

Request for Proposal (RFP)

SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION

INVITATION TO BIDS

Reference Number: CMC/BY/18-19/RB/VKS/008
Dated: 07.05.2018

Head, C & M Dept.
BSES Yamuna Power Limited
Corp. Office: BSES Bhawan, Karkardooma,
New Delhi - 110032

SECTION - I: REQUEST FOR QUOTATION**1.00 Event Information**

The sealed envelopes shall be duly super scribed as – “**BID FOR SUPPLY, TESTING AND INSTALLATION OF SENSORS ON TRANSFORMER, METERS, AIR CIRCUIT BREAKER AND RMU FOR SMART SUBSTATION MANGMENT SYSTEM (REAL TIME MONITORING) SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION**”

TENDER NOTICE CMC/BY/18-19/RB/VKS/008. DUE FOR SUBMISSION ON DT: 28.05.2018

S.no	Material Description	Specification	Requirement	Estimated
	BYPL		Total Qty	Cost
1	SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION	Section V	1 Lot	₹ 50.00 Lacs

BYPL invites sealed tenders for SUPPLY, TESTING AND INSTALLATION OF SENSORS ON TRANSFORMER, METERS, AIR CIRCUIT BREAKER AND RMU FOR SMART SUBSTATION MANGMENT SYSTEM (REAL TIME MONITORING). SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION

The bidder must qualify the technical requirements as specified in clause 2.0 stated below.

The schedule of specifications with detail terms & conditions can be obtained from address given below against demand draft/Pay Order of **Rs.1180-** drawn in favor of **BYPL**, payable at Delhi. The sale of tender documents will be issued from 07.05.2018 onwards on all working days upto 28.05.2018. The tender documents can also be downloaded from the website “**www.bsesdelhi.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/18-19/RB/VKS/008** This envelope should accompany the Bid Documents.

1.01 Offers will be received at 11:00 Hrs on dt **28.05.2018** as indicated earlier will be opened on the same day at the address given below on 29.05.2018 at **12:30 Hrs** 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 1,00,000** is deposited in shape of bank Draft 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). Tender is received after due time due to any reason.

2.0 QUALIFYING REQUIREMENTS FOR BIDDERS

The Bidding is open to all qualified Bidders who fully meet the following qualifying requirements:

- Bidder should have sufficient experience in Supply & Installation, of Sensors in any Organization.
- Bidder should submit the documentary evidence, for showing the work experience for the same type of work in the past.
- Bidder should have the capability of developing an integrated analytics platform using the real-time data from sensors and should submit the documentary proof of the same. The integrated analytics platform must be in-use by atleast one utility.
- Bidder should have the capability of developing smartphone application for use by field team at BSES Yamuna Power. The bidder should submit the documentary proof of the same being used by atleast one utility.
- Bidder should have valid GSTIN NO, whichever is applicable; Bidder should have PAN No. & should fulfill all statutory compliances.
- Owner reserves the right to carry out capability assessment of the Bidders and Owner's decision shall be final in this regard;

The bidder shall submit all necessary documentary evidence to establish that the Bidder meets the above qualifying requirements.

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 22.05.2018 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	All Queries related to RFQ	Pre-bid meeting
2	Technical Offer	It includes all details mentioned in	28.05.2018

S. No.	Steps	Activity description	Due date
		Technical specification.	
3	Commercial Officer	<ul style="list-style-type: none">• Price for items required in price format.• Break up regarding basic price and taxes.• Delivery commitment	Successful bidders will be intimated through website/E-Mail

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 super scribing 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 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

Purchaser intends to award the business on a lowest bid basis, so suppliers are encouraged to bid competitively. The decision to place purchase order / letter of acceptance solely depends on purchaser on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Purchaser may deem relevant.

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.

In the event of your bid being selected by purchaser (and / or its affiliates) and your subsequent DEFAULT on your bid; you will be required to pay purchaser (and / or its affiliates) an amount equal to the difference in your bid and the next lowest bid on the quantity declared in RFQ.

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. A bidder who violates the marketplace rules or engages 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 Agarwal	Rakesh Bansal
Address	3 rd Floor, B Block, Shakti Kiran Building, Karkardooma, Delhi-32	3 rd Floor, A Block, Shakti Kiran Building, Karkardooma, Delhi-32
Fax No.	011-39999636	011-39999230
Email Id	Ashwani.agwarwal@relianceada.com	Rakesh.Bansal@relianceada.com

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

SECTION - II: INSTRUCTION TO BIDDERS

A. GENERAL

BSES Yamuna power Ltd, hereinafter referred to as "The Company is desirous for establishment of SUPPLY, TESTING AND INSTALLATION OF SENSORS. The Company has now floated this tender for of SUPPLY, TESTING AND INSTALLATION OF SENSORS works as notified in this tender document.

SCOPE OF WORK

The scope includes of SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION as per design, drawing and specifications finalized by company. Detailed specifications/ scope of work along with BOQ for work shall be as mentioned in SECTION-IV

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 Company 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 Company or its employees, or otherwise arising in anyway from the selection process for the work.

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 the company will in no case be responsible or liable for those costs.

B BIDDING DOCUMENTS

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:

- (a) Request for Quotation (RFQ) -Section - I
- (b) Instructions to Bidders (ITB) -Section - II
- (c) Commercial Terms & Conditions - Section -III
- (d) Bill of Quantity/Price Format - Section IV

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 Company 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 Company 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 Company, 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).
- (b) All the Bids must be accompanied with the required EMD, as mentioned in the Section - I, against each tender.

9.0 BID FORM

9.01 The Bidder shall submit "Original" Bid Form and the appropriate Price Schedules and technical specifications enclosed with the Bidding Documents.

9.02 EMD

Pursuant to Clause 8.0(b) above, the bidder shall furnish, as part of its bid, a EMD amounting to **Rs 1,00,000** /- as already specified in the Section-I. The EMD is required to protect the Company against the risk of Bidder's conduct which would warrant forfeiture.

The EMD shall be denominated in any of the following form:

- (a) Demand Draft/Pay Order drawn in favors of BSES Yamuna Power Ltd, payable at Delhi.
- (b) Bank Guarantee/Fixed Deposit Receipts (FDR) from a scheduled bank in favors of BSES Yamuna Power Limited valid for 06 (Six) months after last date of receipt of tenders

Earnest money given by all the bidders except the lower bidder shall be refunded within 6 (six) weeks from the date of opening of price bid. The amount of EMD by the lowest bidder shall be adjustable in the security bank guarantee.

The EMD may be forfeited in case of:

- (a) If the Bidder 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 does not

- (i) Accept the Purchase Order, or
- (ii) Furnish the required performance security BG.

10.0 BID PRICES

10.01 Bidders shall quote for the entire Scope of work with a break-up of prices for individual items. The tendered is required, at his expense, to obtain all the information he may require to enable him to submit his tender including necessary visits to the site to ascertain the local conditions, procurement of necessary materials, labour, etc., requirements of the local/government/public authorities in such matters. 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 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 & open for acceptance for a period of 120 days from the date of opening of the Bid.

12.02 Notwithstanding Clause 12.01 above, the Company 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 and sent by Fax/post/courier

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 regarding the rejection of Bids in the terms and conditions, 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 Clause 9.0), clearly marked "Original Bid", must be received by the Company at the date, time and place specified pursuant to Clauses 15.0 and 16.0.

