD	RS 232 RECEIVE
6	NC	---

**ANNEXURE- D- CONFIGURATION OF OPTICAL CABLE**

9 PIN D Type male Connector



**ANNEXURE – E- SPECIFICATION OF METER ENCLOSURE:**

<b>Sl</b>	<b>Clause</b>	<b>Clause Description</b>
1	Meter Box Type	Flush type with Completely transparent top cover and base with Incoming and Outgoing cable entry and data downloading arrangement.
2	Codes and Standards	
2.1	IS 14772	General Requirements For Enclosures For Accessories For Household And Similar
2.2	IS 4249	Classification And Methods Of Tests For Non-Ignitable And Self-Extinguishing Properties Of Solid Electrical Insulating Materials
2.3	IS 8623	Specification For Low Voltage Switchgear And Control gear Assemblies
3	Design	Meter box shall comply following requirement.
3.1	General Requirement	The meter box shall be designed in such a way that no access to the meter body, terminals and hardwired port of the meter shall be possible after installation and sealing of the box without breaking the box itself.
3.2	Theft Protection	a. Meter box shall be theft proof i.e. meter box cannot be opened without breaking the seals or meter itself. b. On breaking of the box, clear evident of the physical tempering shall be visual.
3.3	Parts of the box	a. The meter box shall be designed in 02 parts i.e. base and top cover. b. Meter shall be mounted inside the base on fixed moulded pillars by unidirectional screw. c. Meter top cover should be hinge type. d. Cable glands and earthing bolt shall be provided at the base as per construction requirement. e. Proper stiffeners shall be provided in the body of the base and top cover to provide mechanical strength against transportation and installation vibrations.
3.4	Ingress protection	The meter box shall be completely dust and vermin proof.. The meter box shall comply with the requirement of IP-55 & IS: 14772 & its latest version.
3.5	Collar of base and cover	a. 'U' shaped groove shall be provided in the collar of the base body, in which UV stabilized rubber 'O' shall be installed. The design of lining shall be such that it provides proper sealing between the cover & base of box to avoid penetration of dust and ingress of water. b. All around projection provided inside the cover periphery which keeps the 'O' ring pressed. c. The outside collar shall also be provide which cover outer surface of the collar.
3.6	Fixing of 'O' ring	a. Rubber 'O' Ring should be fixed with suitable adhesive so that the same does not get removed. b. Rubber 'O' ring shall be fixed in a single piece with out any gap between open ends. Open end of the 'O' ring shall be provided at the bottom side only.
4	Material	The material shall be as follow:



**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

4.1	Box material	The material of meter box shall be flame retardant with inflammability level V0 having good dielectric and mechanical strength. The top Cover and Base of the box shall be made out of transparent polycarbonate with minimum 90% visibility so as to ease installation and monitoring of box against any tampering. The plastic shall be 'UV' stabilized to ensure that the moulded meter box should not change in colour, shape, size or should not get brittle after exposure to UV rays.
4.2	Hardware	All the metal hardware including hinges, U latches, mounting screws, downloading port ring etc shall be of rust proof stainless steel.
4.3	Cable glands	Polyamide Nylon-66 with flammability level V0.
5	Construction	Meter box shall be constructed by moulding of polycarbonate material as specified in clause no. 3.1. Thickness of meter box shall be minimum 3.0 mm.
5.1	Moulding	The box shall be made through Injection Moulding or better method.
5.2	Base	Meter shall be factory fitted inside base body using unidirectional screws, on fixed mounting pillars, moulded in to the base of sufficient strength, so that removing of meter shall not possible without breaking the meter box or meter itself.
5.3	Top cover	Hinge type
5.3.1	Hinge type	a. Minimum 02 no's concealed / internal hinges, not visible or accessible from outside the box without breaking the box itself. b. Minimum 02 no's U latches shall be provided to closed the box with sealing arrangement at each U latch. c. After closing the U latches no play/ gap shall exist between base and top cover.
6	Padlocking	The box shall also have padlocking facility.
7	Cable entry	At bottom suitable for 4CX50 Sqmm cable through cable glands
7.1	Cable Gland	a. Two nos. of Elbow shaped glands made out of Polyamide Nylon-66 suitable upto 4CX50 sqmm aluminium armoured cable shall be provided on both cable entries in the box. b. Glands shall be designed in such a manner that the same cannot be unscrewed / removed from the box from outside. Manufacturer may either supply two nos. of check nuts or any other alternate design to meet this requirement.
8	Earthing bolt	Earthing bolt of M8 with nut and washer shall be provided on left side of the body of meter box. The arrangement shall be such that one earth point shall be available for customer and external earthing provided by BSES can be terminated. Necessary symbol shall be provided for earth terminal.
9	Gland Plate	MS gland plate of minimum thickness 3.0 mm shall be provided at the bottom of the box.
10	Termination Height	Height of the meter terminals from gland plate shall be 150 mm minimum.
11	Mounting	As follow

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

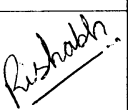
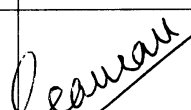
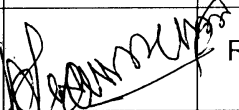
11.1	Meter mounting pillars	a. Fixed type, moulded in to the base body as per the requirement of meter mounting holes. b. Stiffeners shall be provided at the base of the meter mounting pillars.
11.2	Meter box mounting	Four (4) nos. fixing holes of 6 to 6.5 mm diameter at the back surface of box shall be provided to fix the same on flat wall. Mounting holes shall not be obstructing by Incoming or Outgoing cables.
11.3	Box Mounting accessories	Long pan head self tapping SS screws and washers shall be provided by the supplier with every box. 4 no's plastic fixing plugs suitable for self tapping screws shall also be provided.
12	Data Downloading arrangement	a. DB9 RS232 connector shall be provided at the top cover of box to download meter. b. Meter shall be downloadable without opening of the box/ breaking of seals. c. This arrangement shall not de-rate the IP rating of meter box. A Top hinges and bottom sealable cover shall be provided on the data downloading slot. d. Data downloading shall not be affected by scratches on data downloading port or with ageing of box. Data downloading shall not be affected by visible light conditions.
12.1	Optical to RS232 cable.	Optical reader with 9 pin D-type female connector cable shall be provided in each meter box. The optical meter reader with 9 pin D-type male connector cable of the entire meter boxes (100%) shall be tested for meter downloading before dispatch.
13	Marking	Following marking shall be provided on both top cover and base by indiligible laser printing/ screen printing or embossed from inside of the box. a. BSES insignia shall be embossed on the base & cover of meter box. b. Meter serial no. c. purchaser's PO no. and date. d. Purchaser's Name. e. Name or trade mark of seller f. Any other detail required at the time of approval.
14	Type Tests and Acceptance tests	a. All the below mentioned tests shall be carried out on 01 no randomly selected sample by BYPL representative from the lot offered for inspection at CPRI/ ERDA/ CIPHET. b. Following tests shall be carried out on sampled meter enclosure from the offered lot for inspection as per QAP approved by BYPL as acceptance tests. c. 01 no's box sealed by BYPL representative from the lot offered for inspection shall be tested for mentioned tests at CPRI/ ERDA/ CIPHET.
14.1	Visual examination	As Per GTP/ approved drawing
14.2	Verification of dimensions & Marking	As Per Spec/GTP/approved drawing

**TECHNICAL SPECIFICATION FOR 3 PHASE WHOLE CURRENT METER**

13.3	Protection against electric Shock	IS:14772
14.4	Resistance to ingress of solid object & to harmful ingress of water ( IP-55 )	IS:14772
14.5	Test of Mechanical Strength / Impact Resistance Test	IS:14772
14.6	Resistance to heat	IS:14772
14.7	Resistance to Rusting	IS:14772
14.8	Glow Wire Test at 950 degree Centigrade	IS:14772/ IEC 695-2-1
14.9	Verification of Dielectric Properties at 5 KV	IS:8623
14.10	Heat Deflection Test at 125 degree Centigrade at 0.45 Mpa	
14.11	Test for Self Extinguishing Properties	IS:4249
14.12	Flammability Test	IS:11731 II
14.13	U V Resistance Test	DIN 53387

**Technical Specification  
For  
THREE PHASE METER BOX**

**Specification No. – SP-TPMB 34-R0**

Prepared by		Reviewed by		Approved by		Rev	Date
Name	Sign	Name	Sign	Name	Sign		
Rishabh Lohiya		Gaurav Sharma		Devender Sharma		R0	12.01.2015

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**TECHNICAL SPECIFICATION FOR THREE PHASE METER BOX****1. SCOPE:**

This specification covers the design, manufacturing, inspection, testing and supply of Three Phase Meter Box. The box shall be made of Engineering plastic with Transparent Polycarbonate Cover and Grey Polycarbonate Base for housing three phase electronic energy meter.

**2. TECHNICAL QUALIFYING REQUIREMENT:**

The bidder must qualify all the following requirements.