14.02 The original 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-Authority 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 (hard copies) of all the Bid Documents shall be Sealed and submitted to the Company 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 super scribed with – "Technical Bid & Commercial Terms & Conditions ". The price bid shall be inside another sealed envelope with super scribed – "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. The envelopes should be super scribed with – "Tender Notice No. & Due Date of opening."

15.03 The Bidder has the option of sending the Bids in person. Bids submitted by Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to the Company to collect the proposals from courier/ Airlines/ Cargo Agents etc shall be entertained by the Company.

16.0 DEADLINE FOR SUBMISSION OF BIDS

16.01 The original Bid, together with the required copies, must be received by the Company at the address specified no later than 1400 Hrs on 10.01.2013.

16.02 The Company may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause 9.0, in which case all rights and obligations of the Company 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 by itself. No Joint Venture is acceptable. 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 Company after the deadline for submission of Bids prescribed by the Company, 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 Company'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 Company 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 Company 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, Company 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 Company and/or the Company 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 Company'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) Work completion schedule
- (b) Conformance to Qualifying Criteria
- (c) 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 Company 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 COMPANY

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

24.02 Any effort by a Bidder to influence the Company and/or in the Company'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 COMPANY'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Company 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 Company's action.

26.0 AWARD OF CONTRACT

The Company 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. Company reserves the right to award order to 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 COMPANY'S RIGHT TO VARY QUANTITIES

The Company 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 those 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 with in 7 days of issue of the letter of intent /Notification of Award by Company.

29.0 CORRUPT OR FRAUDULENT PRACTICES

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

(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, or soliciting 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 Company, 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 Company of the benefits of free and open competition.

(b) Will reject a proposal for award 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.

29.02 Furthermore, Bidders shall be aware of the provision stated in the Terms and Conditions of Contract.

BSES Yamuna Power Limited
Corp. Office: BSES Bhawan, Karkardooma,
New Delhi - 110032

S. No.	Details of Tender Documents	
1	General Purchase Conditions (Section - GPC)	Annexure I
2	Instruction to Bidders (Section - INB)	Annexure II
3	Detailed Technical Specifications (Section - DTS)	Annexure III
4	Specifications for required Software	Annexure IV
5	Format for Bid Form/PBG	Annexure V
6	Format for Price Bid	Annexure VI
7	Commercial Terms and Condition	Annexure VII
8	No Deviation Sheet (Deviation in Technical)	Annexure VIII
9	Qualifying Requirement Data	Annexure IX

In case you are interested, please submit your competitive offer duly supported with all the above documents mentioned at S.No. 1 to 9 duly signed in each & every page along with relevant Appendix in a sealed envelope marked as **"Part A - Technical Bid"** (As per Annexure I to V, VII, VIII and IX) and Annexure V - Format for Quoting Rates (Price Bid) (S.No.6) to be kept in a separate envelope marked as **"Part B - Price Bid"**. **Both the envelopes (A&B) Technical & Price Bids shall be put in a bigger envelope. The bigger envelope should be sealed and super scribed as "SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION"** - Due on 28.05.2018 at 11:00 hrs.

SECTION - III: TERMS AND CONDITIONS

1.0) DEFINITIONS:

The following terms shall have the meaning hereby assigned to them except where the context otherwise requires:

- a. Company shall mean BSES Yamuna Power Limited, having its office at Shakti Kiran Building , Karkardooma , Delhi and shall include its authorized representatives, agents, successors and assigns.
- b. Engineer in Charge (EIC) shall be the person authorized by the Company or from time to time duly appointed by the Company for the purpose of the contract.
- c. Contractor shall mean the successful Tenderer / vendor to whom the contract has been awarded.
- d. Sub-Contractor shall mean the persons, firm or company to whom any part of the contract has been sublet by the Contractor with the prior written consent of the Company.
- e. Contract, shall mean and include the general terms and conditions, technical specifications, drawings, priced bill of quantities, schedule of rates and prices, if any, tender, Company's letter of intent, the work order and any correspondence letters concerned to the tender, when completed.
- f. Site, shall mean the actual place in over or under which, permanent works or temporary works is to be executed by the Contractor.
- g. Contract Price shall mean the sum named in the letter of acceptance, subject to such additions thereto and /or deductions there from as may be made under the provisions hereinafter contained.
- h. Temporary Works shall mean all temporary works of every kind required in or about the execution or maintenance of the works.
- i. Permanent Works shall mean the permanent works to be executed and maintained in accordance with the Contract.
- j. Specifications shall mean specification referred to in the tender and any modification thereof or addition thereto as may, from time to time be instructed by the Company/ the Structural Consultant.
- k. Drawings shall mean the drawings issued along with this tender and any modification in such drawings issued by the Architect/Structural Consultant of the Company from time to time.
- l. Approved, shall mean approved in writing by Company including subsequent written confirmation of previous verbal approval and "approval" means approval in writing by Company, including as aforesaid.

Language and Measurement:

The order issued to the contractor by the company and all correspondence and documents relating to the order placed on the contractor shall be written in English language. Metric System shall be followed for all dimensions, units etc., the mode of measurement shall be as per IS 1200.

- n. Cost: The word "Cost" shall be deemed to be all inclusive, firm price basis and also including overhead costs and all taxes whether on or off the site.

2.0) PERFORMANCE BOND:

2.1) The contractor to furnish security Performance Bank Guarantee issued on behalf of Contractor in the prescribed format within fifteen (15) days from the date of issuance of Work Order for due performance of this Contract. The same shall be released after completion of the job.

2.2) The security Performance Bank Guarantee shall be of Ten percent (10%) of total contract value without GST and shall be valid till completion, plus three (3) months towards claim period.

2.3) Performance Bank Guarantee shall be issued from any nationalized bank as per Company format.

2.5) The Company shall reserve the right to invoke the performance bond unconditionally and without recourse to the Contractor, if there is failure to perform any part of the Contract for whatsoever reason. This clause is pertaining to performance of contractual obligations and the decision of Company shall be final in this regard.

2.6) In the event, in Company sole judgment, the Contractor has fulfilled all its obligations under this Contract, Company shall release the performance bank guarantee without interest, within seven (7) days from the last date up to which the performance bank guarantee is to be kept valid or if it is assessed by the Company that Contractor has not fulfilled its obligation then the performance bank guarantee shall be extended by the Contractor till that period as requested by the Company.

3.0) TERMS OF PAYMENT:

3.1) Payment for Supply/Installation

3.1.1) 100% after successful commissioning of work duly verified by EIC.

Contractor taking into account:

a) All the works executed under the instructions, acceptance and certified by the EIC and based on the rates and terms of work order/ Contract.

b) Payments already made or certified.

c) Recovery of materials, water, electricity etc. supplied by Company.

d) Recovery of advance payments if any, retention money and any other dues to be recovered from the Contractor under the Contract.

3.3) The Contractor shall submit the final bill along with duly checked final measurements and completion certificate towards the successful completion of the Contract as certified by the EIC.

3.4) Payment of final bill shall not be considered conclusive evidence as to the sufficiency of any work or materials, to which it relates, nor shall it relieve as to the sufficiency of work or materials which it related, nor shall it relieve the Contractor from his liabilities arising from any defects, which become apparent during the Defects Liability Period.

4.0) TAXES & DUTIES:

Prices are inclusive of all taxes, duties, Construction Cess & octroi turn over tax etc. livable by State or Central Government or local bodies shall be to contractor's account including any duties which may be levied by the Govt. during currency of this order(except service tax). However, IT / GST as per applicable rate will be deducted from your bills as Tax Deduction at Source (TDS). However service tax as applicable shall be paid extra on submission of Service Tax Registration and self declaration on your letter head stating that you have deposited/or will deposit the Tax as per the applicable service tax laws.