- 2.1** The bidder must have minimum 3 years experience in design, engineering, manufacturing, testing and supplying meter boxes made of engineering plastic.
- 2.2** Bidder should have supplied min. 100000 No's of similar meter boxes in last three years to Electricity Utility / private distribution company.
- 2.3** Bidder should have complete testing facilities to carry out all the routine tests and acceptance tests in addition to manufacturing capability.
- 2.4** The bidder should have qualified technical and dedicated QA personal at various stages of manufacturing.
- 2.5** Bidder must have valid ISO 9001:2000 certificate.
- 2.6** Bidder has to submit minimum two numbers sample of polycarbonate meter boxes in line with technical specification along with the bid. Samples shall be tested for compliance to design / anti tamper features by BSES at their lab.

**3. SERVICE CONDITIONS:**

Three phase Meter Box to be supplied against this specification shall be suitable for satisfactory continuous operation under outdoor environment. Following are the climatic conditions:

i.	Peak ambient temperature	55°C
ii.	Minimum Ambient Temperature in shade	45°C
iii.	Maximum average ambient temp. in 24 hours period in shade	40°C
iv.	Minimum Ambient Temperature	(-) 5°C
v.	Maximum temperature attainable by an object exposed to sun	70°C
vi.	Maximum relative humidity	95 %
vii.	Average number of thunder storm days per annum	40

**TECHNICAL SPECIFICATION FOR THREE PHASE METER BOX**

viii.	Average number of rainy days per annum	120
ix.	Average annual rainfall	1250 mm
x.	Number of months of tropical monsoon conditions	4 Months
xi.	Maximum wind pressure	150 kg/m <sup>2</sup>
xii.	Altitudes	Not exceeding 1000 mtrs.

**4. CODE AND STANDARDS:**

The equipment shall conform to this specification and latest revision of following codes with all amendments:

S No.	Title	Indian Standard
4.1		Indian Electricity Act & Indian Electricity Rules
4.2		Latest Amendments Of CBIP Manual 88
4.3	IS 14772	General Requirements For Enclosures For Accessories For Household And Similar
4.4	IS 4249	Classification And Methods Of Tests For Non-Ignitable And Self-Extinguishing Properties Of Solid Electrical Insulating Materials
4.5	IS 8623	Specification For Low Voltage Switchgear And Control gear Assemblies
4.6	IS 11731	Methods Of Test For Determination Of Flammability Of Solid Electrical Insulating Materials When Exposed To An Igniting Source
4.7	IEC 62052-11	General Requirements, Tests And Test Conditions For Metering Equipment
4.8	IEC 61000-4-2	Electromagnetic Compatibility

**5. CONSTRUCTIONAL AND TECHNICAL PARTICULARS:**

- 5.1** The meter box shall be dust and vermin proof for housing three phase energy meter of any make used by BSES. The dimensions of meter box shall be must be suitable to mount all the makes of three phase meters available in BSES with appropriate clearances.
- 5.2** The meter box shall have transparent front cover and Grey Base. The box shall be made through Injection Moulding Method or any other acceptable method. The collar of the body shall be provided with rubber 'O' ring which shall be UV stabilized. The design of lining shall be such that it provides proper sealing between the cover & base of box to avoid penetration of dust and ingress of water. This may be achieved by providing a 'U' shaped groove in the outer flange of the base and all around projection provided on the cover periphery which keeps the 'O' ring pressed and also to provide an outside collar to cover

**TECHNICAL SPECIFICATION FOR THREE PHASE METER BOX**

the groove. This will avoid ingress of water, dust etc. Rubber 'O' Ring should be fixed with suitable adhesive so that the same does not get removed.

- 5.3** The meter box top cover and bottom base shall have over lap of minimum 20mm to avoid insertion of any foreign material inside the box for tampering of meter.
- 5.4** Suitable arrangement shall be provided on the meter box cover for operating push buttons on the meter as required by BSES for every make of meter.
- 5.5** Meter box shall have 2 no's hole of suitable diameter at the bottom for the entry of service connection 4CX50sqmm armoured I/C cable along with two no's elbow shaped polyamide nylon 66 glands of reputed make.
- 5.6** The meter box shall be flame retardant having good dielectric and mechanical strength. The top Cover of the box shall be made out of plastic with minimum 90% visibility so as to ease installation and monitoring of box against any tampering. The plastic shall be 'UV' stabilized to ensure that the moulded meter box should not change in colour, shape, size or should not get brittle after exposure to UV rays.
- 5.7** The meter base support inside the box shall be raised by about 10mm and minimum clearance from the cable entry at bottom of the box to the meter terminals shall be 150mm for ease of wiring and should provide fixing arrangement for all makes of three phase meters presently used by BSES.
- 5.8** The box shall have concealed / internal hinges (minimum 2 no's) not visible or accessible from outside the box. All the hinges provided on the meter boxes shall be concealed and tamper proof. The box shall also have padlocking facility for consumer use. Minimum two number sealings arrangement for BSES shall be provided on the meter box.
- 5.9** Four (4) nos. fixing holes of 6 to 6.5 mm diameter at the back surface of box shall be provided to fix the same on flat wall or surface. For fixing of box on flat wall, 4 nos. 5 mm diameter. 40 mm long pan head self tapping SS screws and washers shall be provided by the supplier with every box. 4 no's plastic fixing plugs of 50mm length suitable for self tapping screws shall also be provided.
- 5.10** Glands should be elbow shaped and must be provided on the bottom of box. Glands shall be designed in such a manner that the same cannot be unscrewed / removed from the box. Manufacturer must supply two nos. of check nuts or any other alternate design to meet this requirement.