5.0) TENDER RATES & PRICES ALL INCLUSIVE:

5.1) the prices/rates quoted for each item/work in the BOQ shall be inclusive of all direct and indirect costs, insurances, statutory charges, statutory fees, royalties; taxes on quarried items, duties, only service tax shall be shown separately. i.e. sales tax, consignment tax, octroi / local tax, incidental charges, cost of complying to other local authorities etc., and any other costs that may be involved in completing the works as required, fulfillment of all obligations under the Contract and to the satisfaction of the Company.

5.2) the rates quoted for each item/work in the BOQ by the Contractor shall remain firm until the successful completion of the Contract as certified by the Engineer In Charge including any extension (s) of time that may have been granted to the contractor under

the scope of this Contract and shall not be subject to escalation on any account. The rates quoted for each item/work in the BOQ shall be deemed to include and cover all cost, expenses and liabilities to every description and all risk of every kind to be taken in executing, completing and handing over the work to the satisfaction of the Company.

5.3) The Contractor shall on his own and at his own expense obtain all necessary permits and permissions to execute the job, including required registrations, Agent's etc. To perform its obligation under this Contract and shall indemnify the Company in all related matters.

6.0) MATERIALS & WORKMANSHIP:

6.1) Quality Assurance Programme:

The Contractor before the start of work shall submit for approval a quality assurance programme to the EIC indicating measures that he proposes to implement to ensure that the quality of work shall be in accordance with requirements, specifications laid down in the Contract. The Contractor shall strictly adhere to this programme and any failure attributable to the Contractor shall attract the penal provisions determined by the EIC.

Quality of materials and workmanship and tests:

The Contractor shall procure all the equipments from genius sources as approved by the company and as per company specification.

6.3) Cost of samples and tests:

All samples shall be supplied to Company if required by the Contractor at his own cost. Cost of tests required by the EIC shall be borne by the Contractor and are deemed to be included in the unit rates quoted in the BOQ. The Contractor shall take approval of the EIC prior to start the work for all samples of materials. The cost of such tests carried out by the external agencies or consultants shall be borne by the Contractor at his own cost.

6.4) Inspection of operations:

The Engineer-in-Charge or any person authorized by them shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

6.5) Examination of work before covering up:

No work shall be covered up or put out of view without the approval of the EIC or his representative and the Contractor shall afford full opportunity to the EIC or his representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the EIC or his representative whenever any such work or foundations is or are ready or about to be ready for examination and the EIC or his representative shall, without unreasonable delay, unless he considers it unnecessary, attend for the purpose of the examining such foundations.

7.0) MOBILIZATION:

The Contractor shall have to mobilize their Plants & Equipments, Tools & Tackles, Work Labour Force, project team including Engineering Staff and materials required for execution of work within seven days (7) of receipt of LOI or Work Order whichever is earlier.

8.0) DEFECT LIABILITY PERIOD:

The defects liability period shall be 36 (Thirty Six) calendar months from the date of the successful completion of the contract as certified by the EIC including any extension (s) of time that may have been granted to the Contractor under the scope of this Contract. In case any defect in the work is observed during the defect liability period, the same shall be rectified by the

Contractor at own cost including supply of all materials (as per prevailing rates), labour, equipments and any other appliance in this regards for the fulfillment of all obligations under the Contract and to the satisfaction of the Company.

9.0) DAMAGE OF PRIVATE PROPERTIES / LIFE:

The Contractor shall be responsible for all risk to the works to be performed under its obligation under the Contract and for trespassers, and shall make good at his own expenses all losses and damages whether to the works, themselves, or to any other property of the company or the lives, persons or property of other forms, whatsoever cause, in connection with the works, although all reasonable and proper precautions may have been taken by the contractor, and in case Company is called upon to make good any such costs, loss or damages or to pay compensation to any person(s) sustaining damages by reason of any act, or any negligence or omission on the part of the Contractor, the amount of any costs or charges (including costs and charges towards legal proceedings) which the Company may incur in reference thereto, shall be charged to the Contractor. The Contractor shall reimburse such costs immediately to the Company.

10.0) APPROACHES:

The Contractor shall have to make his own arrangements for all approaches to the site required for transporting his men and material to site of work. The Company shall entertain no payment or claims on account of "Making of Approaches".

11.0) SITE OFFICE AND SITE FACILITIES:

The Contractor shall also make his own arrangement for the accommodation/conveyance requirements for its staff. He shall be provided at site the adequate open space for construction of site store for storing the materials, tools, tackles etc. The entire Contractor's storage will be within the site premises in a manner affording convenient access for identification and inspection at all times. The storage of arrangements shall be subject to IS: 4082. All the incoming and outgoing materials, equipment, tools, tackles and any other items related to said work shall be entered into the register kept for this purpose and shall be in the safe custody of Contractor, however company does not hold any responsibility for any loss or damage caused to Contractor's material etc.

11.1) The Contractor shall strictly control the labour so that the site is not polluted, made dirty or littered with debris, wastes or the likes.

11.2) Any person, labour found creating mess or litter or pollution shall be removed from the site immediately at the Contractors cost and shall also be subject to penalty at the discretion of the EIC.

11.3) Water & Power:

Water and Electricity Power shall be arranged by the Contractor at his own. Water for construction and other uses:

It shall be the responsibility of the Contractor to make arrangements at his own expense for supply of water for construction and other uses. The Contractor shall also install pumps, construct temporary storage tanks and distribute the water to various points in works Site as required. The Contractor at his own expense shall make arrangement for operating and maintaining pumps & distribution lines, connections, which are installed by him for water.

11.4) Watching & Lighting:

The Contractor shall in connection with the works provide and maintain at his own cost all lights, guards, fencing and watching when and where necessary for the protection of works, or for the safety and convenience of the public or others. The care, housekeeping and safety of the materials and works within the works site shall be sole responsibility of the Contractor.

12.00 TIME & COMPLETION PERIOD:

Time is the essence of this Project and the Project shall be completed within 03 months from the date of issue of Letter of Intent or Work Order whichever is earlier, including mobilization period and monsoon.

The Contractor shall within 7 (seven) days of the issue of letter of intent or work order whichever is earlier provide a detailed execution program regarding the Project taking into account the following including restricted working hours due to residential area for the approval of the Company: The Contractor shall carryout the works as per the approved schedule / program of work.

13.0) LIQUIDATED DAMAGES:

In the event of the Contractor's failure to complete the work or any part there of within the Contract Period including the interim milestone dates, the Contractor shall be liable to pay the Company liquidated damages calculated at the rate of 1 (one) % of the contract value per week of delay or part there of subject to a maximum of 10 (ten) % of the contract value, for the period between the date for Contractual Completion and the Date of Actual Completion, as certified by the EIC. The Company may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies in its possession, which are due or which may become due to the Contractor. The levy payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works on time or from any other part of his obligation and liabilities under the Contract. Once the maximum is reached the Company reserves the sight for termination of contract without any liabilities to the Company. In the event of an extension of time being granted by the EIC, in writing for the Completion of the works, this clause shall be applicable after the expiry of such an extended period.

14.0) EXTENSION OF TIME LIMIT & TIME OVER RUN:

If delay is not attributable to the Contractor, the extension of time may be considered at the discretion of the Company without prejudice to the right of the Company for recovery of liquidated damages. This is also subject to the Contractor having taken sufficient precautions to mitigate the delay and submitted to the Company a full-detailed particular of any extension of time to which he may consider himself entitled within 10 days after such work has been commenced or such circumstances have arisen. The extension of time may be granted and without any financial increment in the contract price to the Company.

15.0) RELEASE OF INFORMATION AND CONFIDENTIALITY:

The Contractor shall not communicate or use in advertising, publicity, sales release or in any medium photograph or reproduction of the works under this contract, or description of the site, dimensions, quantity or any other information concerning the works unless prior written permission is obtained by Company. The Contractor shall keep all the information obtained directly or indirectly through appointment of this contract confidential and shall not reveal the same to any other party without the prior written permission of the Company. The technical information, drawing and other related documents forming part of order and the information obtained during the course of execution under this order shall be the Company's exclusive property and shall not be used for any other purpose except for the execution of the order. The technical information drawing, records and other document shall not be copied, transferred, or divulged and/or disclosed to third party in full/part, not misused in any form whatsoever except to the extent for the execution of this order. This technical information, drawing and other related documents shall be returned to the Company with all approved copies and duplicates including drawing/plans as are prepared by the Contactor during the executions of this order, if any, immediately after they have been used for agreed purpose. In the event of any breach of this provision, the contractor shall indemnify the Company against any loss, cost or damage or claim by any party in respect of such breach.

16.0) SITE REPRESENTATIVE, SITE SUPERVISION AND ADVANCE INTIMATION:

16.1) The Contractor shall have to appoint and authorize a Site In Charge/ Project Manager (PM) along with its project team, who shall be available always at site till the completion of the contract as certified by the Company's Engineer In Charge (EIC).

16.2) The Contractor shall be responsible for supervising the works by employing competent and experienced engineers and support teams to inspect the work and check the quality of work to ensure that the work is carried out in accordance with the drawings, specifications and instructions of the EIC. Such inspection and supervision shall not relieve the Contractor from any of his obligations towards use of material, workmanship, sequence of working and completion of project as per the stipulated period.

16.3) On receipt of the LOI or Work Order whichever is earlier the Contractor shall furnish to the Company, for approval, the proposed site setup with list of Engineers, Supervisors and other staff to be deployed by him with their dates of joining.

16.4) The Contractor's Project Manager shall obtain the written approval and instructions from the EIC prior to commencement of any works at site. The PM shall give written advance intimation for approval of all activities including deployment of resources, procurement of materials, concrete pours etc., shall be given to EIC by PM.

17.00 AWARD / SUBLETTING OF CONTRACT:

The Company reserves the right to reduce/ award consolidated order or separate orders for one or more parts against above work.

The Contractor will not be permitted to sublet his job in whole or Part without the prior written permission of the Company. The Contractor shall submit to the Company a list of Sub- Contractor, suppliers (not less than three names) for the approval of the Company. The Company may approve all or any of the names or reject all names, which in his opinion do not meet the prerequisite qualifications. The Contractor shall re-submit a fresh list of names for approval. Further in the event that none of the names submitted by the contractor are acceptable to the Company, the Company may suggest names to the Contractor and it shall be binding upon the Contractor to accept the names suggested.

18.00 SITE LOCATION:

The Contractor must see the site of the work, surrounding locality, local traffic rules, site approaches etc. Carefully. No claim of any sort shall be entertained on account of any site conditions. If any approach from main road is required or existing approach is to be improved and maintained, for cartage and materials by the contractor, the same shall be provided, improved and maintained by him at his own cost.

19.0) SAFETY REGULATIONS:

19.1) The Contractor shall ensure adequate safety precautions at site as required under the law of the land and shall be entirely responsible for the complete safety of their workmen as well as other workers at site and premises.

19.2) The Contractor shall indemnify the Company from any consequence arising due to contractor's failure in respect to safety compliance.

19.3) First Aid facilities at easily accessible place shall be provided by the Contractor at his own cost as per provisions of Labour act or as advised by the Company wherever works are carried out.

19.4) All critical injuries shall be reported promptly to the Company. The report shall cover type, nature, cause, physician's report and actions for prevention of those types again.

19.5) To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the Company.

19.6) The cost so incurred by the Contractor in providing for safety standards and requirements as above shall be deemed to be included in the rates quoted for various items under the scope of Contract and no extra amounts shall be payable to the contractor on this account.

19.7) The Contractor shall furnish to the Company within seven days from issue of LOI or Work Order whichever is earlier, for approval of Company, the proposed safety programme on how it intends to implement the safety procedures and precautions to ensure that the site is accident free.

20.0) CO-ORDINATION WITH OTHER AGENCIES:

The Contractor shall execute the work in strict consultation with the Company and in co-ordination with other agencies appointed by the Company who will also simultaneously execute the components of work allotted to them. The Contractor at his

own cost shall also extend their site facilities, plant and equipments on written request of the Company/ EIC for use by other contractors appointed by the Company.

21.0) MAINTENANCE OF WORK:

The Contractor shall maintain in perfect condition all works executed till the completion of the entire work allotted to him. Where phased handing-over of completed portion of the work is required, the provisions mentioned herein will apply to each phase.

22.0) TESTING OF MATERIALS:

All materials received at site shall be accompanied by the Test certificate of the manufacturer. The Engineer-In-Charge reserves the right to instruct any material to be further tested in an approved laboratory for which the Contractor shall make no additional claims. Where ever test requirements are not specified in the specifications relevant IS code of practice shall govern.

23.0) STATUTORY OBLIGATIONS:

The Contractor shall take all steps as may be necessary to comply with the various applicable laws/rules including the provisions of contract labour (Regulation & Abolition Act) 1970 as amended, Minimum wages Act, 1984, Workman Compensation Act, ESI Act, PF Act, Bonus Act and all other applicable laws and rules framed there under including any statutory approval required from the Central/State Governments, Ministry of Labour. Contractor is liable for registration of the Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the rules framed there under with the Delhi Building and other Construction Workers Welfare Board. Broadly, the compliance shall be as detailed in ANNEXURE I enclosed. Before issue of Work order it would be mandatory for the Contractor to furnish the company the permanent PF code no, ESI registration, registration under W.C.T Act.

24.0) MEASUREMENT OF WORK:

Unless specifically mentioned elsewhere, the work shall be measured for payment as per the provisions of IS 1200.

25.0) ENVIRONMENTAL, HEALTH & SAFETY PLAN:

Contractor will ensure that the Environment, Health & Safety (EHS) requirements are clearly understood and faithfully implemented at all levels at site as per instruction of Company.

Contractors must comply with these requirements:

- a) Comply with all of the elements of the EHS Plan and any regulations applicable to the work.
- b) Comply with the procedures provided in the interests of Environment, Health and Safety.
- c) Ensure that all of their employees designated to work are properly trained and competent.
- d) Ensure that all plant and equipment they bring on to site has been inspected and serviced in accordance with legal requirement and manufacturer's or suppliers' instructions.
- e) Make arrangements to ensure that all employees designated to work on or visit the site present themselves for site induction prior to commencement of work.
- f) Provide details of any hazardous substances to be brought onsite.
- g) Ensure that a responsible person accompanies any of their visitors to site.

All Contractor/workers are accountable for the following:

1. Use the correct tools and equipment for the job and use safety equipment and Protective clothing supplied, e.g. helmets, goggles, ear protection, etc. as instructed.
2. Keep tools in good condition.
3. Report to the Supervisor any unsafe or unhealthy condition or any defects in plant or equipment.
4. Develop a concern for safety for themselves and for others.
5. Prohibit horseplay.
6. Not to operate any item of plant unless they have been specifically trained and are authorized to do so.