**TECHNICAL SPECIFICATION FOR THREE PHASE METER BOX**

- 5.11** Meter Box shall be adequately protected against rust, dust, water and corrosion from inside and outside.
- 5.12** Earthing bolt of M8 with nut and washer shall be provided on left side of the body of meter box. The arrangement shall be such that one earth point shall be available for customer and external earthing provided by BSES can be terminated. Necessary symbol shall be provided for earth terminal.
- 5.13** All the screws and washers shall be SS or zinc passivated.
- 5.14** Optical reader with 9 pin D-type female connector cable shall be provided in each meter box. Push fit type protective cover with sealing arrangement for data downloading port on the cover of the meter box has to be provided. The optical meter reader with 9 pin D-type female connector cable of all the meter boxes (100%) shall be properly fixed and tested for meter downloading before dispatch.
- 5.15** It is the responsibility of bidder to design separate optical readers for every make of three phase meter used in BSES. The fixing arrangement of optical reader on the meter shall be rigidly fixed type without use of screw, rubber grommets, etc. Make of meter for which the optical reading cable is suitable should also be embossed on the cable.
- 5.16** The mounting arrangements and dimensional drawing of three phase meters shall be provided to bidders. The boxes shall be designed to accommodate and mount every make of meter available with BSES.

**6. DRAWING / SAMPLES:**

One complete set of detailed dimensioned drawings of each offered item shall be submitted along with bid as per technical specifications. Two (2) Nos. samples of each offered box as per specifications shall be submitted to BSES Engineering department along with the bid. Bid received without sample will be treated as incomplete submission and will not be considered for technical evaluation. The samples submitted with deviation are liable for rejection.

**7. MARKING & SERIAL NUMBER:**

BSES insignia shall be embossed on the base & cover of meter box. The meter box shall be provided with a 6 digit serial number embossed or laser printed on base & cover, the size of digits shall be min. 6 mm.

**TECHNICAL SPECIFICATION FOR THREE PHASE METER BOX****8. INSPECTION:**

Manufacturer shall intimate the manufacturing schedule in advance. The manufacturer shall give minimum 15 days advance notice about readiness of material at their works. The material shall be inspected for conformity with BSES specification before the same is accepted.

**9. PACKING:**

The meter box shall be suitably packed in 3 ply corrugated boxes in order to avoid damage in transit, handling, storage and further transportation from store to field.

**10. TESTS:****10.1 Type Tests**

- a) The bidders should furnish valid type test certificates from CPRI, ERDA or NABL accredited laboratory on similar rating and design of tendered material/equipment. **For the first time supplier all the type tests are mandatory in event of order without any price implication.**
- b) Type test certificates should not be older than five years as on the date of bid opening.
- c) In case the bidder is not in a position to furnish test certificate of similar rating of offered item from CPRI, ERDA or NABL accredited laboratory (which does not belong to bidder) at the time of submission of bid, the bid may not be considered.

**10.2 Type tests on randomly selected sample from BSES lot**

Following type tests shall be conducted from CPRI / ERDA/ NABL approved lab on randomly selected sample.