26.0) GENERAL CONDITIONS:

26.1) No idle labour charges will be admissible in the event of any suspension of work by the Company or stoppage caused in the work resulting in contractors' labour or equipments being rendered idle due to any cause at any time.

26.2) The LOI followed by Work Order shall supersede all other correspondence and conditions of contract if furnished earlier in the event of any ambiguity.

26.3) If the Contractor needs to carry out any work or rework due to change in drawings or structural consultants instructions, the Contractor shall take the prior permission of the Company/ EIC before commencing such works. The Contractors quoted price shall include such rework or incidentals due to quantity variation, or methodology to carry out the works, wherever required and shall not be entitled for any extra payment or extension of time.

26.4) The Company reserves the right to claim and recover from the security deposit the damages/ losses incurred due to non-compliance to work delay in the progress of work by the Contractor as agreed upon. The decision of the Company in this regard shall be final and binding.

26.5) The Contractor agrees to abide by other terms and conditions stipulated by the Company from time to time in addition to the above for the proper and satisfactory performance of their obligations under this Contract.

27.0) INSURANCE:

The Contractor at its own cost shall also arrange, secure and maintain the following insurance covers: -

27.1) WORKMEN COMPENSATION:

The Contractor shall take insurance policy under the Workman Compensation Act to cover such workers, who are not covered under ESI and PF by the Contractor however engaged to undertake the jobs covered under this order and a copy of this insurance policy will be given to Engineer-In-Charge. This insurance policy shall be kept valid at all times. In case there are no workers involved other than those who are covered under ESI and PF by the Contractor, the Contractor shall certify for the same. The Contractor shall keep the Company indemnified at all times, against all claims of compensation under the provisions of Workmen Compensation Act 1923 and as amended from time to time or any compensation payable under any other law for the time being workman engaged by the Contractor/sub-Contractor/sub-agent in carrying out the job involved under this order and against costs and expenses, if any, incurred by the Company in connection therewith and without prejudice to make any recovery. The Company shall be entitled to deduct any money due to or to become due to the Contractor, money paid or payable by way of compensation as aforesaid or cost or expenses in connection with any claims thereto and the Contractor shall abide by the decision of the Company as to the sum payable by the Contractor under the provisions of this clause.

27.2) THIRD PARTY INSURANCE

Before commencing the execution of the work the Contractor shall insure against any damage or loss or injury which may occur to any property or to any person or any employee or representative of any outside Agency/Company engaged or not

engaged for the work of the Company, by or arising out the execution of the permanent work or temporary work or in carrying out of this work order.

28.0) TERMINATION OF CONTRACT:

If in case the Contractor;

- a) becomes bankrupt or insolvent, has a receiving order issued against it compounds with its creditors, or if the Contractor is a corporation a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction) a receiver is appointed over any part of its undertaking or assets or if the Contractor takes or suffers any other analogous action in consequence of debt.
- b) Assigns or transfers the Contract or any right or interest therein in violation of the provision of given work to sub-contractor.
- c) In the judgment of the Company, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this Sub-clause "Corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in Contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract to the detriment of Company and includes collusive practice among tenderers (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.
- d) Has abandoned or repudiated the Contract e) Has without valid reason failed to commence work on the Facilities promptly or has suspended days after receiving a written instruction from the Company to proceed.
- f) Persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause.
- g) Refuses or is unable to provide sufficient materials services or labour to execute and complete the Facilities in the manner specified in the program furnished and at rate of progress that give reasonable assurance to the Company that the Contractor can attain completion of the Facilities by the time for completion.

Then Company may, without prejudice to any other rights it may possess under the Contract, give a notice to the Contractor stating the nature of the default and requiring the Contractor to remedy the same. If the Contractor fails to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice then Company may terminate the Contract forthwith by giving a notice of termination to the Contractor.

In case, Contractor fails to carry out the work as specified in the schedule or left in between, it will be got done through any other agency at contractors' risk and cost, the same shall be recovered from the amount payable to the Contractor.

In case the Contractor fails to start work / to carry out the work within the specified period i.e. mutually agreed schedule and the work is not found to be satisfactory, the Company reserves the right to terminate the contract, at any stage without assigning any reasons thereof. In such case the Company shall have the right to forfeit the entire / part amount of EMD / Security Deposit.

29.0) SETTLEMENT OF DISPUTES/ ARBITRATION:

29.1) to the best of their ability, the parties hereto shall endeavor to resolve amicably between themselves all disputes arising in connection with this work order. If the same remain unresolved within thirty (30) days of the matter being raised by either party, either party may refer the dispute for settlement by arbitration. The arbitration to be undertaken by two arbitrators, one each to be appointed by either party. The arbitrators appointed by both the parties shall mutually nominate a person to act as umpire before entering upon the reference in the event of a difference between the two arbitrators and the award of the said umpire in such a contingency shall be final and binding upon the parties. The arbitration proceeding shall be conducted in accordance with this provisions of the Indian Arbitration & Conciliation Act, 1996 and the venue of such arbitration shall be city of New Delhi only.

30.0) QUANTITIES IN THE BOQ:

Company reserves the right of deletion of any item in full or in part or to reduce, increase or to modify the Scope of Work. The rates quoted by the Contractor shall remain firm even if there are any variations in the quantities mentioned in the Bill of Quantities, or due to any idling of resources due to non availability of fronts, details, etc.

31.0) VARIATIONS AND EXTRA ITEMS

31.1) The Contractor shall carry out and complete the works in every respect in accordance with this Contract and In accordance with the directions and to the satisfaction of the Engineer in charge.

31.2) The Engineer In Charge may, at his discretion, from time to time, issue further drawings and/ or written instructions, details, directions and explanations which are herein after referred to as "EIC's Instructions" in regard to:

- a) The variation or modification of the design, quality, specification or quantity of works or the omission or substitution of any work.
- b) The timing or sequencing of work.
- c) Any discrepancy between the drawing and / or the Bill of Quantities and / or Specifications.
- d) The removal from the site of any materials/ equipment/ resources brought thereon by the Contractor and the substitution of the same thereof.
- e) The Execution of additional works of any kind necessary for the completion of the work.
- f) The removal and /or re-execution of any works executed by the Contractor.
- g) The substitution from the site of the works of any person employed there upon.
- h) The amending and making good of any defects under clause "Defects Liability"
- i) The opening up for inspection of any work covered up.
- j) Changes in lines, levels, positions and dimensions of any part of the Work.

31.3) The Contractor shall forthwith comply with and duly execute any work comprised in such EIC's instructions provided always that verbal instructions, directions and explanations given to the Contractor or his supervisor upon the works by the Engineer In Charge shall if involving a variation be confirmed in writing by the Contractor within seven days and the Engineer in charge's written approval is obtained.

31.4) If compliance with the Engineer In Charge's Instructions as aforesaid involves work beyond that contemplated by the Contract, then unless the same were issued owing to some breach of this Contract by the Contractor, the EIC shall pay to the Contractor the cost of the said work as an extra to be valued and as hereinafter provided.

31.5) No such variation shall in any way vitiate or invalidate the Contract but the value, if any, of all such variations shall be taken into account in ascertaining the amount of the final certification.

31.6) No such variations shall be carried out by the Contractor without instructions, in writing from the Engineer in charge. Provided that no instructions in writing shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities. If the Engineer in charge shall consider it desirable to give any instructions verbally, the Contractor shall comply with such an instruction and any confirmation in writing of such verbal instruction given by the Engineer in charge whether before or after the carrying out of such work, shall be deemed to be an instruction in writing within the meaning of this clause. Provided further that if the Contractor shall within 7 days confirm in writing to the Engineer in charge and such confirmation shall not be contradicted in writing within 30 days by the Engineer in charge, it shall be deemed to be an instruction in writing by the Engineer in charge.

31.7) all extra or additional work done on the instructions of the Engineer In Charge shall be valued at the rates and prices set out in the Contract. If the Contract does not contain any rates or prices applicable to the extra or additional work, then suitable rates or prices shall be agreed upon between Company and the Contractor as per the following, in the order of preference:

- (i) The rate shall be derived from any one of the quoted rates for similar items of work in the tender.
- (ii) In case similar items are not available in the tender, then rates shall be worked out as per the following:
 - a) The direct cost of labour including indirect charges thereon. The labour components shall be computed wherever possible from the related BIS Codes and the quantity of materials to be based on consumption factor as per standard norms or as accepted by the EIC.
 - b) The material cost inclusive of taxes, levies, fees, duties etc. as delivered to the site. Proof of cost in form of invoices to be submitted along with the extra work claims & other working documents.
 - c) The Plant & Equipment cost inclusive of hire charges of plant & equipment and operational charges as per standard norms or as accepted by the EIC.
 - d) In addition the Contractor shall be entitled to payment towards overheads and profit.

31.8) In cases where the items of works are not accepted as complete, or not fully in accordance with the Specification, the Engineer in Charge shall make payments of such items at such reduced rates, as he may consider reasonable in approval of Interim Bills and the Final Bill.

31.9) In all cases the Contractor shall furnish detailed Rate Analysis along with necessary details as and when required by the Engineer in Charge. The Engineer in Charge on establishing the validity of such claims shall certify the amount payable for such work and rates so determined shall be final and binding on the Contractor.

31.10) The quantities of the various kinds of work to be done and materials to be furnished under this Contract as listed in the Bill of Quantities are estimated and approximate only and shall be subject to re-measurement upon completion. The Contractor shall make no claim for anticipated profits, for loss of profits or for damages because no work is ordered under certain items or because of a difference between the quantities of the various kinds of work to be done or materials actually delivered and the estimated quantities set forth in the Bill of Quantities.

31.11) The rate/ prices quoted by the Contractor in the Bills of Quantities shall be firm irrespective of any variation in the quantities of individual items of work and / or in the Total Contract Sum.

32.0) EXECUTION OF ADDITIONAL WORKS

The Contractor shall be bound to carry out any items of work necessary for the completion of the works even though such items may not be part of his offer. Such work shall be instructed in writing by the Engineer in Charge and formal amendment to the work order.

33.0) FORCE MAJEURE

If either Party is unable to carry out his obligations under this Contract due to an Act of God, war, riot, blockade, strike (i.e. national/ state or city), lockout, flood or earthquake or Government orders/ restrictions not within the control of the parties hereto which results in an inability, in spite of due diligence of either party in performing its obligation in time, this Contract shall remain effective, but the obligation which the affected party is unable to carry out shall be suspended for a period equal to the duration of the relevant circumstances provided that :

- a) The non-performing party shall give the other Party prior written notice describing particulars of the inability including but not limited to the nature of occurrence with its expected duration and the steps which the non-forming parties is taking to fulfill its obligation.

- b) Upon receipt of such notice the other party shall discuss the matter with the non-performing party with a view to helping the non-performing party to fulfill its obligations. This clause does not envisage financial assistance.
- c) If in any event the Force Majeure situation continues for a period of three weeks both the parties shall meet again and discuss whether the Contract can be amended to overcome the Force Majeure situation so the Project can proceed further. Notwithstanding anything contained to the contrary it is clarified that economic hardship, on-availability of material, labour and transport shall not constitute Force Majeure. The overall responsibilities and obligations of the parties shall not be excused by reasons of Force Majeure situation. Notwithstanding the above if the Force Majeure continues for a period of three months or more in that event without prejudice to the rights of the parties, the Company shall have the right thereafter to terminate this contract.

34.0) INDEMNITY:

Contractor shall indemnify and save harmless Company against and from any and all liabilities, claims, damages, losses or expenses arising due to or resulting from:

- 34.1) any breach non-observance or non-performance by contractor or its employees or agents of any of the provisions of this Contract.
- 34.2) any act or omission of contractor or its employees or agents.
- 34.3) any negligence or breach of duty on the part of contractor, its employees or agents including any wrongful use by it or them of any property or goods belonging to or by Company or any other third party at site including adjoining neighbors.
- 34.4) Contractor shall at all times indemnify Company against all liabilities to other persons, including employees or agents of Company or other contractors for bodily injury, damage to property or other loss which may arise out of or in consequence of the execution or completion of Project and against all costs charges and expenses that may arise.

Annexure – I

The Contractor must submit the following to Engineer-In-Charge before commencement of work:

- a) An Electrical license. (If applicable)
- b) PF Code No. and all employees to have PF A/c No. under PF every Act, 1952.
- c) All employees to have a temporary or permanent ESI Card as per ESI Act.
- d) ESI Registration No.(If applicable)
- e) PAN No.
- f) Work Contract Tax/VAT Registration Number/Delhi TIN No.
- g) Labour License under Contract Labour Act (R & A) Act 1970 (All Engineer-in-charge responsible for execution of the job should obtain a copy of Labour License as per guidelines of HR department before start of the work by the contractor.) The Contractor must follow:
- a) Third party Insurance Policy before start of work.
- b) To follow Minimum Wages Act prevailing in the state.
- c) Salary/Wages to be distributed in presence of representative of Company's representative not later than 7th of each month.
- d) To maintain Wage-cum-Attendance Register.
- e) To maintain First Aid Box at Site.

- f) Latest P.F. and E.S.I. Challans pertaining to the period in which work was undertaken along with a certificate mentioning that P.F. and E.S.I. applicable to all the employees has been deducted and deposited with the Authorities within the time Limits specified under the respective Acts.
- g) Workman Compensation Policy. (If applicable)
- h) Labour license before start of work. (If applicable)
- i) Registration of Contractors & Contractual Employees under Building & other Construction Worker Welfare Cess Act 1996 & the Building & other Construction Workers (Regulation of Employment & Conditions of Services) Act 1996.
- j) The Delhi Building and other Construction Worker (Regulation of Employment and Conditions of Services) Rules 2002(B.O.C.W.)

Technical Specification
FOR
SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER
SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-
STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE
DEVELOPMENT & INTEGRATION

SUPPLY OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT, INTEGRATION, & AMC THEREOF IN BYPL**TECHNICAL SPECIFICATIONS**

Technical Specification of suitable system for condition monitoring and automation of distribution sub-stations.

SCOPE OF SUPPLY -

This specification covers the technical requirements of design, manufacture, testing, packing, forwarding, supply and installation at sites for suitable hardware for condition monitoring of various assets in a distribution substation and the automation thereof with all accessories for efficient trouble free operation.

INTRODUCTION -

The need to have efficient operation, optimal performance and continual improvement of efficiency are the requirements in any distribution sub-station performance, while equipment failure is not an option, in case of one, rapid root cause identification that assists operations staff to identify and manage the underlying cause of developing abnormal situation is required. The condition monitoring of assets helps in achieving these optimal performance parameters through its condition based real-time monitoring.

BYPL requires the following IoT (Internet of Things) based solution for its various assets in distribution sub-station-

To monitor various assets in a substation, the assets are mounted with wireless sensor modules, which act as peripheral devices, each substation has a central device, which can connect to various peripheral devices, takes the data from all peripheral devices and sends it to the server. The server shall process the data and show the results on a dashboard to be centrally monitored by a team. The performance parameters of the assets from real-time sensors shall also be monitored through a field force application by the field team.