S.NO	NAME OF TEST	STANDARD	CLAUSE NO.
1	Visual examination	As Per GTP/ approved drawing	
2	Verification of dimensions & Marking	As Per Spec/GTP/approved drawing	
3	Protection against electric Shock	IS:14772	9
4	Resistance to ingress of solid object & to harmful ingress of water ( IP-55 )	IS:14772	12
5	Test of Mechanical Strength / Impact Resistance Test	IS:14772	13

**TECHNICAL SPECIFICATION FOR THREE PHASE METER BOX**

<b>S.NO</b>	<b>NAME OF TEST</b>	<b>STANDARD</b>	<b>CLAUSE NO.</b>
6	Resistance to heat	IS:14772	14
7	Resistance to Rusting	IS:14772	16
8	Glow Wire Test at 950 degree Centigrade	IS:14772/ IEC 695-2-1	
9	Verification of Dielectric Properties at 5 KV	IS:8623	8.2.2.2
10	Heat Deflection Test at 125 degree Centigrade at 0.45 Mpa		
11	Test for Self Extinguishing Properties	IS:4249	3.5.1
12	Flammability Test	IS:11731 II	
13	U V Resistance Test	DIN 53387	

**10.3 Acceptance test**

The routine tests / acceptance tests shall be as per relevant standard. During acceptance test of each lot, two samples shall be randomly selected for testing the compatibility of EMC from BSES lab. Bidder shall conduct data downloading test as routine test on 100% quantity at its works. Old sample meter / meters shall be provided on returnable basis in event of order during the execution.

**11. DEVIATION**

- a) Deviation from this specification is only acceptable in cases where the bidder has submitted deviation list along with the technical bid. It may also be noted that the deviation can only be accepted by BSES in case it does not hamper the basic purpose of the three phase meter box.
- b) In the absence of a list of deviations, it will be assumed by Buyer that the seller complies fully with this specification.

**TECHNICAL SPECIFICATION FOR THREE PHASE METER BOX****ANNEXURE – A****GUARANTEED TECHNICAL PARTICULARS OF METER BOX FOR HOUSING THREE PHASE ENERGY METER**

<b>S No.</b>	<b>Particulars</b>	<b>Requirement</b>	<b>Offered by the Firm</b>
1	Name of the firm and place of manufacturer.	As per the Firm	
2	Type of box / model		
3	Material Used for Cover	Polycarbonate (V0 Grade)	
4	Material Used for Base	Polycarbonate (V0 Grade)	
5	Dimension of box		
	(a) Length		
	(b) Width		
	(c) Depth		
6	Thickness of base (Grey) minimum	3 mm $\pm$ 0.2 mm	
7	Thickness of Cover (Transparent) minimum	2 mm $\pm$ 0.2 mm	
8	Pad locking arrangement provided	Yes	
9	Two nos Sealing arrangement at diagonal opposite corner	Provided	
10	Fixing arrangement for meter	1 set	
11	Superior Nylon 66 Glands	2 Nos.	
12	Rubber 'O' ring	1 set	
13	Eye holes for fixing at base	2 Nos.	
14	Round holes for fixing at base	2 Nos.	
15	Earthing connections	1 set	
16	Weight of box		
17	Same serial no. should be embossed on base and cover of box	6 digit Nos. Min size of 6 mm	

## **Volume - II**

### **FORMATS**

#### **Tender Notification for**

**Three Phase Loose Meter & Prefitted meter with box of 3 ph:  
CMC/BY/17-18/RB/VKS/067**

**Dated : 19.02.2018**

## Annexure -I

### BID FORM

To  
Head of the Department  
Contracts & Materials  
BSES Yamuna Power Ltd  
Shakti Kiran Building,  
Karkardooma  
New Delhi- 110032  
Sir,

1. We understand that BYPL is desirous of carrying out ..... In its license distribution network area in Delhi.
2. Having examined the Bidding Documents for the above named works, we the Undersigned, offer to provide our services in full conformity with the Terms and Conditions and technical specifications for the sum of..... (figures.....) or such other sums as may be determined in accordance with the terms and conditions of the contract .The above Amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.
3. If our Bid is accepted, we undertake to provide our services as per completion schedule mentioned in the tender document from the date of award of work order/letter of intent.
4. If our Bid is accepted, we will furnish a performance bank guarantee as mentioned in the RFQ for due performance of the Contract in accordance with the Terms and Conditions.
5. We agree to abide by this Bid for a period of 120 days from the due date of bid submission and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. Unless and until Letter of Intent is issued, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We understand that you are not bound to accept the lowest, or any bid you may receive.
8. There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract.

Dated this..... day of..... 20.....  
Signature..... In the capacity of .....  
.....duly authorized to sign for and on behalf of  
(IN BLOCK CAPITALS) .....

**BID SUBMISSION FORM**                      **(Annexure-1)**

**Offer No.:** .....

**Date:** .....

To,

Head Contract and Material  
BSES YAMUNA POWER LIMITED  
3<sup>rd</sup> Floor "A" Block, Shakti Kiran Building,  
Delhi-110032 (INDIA).

Dear Sir,

**In response to your Tender No. CMC/BY/17-18/RB/VKS/067 dated 19.02.2018 for Supply of Three Phase Loose Meter & Prefitted meter with box of 3 ph for BSES YAMUNA POWER LTD, Delhi-32. We hereby submit our offer herewith.**

1. Bidder Name : .....
2. Website Address : .....
3. Email Address : .....
4. Address for Communication : .....

5. Telephone Number : .....

6. Fax/Telefax Number : .....

7. Authorized Person - Name : .....

a. Designation:.....

b. Mobile No. : .....

c. Email-ID : .....

8. Alternate Person - Name : .....

(For E-Bidding)

a. Designation:.....

b. Mobile No. : .....

c. Email-ID : .....

9. PAN Number : .....

10. TIN Number : .....

11. Service Tax Regn. No. : .....

12. ECC Number : .....

13. Particulars of EMD

- a. Amount : Rs. ....
- b. Mode of Payment (DD/BG) : .....
- c. DD/BG No. : .....
- d. Date : .....
- e. Name of the Bank : .....
- f. Address of the Bank : .....
- g. Validity of BG : .....

14. Particulars of Tender Fee

- a. Amount : Rs. ....
- b. DD No. : .....
- c. Date : .....
- d. Name of the Bank : .....
- e. Address of the Bank : .....

15. Turnover of the Bidder in last 3 years (Please submit copy of Annual Report)

Year	Annual Report attached at Page No.	Turnover in Rs. (Crores)
2014-2015		
2015-2016		
2016-2017		
Average Turnover		

16. Details of similar work / order executed during last 2 years (Please submit copy of completion certificate from the client.

Description of the Work/ Order Executed	Value of Work/Order Executed	Name of the Client	Start Date	Finish Date	Doc. Evidence at Page No.

17. Following Documents are submitted to substantiate other eligibility criteria.

- i) .....



- ii) .....
- iii) .....

### **DECLARATION**

- 1) We have read and understood the terms & conditions of the above mentioned tender and comply with all Terms & Conditions of your Tender.(In case of any deviation the Bidder must attach a separate sheet clearly mentioning the Clause No. of the Tender and Deviation thereto)
- 2) We certify that the information mentioned above are true and correct to best of our Knowledge.
- 3) In case of receipt of order we confirm that payment shall be received through e-Banking / Electronics Transfer.
- 4) This offer contains ..... No. of pages including all Annexure and Enclosures.

Place:

Signature of Authorized Signatory

Date:

Name:

Designation:

Seal:

## **Annexure -II**

### **ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT**

(To be signed and stamped by the bidder prior to participation in the auction event)

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

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

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

Signature & seal of the Bidder

### Annexure -III

#### FORMAT FOR BID SECURITY BANK GUARANTEE

*(To be issued in a Non Judicial Stamp Paper of Rs.50/-purchased in the name of the bank)*

Whereas [name of the Bidder](hereinafter called the Bidder“) has submitted its bid dated [date of submission of bid] for the supply of [name and/or description of the goods] (hereafter called “the Bid”).

KNOW ALL PEOPLE by these presents that WE [name of bank]at[Branch Name and address],having our registered office at[address of the registered office of the bank](herein after called –the Bank“),are bound unto BSES Yamuna Ltd., with it’s Corporate Office at BSES Building Karkardooma, New Delhi -110032 ,(herein after called –the Purchaser“)in the sum of Rs. ....(Rupees.....only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this\_\_\_\_\_ day of\_\_\_\_\_ 20\_\_\_\_\_.

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form ;or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
  - (a) Fails or refuses to execute the Contract Form , if required; or
  - (b) Fails or refuses to furnish the performance security, In accordance with the Instructions to Bidders/Terms and conditions;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that is its demand the purchaser will note that amount claimed by it is due to it, owing to the occurrence of on e or both of the two condition s, specifying the occurred condition or condition s.

This guarantee will remain in force up to and including One Twenty (120) days after the due date of submission bid, and any demand in respect thereof should reach the Bank not later than the above date.

(Stamp & signature of the bank)

Signature of the witness

**PRICE FORMAT****Tender No: CMC/BY/17-18/RB/VKS/067****Dated: 19.02.2018**

S.No.	ITEM DESCRIPTION	QTY AS PER RFQ	QTY OFFERED BY THE BIDDER	UOM	EX-WORKS PRICE/PC	FREIGHT/PC	GST %	GST AMOUNT/PC	LANDED COST/PC	TOTAL LANDED COST IN (INR)
1	3 phase 4 Wire Static LT Whole Current 20-100 Amps, 3x 240 Volts , Accuracy class:1.0 , with downloading cord as per enclosed GTP	1,000		Nos						

NAME OF BIDDER

Note:

1. Prices shall be Firm
2. The prices received without break up of ex-works, Freight, GST are liable for rejection
3. Pls indicate the exact percentage of taxes in figures and words
4. If there is a discrepancy between the unit price and the total price THE UNIT PRICE shall prevail

**Annexure -IV****PRICE FORMAT****Tender No: CMC/BY/17-18/RB/VKS/067****Dated: 19.02.2018**

S.No.	ITEM DESCRIPTION	QTY AS PER RFQ	QTY OFFERE D BY THE BIDDER	UOM	EX- WORKS PRICE/PC	FREIGH T/PC	GST %	GST AMOUN T/PC	LANDED COST/PC	TOTAL LANDE D COST IN (INR)
1	Pre-fitted meter with box of 3 phase 4 Wire Static LT Whole Current 20-100 Amps, 3x 240 Volts , Accuracy class:1.0 , with downloading cord, as per enclosed GTP	9,000		Nos						

NAME OF BIDDER

Note:

1. Prices shall be Firm
2. The prices received without break up of ex-works, Freight, GST are liable for rejection
3. Pls indicate the exact percentage of taxes in figures and words
4. If there is a discrepancy between the unit price and the total price THE UNIT PRICE shall prevail

**COMMERCIAL TERMS AND CONDITIONS**

S/NO	ITEM DESCRIPTION	AS PER BYPL	CONFIRMATION OF BIDDER/BIDDER terms
1	Validity of prices	120 days from the date of offer	
2	Price basis	a) Firm, FOR Delhi store basis. Prices shall be inclusive of all taxes & duties, freight up to Delhi stores. b) Unloading at stores shall be in vendor's scope c) Transit insurance in BYPL scope	
3	Payment terms	100% payment shall be made within 45 days from the date of receipt of material at store/ site against submission of 10 % performance bank guarantee.	
4	Delivery schedule	As per Delivery Schedule (SECTION – IV)	
5	Defect Liability period	The Defect liability period shall be 60 months from the date of commissioning or 66 months from the date of delivery whichever is earlier.	
6	Penalty for delay	1% per week of delay of undelivered units or part thereof subject to maximum of 10% of total PO value(ex-work) of undelivered units	
7	Performance Bank Guarantee	Performance Bank Guarantee for an amount of 10% (Ten percent) of the Contract(ex-work). The Performance Bond shall be valid for a period of Sixty months (60) from the date of the commissioning or Sixty six months (66) from the date of receipt of material (last consignment) at site/stores whichever is earlier plus 3 months towards claim period.	
8	Reverse Auction Clause	Purchaser reserves the right to use the online reverse auction as optional tool through SAP – SRM as an integral part of the entire tendering process. All the bidders who are techno-commercially qualified on the basis of tender requirements shall participate in reverse auction. Notwithstanding anything stated above, the Purchaser reserves the right to assess bidder's capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.	

**Annexure-VI**

NIT NO & DATE : ..... DT: .....

**NO DEVIATION SHEET**

SL NO	SL NO OF TECHNICAL SPECIFICATION	DEVIATIONS,IF ANY

**SIGNATURE & SEAL OF BIDDER**

**NAME OF BIDDER**

## SELF DECLARATION FORM

Tender No: CMC/BY/17-18/RB/VKS/067

Dated: 19.02.2018

Sir,

1. I / We, the undersigned do hereby declare that, I / We have never ever been blacklisted and / or there were no debarring actions against us for any default in supply of material/ equipment or in the performance of the contract entrusted to us in any of the Electricity Utilities of India.
2. In the event of any such information pertaining to the aforesaid matter found at any given point of time either during the course of the contract or at the bidding stage, my bid/ contract shall be liable for truncation/ cancellation/ termination without any notice at the sole discretion of the purchaser.

Yours faithfully

Place:

Date:

Signature of the bidder with seal

(This form shall be duly signed by the bidder & submitted along with the original copy of the bid.)



## Qualification Criteria

### Annexure - VII

S.no	Qualification Criteria	Description by bidder with qualifying the fulfillment	Documentary Evidence attached page no. detail
1	The bidder must be a meter manufacturer of static meter.		
2	The tenders shall either themselves be manufacturers of the equipment offered or accredited Representatives of such manufacturers in India or of their Principals abroad with whom they may be having collaboration Such accreditation should be at least of one year old and valid on date of tender.		
3	Relevant documents in support of the above must be furnished along with undertaking of the manufacturers. If these documents are not furnished along with the tenders the offer will be rejected summarily.		
4	Bidder should have supplied atleast 01 Lakh meters in last three year with LCD, memory, optical port and communication facility as per IS 13779, CBIP-88 publication with latest amendment in the regard. The manufacturer should have experience of supplying to Electricity Distribution Utility/ Undertaking in India with electronic display and communication facility.		
5	Offered meters should be in successful operation since at least last 2 year as on the date of opening of Bid.		
6	This should be supported by the copies of purchase orders and performance reports from the SEBs/Power Utilities should be Enclosed. Existing supplier with good track record in terms of quality and timely delivery will get preference		
7	The bidder must possess valid ISO 9001:2015 certification for meter manufacturing and must possess valid BIS License.		
8	Firms who are debarred/blacklisted in other utilities in India MAY not be considered.		
9	The Bidder should have turnover of Rs.100 Crore in any one of the last three financial years (i.e. 14-15,15-16,16-17) <b>related to metering item only..</b> Bidder should submit report on financial standing such as profit and loss statement, balance sheets for the last three years, along with bankers certificates for turnover of only of metering item only.		
10	The audited financial statements of accounts for the last three years submitted by bidder shall be Evaluated and last year of audited accounts should show positive net worth.		
11	Bidder should have complete volume of type test reports as per IS 13779 (including latest amendments if any) and magnet test as per CBIP- 88 from any NABL accredited lab. The type test report should not be older		

	than 2 years as on the date of opening of tender.		
12	Purchaser at his own discretion may consider to award trial order of small quantity to those bidders who have proven design and meet our requirement.		
13	In case of new bidders (not enlisted in BSES), Factory inspection & evaluation may be carried out to ascertain bidder's manufacturing capabilities and quality procedures.		
14	Bidders already qualified against previous tender(s) for similar meter need not submit the documents in support of qualification criteria.		
15	The manufacturer should have following facility to meet both quality and quantity requirement of supplies.		
15.1	<b>Computerized test bench:</b> The manufacturer should have sufficient Nos of Computerized test benches. The benches should have electronic supply, Isolated CT/PT system and data should be directly stored in central server.		
15.2	<b>Seal tracking system:</b> The manufacturer has to put both his own seal and BSES seal(s) on the meter. He should have a seal tracking software to ensure tracking of seal and no duplication of seals and meter nos.		
15.3	<b>Meter Burn In system:</b> In order to ensure the reliability of components and that there is no drift in meter accuracy with time; the manufacturer should have burn in facility --- Running meter with load at elevated temperature.		
15.4	<b>Routine test data:</b> During lot acceptance, all routine test data should be made available to inspector. In fact as per BIS, STI all test data should be offered to inspector for verification. <b>Routine test report should be packed with each meter.</b>		
15.5	<b>Test benches:</b> During the lot acceptance, BSES inspector can test up to 5% of offered quantity. The manufacturer should agree to provide all test facility to do so. Further he should allow BSES inspector to check shop floor process. The place of inspection should be clearly marked in tender and same should be well equipped.		
15.6	<b>Test equipments:</b> Since the meters has lot of anti theft features, the manufacturer should have test set up to check the working of all anti theft features. Same should be available during lot inspection; otherwise inspector has a right to withdraw inspection.		
15.7	<b>PCB assembly facility:-</b> The PCB facility should have auto- pick n place machine, in- circuit tester, Protection against static charge/ dust etc.; and process to ensure no corrosion of solder points/ tracks. Incase service is taken from other vendor than bidder shall arrange inspection of facility. The bidder should be taking the service from the vendor since last two years and so far have procured & one million meter PCB from vendor.		

The manufacture should send the compliance of above mentioned parameters in technical offer and has to give an under about no objection to verify his manufacturing facility as a part of tender process.

**CHECK LIST**

Sno	Item Description	Yes/No
1	INDEX	Yes/no
2	COVERING LETTER	Yes/No
3	Bid FORM (UNORICED) DULY SIGNED	Yes/no
4	Bill of Material (UNPRICED)	Yes/No
5	TECHNICAL BID	Yes/no
6	ACCEPTANCE TO COMMERCIAL TERM AND CONDITIONS	Yes/No
7	FINANCIAL BID (IN SEALD ENVELOPE)	Yes/no
8	EMD IN PRESCRIBED FORMET	Yes/No
9	DEMAND DRAFT OF RS 1000/- DRAWN IN FAVOUR OF	BSES.....POWER LTD
10	POWER OF ATTORNEY/ AUTHORISATION LETTER FOR SIGNING THE BID	Yes/No