The hardware devices required are as below -

HARDWARE - Modular, plug & play hardware installed on assets for -

- Real-time data capturing and transmission
- Factory tuned sensors to allow for constant precise measurement efficiency over its life time
- High speed LTE and Bluetooth Low Energy encrypted security network
- All modules shall be capable of edge-computing capability for faster processing and low data bandwidth

DT Sensing Module -

A distribution transformer sensing module is required that can be used to measure various performance parameters. The design should be modular, wireless and battery operated with plug & play hardware architecture. The module should have the following sensors:

1. Two level oil level indication sensor - running on Bluetooth Low Energy protocol, battery operated, independent module
2. Oil temperature measurement sensor - running on Bluetooth Low Energy protocol, battery operated, independent module

3. Lug/Palm temperature measurement - running on Bluetooth Low Energy protocol, battery operated, independent module

DT Meter Reading Module -

Automatic Meter reading Module - This module shall be capable of reading the three phase DLMS meters through RJ11 port and should communicate to the server to send the instantaneous and load profiles along with the outage data of the DT.

RMU Monitoring Module -

The design should be modular, wireless and battery operated with plug & play hardware architecture. The module should be capable of connecting with RMUs of different makes such as ABB, Merlin Gerin, C&S etc. The following below parameters from the RMU shall be used to communicate to the server

1. CB tripping
2. Isolator tripping
3. SF6 low level indication
4. FPI tripping
5. NO/NC points available for remote tripping of circuit breaker

LT ACB Feeder Current Monitoring -

The design should be modular, wireless and battery operated with plug & play hardware architecture. This module should not use meter or CT for measuring load, to ensure longer life, easy installation and maintenance of the same.

1. Current monitoring in real-time
2. Direct monitoring of bus-bar load current
3. Current sensing up to 1000 A
4. ON-OFF status monitoring

SOFTWARE

The software shall be the major product portion of the system as it will be used by BYPL to drive organizational goals among its workforce.

The software shall be based on time-series data handling architecture with IoT servers capable of maintaining multiple connections with field deployed sensors. The database shall be cloud deployed, both edge and cloud computed with the capability of scaling the architecture without affecting the performance.

Analytics Dashboard

- Analytics platform for all network data – real-time and historical
- Relational data from sensors, meters and associated asset performance
- Event based alert generation
- Preventive maintenance based on historical data
- Automatic ticket generation and assigning for operations and maintenance staff

Enterprise Field Force Application

- Ticket-based field staff monitoring
- Real-time event generation from field assets
- Real-time task completion monitoring
- Management of all maintenance activities
- GIS and GPS map data integration of current network data

Components and Architecture

Below system Architecture elaborates overall flow between different architecture components and how they communicate, ensuring actionable data for real-time decision making.

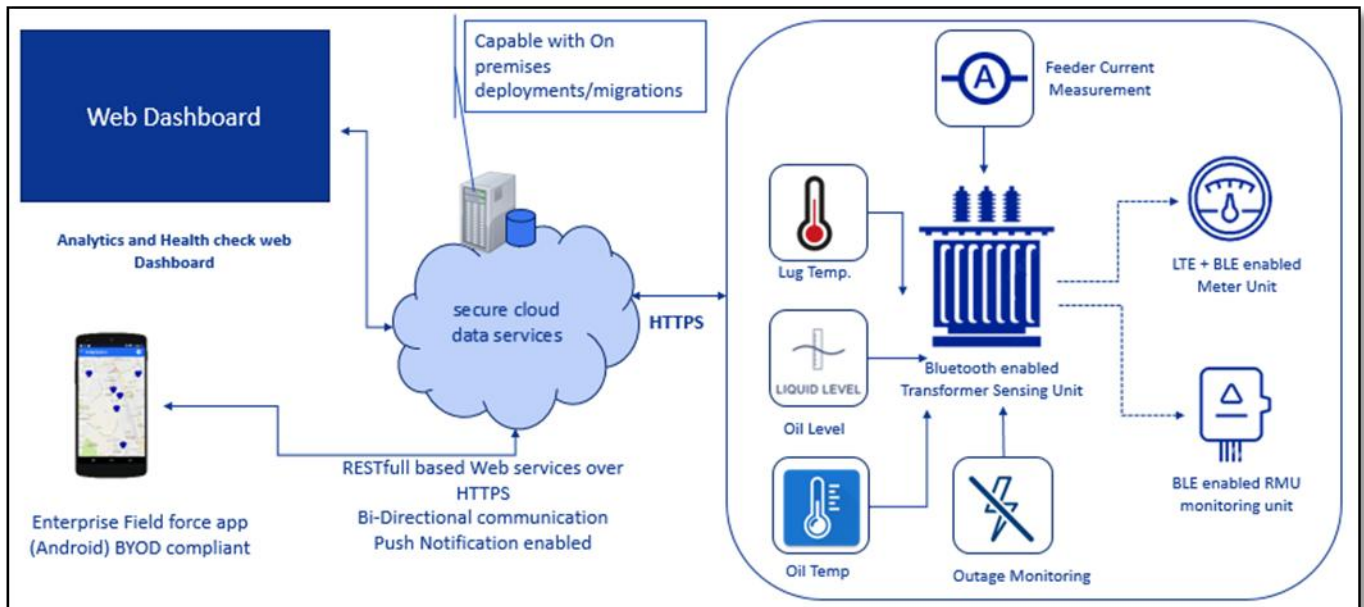


Fig.1. Top level navigation flow of communication.

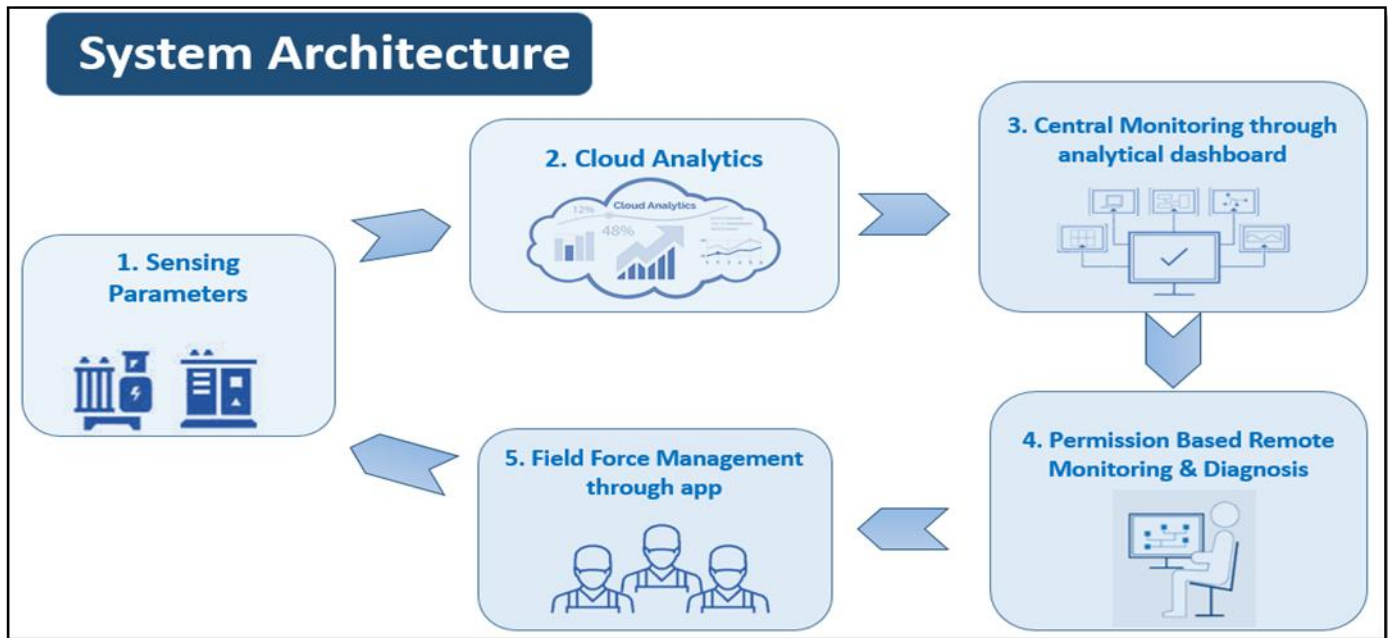


Fig.2. Top level system architecture

DETAILED FEATURE SET OF SYSTEM -

HARDWARE MODULES:

Transformer Sensing Unit

The wireless sensors are to be mounted on the distribution transformer for sensing various parameters. These sensors should have independent Bluetooth Low Energy modules that can communicate with the automatic meter reading unit (AMR Unit), which shall act as the hub.

1. Two level oil level indication – wireless oil level sensor with battery run operation that shall have a life of not less than 3 years
2. Oil temperature measurement – wireless temperature measurement unit with battery run operation that shall have a life of not less than 3 years
3. Lug/Palm temperature measurement – wireless temperature measurement unit with battery run operation that shall have a life of not less than 3 years
4. Ambient environment temperature measurement (to be fixed at selected sites)
5. Local communication through Bluetooth Low Energy with battery run operation that shall have a life of not less than 3 years

Remote Automatic Meter Reading Unit

The AMR modem unit shall communicate over Bluetooth low energy (BLE) with the Transformer Sensing Unit and RMU module. It shall be designed to push real-time data for LTE push to the cloud

1. Instantaneous parameters
2. Load profiles
3. Outage alert – battery powered unit
4. Local communication through Bluetooth Low Energy

RMU Monitoring Unit

The RMU Monitoring Module shall communicate over Bluetooth low energy (BLE) with the Hub Module. The design should follow the architecture to push real-time data to the HUB for LTE push to the cloud

1. CB tripping sensing
2. Isolator tripping sensing
3. SF6 low level indication sensing
4. FPI tripping sensing
5. Provisioning for 4 sensor alert mapping for future applications
6. Runs on battery for 3 years
7. Local communication through Bluetooth Low Energy
8. Provision for NO/NC contacts for remote tripping of circuit breaker

LT ACB Feeder Current Monitoring -

The Current sensing module shall measure the current in cables and bus-bars through hall-effect sensors. The sensors shall be placed on each bus bar at the outgoing side of the LT ACB. The communication shall take place over Bluetooth low energy (BLE) with the Hub Module. The BLE module shall push the real-time data to the HUB for LTE push to the cloud

1. Shall not require any use of CTs/ Meters
2. Shall have built-in Bluetooth Low Energy communication module for inter-communication between various feeders.
3. Shall have LTE communication built-in for communication to central server.
4. Shall be robust and easily installable
5. Shall not require meter for current measurement.

SOFTWARE -**Cloud Computed Analytics Dashboard -**

The dashboard shall have the below features :

-
1. System pre-configured data shall be pushed to cloud backend platform securely. (standard encryptions and security algorithms)
 2. Actionable information shall be presented to the web dashboards at DT drill level.
 3. System defined exceptions and alerts shall be thrown to on-field workforce carrying enterprise mobile application.
 4. Central monitoring system shall cover complete scope of the distribution system with respect to the Metering and DT health checks
 5. It shall rapidly identify abnormal or faulty operations in real-time
 6. It shall check data and instrument validity

7. It shall exclude invalid data from analysis
8. It shall identify the contribution of each system parameter to a fault
9. It shall identify the contribution of an event to an incident
10. It shall analyze long term vs. short term contributions to the problem
11. Shall have self-learning algorithm for predictive analysis
12. It shall compare current operations against previous operations and base case
13. It shall be able to quantify the financial impact
14. It shall capture the knowledge for future use by all users
15. BYPL shall be able to have better reporting and asset health assessments

Field Force Application –

The field force application shall be used by the field staff to monitor all the performance parameters of the assets. The FFA/MWM shall be ticket based architecture with GPS map for geo-tagging of assets and field navigation of staff personnel.

1. It shall generate ticket in real-time on android application from field assets on occurrence of abnormal condition
2. There shall be system alerts and exception capturing in real-time in form of notifications.
3. The tickets shall self-assigned to O&M/ Metering staff and other stake holders for resolving.
4. There shall be ticket resolving mechanism based on real-time intelligent maps API.
5. Exceptions can be captured directly from the site assets into the application.
6. It shall be able to issue reports – total exceptions raised, resolved and pending over time mapped, resource mapped, item consumed etc. through a single application.

Module Technical Specifications –

Bluetooth Low Energy Specifications for inter-communication of sensor modules

- Shall be a SoC¹ (System on Chip) which runs both application and BLE² protocol stack
- Shall have excellent link budget³ (97 dB)⁴, enabling long range applications
- Shall have accurate digital received signal-strength indicator (RSSI)⁵
- Shall be suitable for systems targeting compliance - worldwide radio frequency
- Shall meet the regulations: ETSI EN 300328⁶ and EN 300440 class 2 (Europe)⁷, FCC CFR47 part 15⁸ and
- ARIB Std-T66 (Japan)⁹
- AES security coprocessor¹⁰
- Shall have the operating ambient temp range - -40C to +85C

LTE & BLE enabled Automatic Meter Reading Module Specifications –

- LTE Cat 1 with 2G or 3G Fallback
- Optimized for M2M IoT Solutions

The wireless module should deliver highly efficient Cat 1 LTE connectivity for M2M IoT solutions offering seamless fall back to 2G or 3G networks. The solution should be best in class enabling M2M optimized speeds of 10Mbit/s download and 5Mbit/s uplink making it ideal for the vast number of M2M and industrial IoT applications that are not dependent on speed but that require the longevity of LTE networks, while still providing 3G and 2G connectivity to ensure complete population and geographic coverage as LTE rolls out.

Application - Suitable for automatic reading of DLMS meters and acting as a hub for all BLE enabled sensor modules such as Transformer sensing module, RMU sensing module and LT ACB current sensing module.

Module Specification:

- LTE (FDD) 3GPP Rel. 9+
- LTE-Bands:
 - US: 1, 3, 8, 20, 28*, 2, 4, 5, 12 (additional 3G or 3G fallback)
- LTE Cat.1, DL/UL max: 10.2 Mbps / 5.2 Mbps
- Integrated Bluetooth Low Energy module for supporting other IoT devices deployed on field
- Battery backup -
 - compact 2150 mAh lithium ion battery
 - Rechargeable
 - High ampacity
 - Rugged and long-life
 - Suitable for high temperature applications
- Java™ ME 3.2 embedded
- Embedded IP stack with IPv4/ IPv6 support
- TCP/IP stack access via AT command and transparent TCP/UDP services
- Secure Connection with TLS
- Internet Services TCP/UDP server/client, DNS, Ping, HTTP, SMTP, FTP client
- IP services
- Operating temperature Range -40°C to +85°
- Firmware update via USB and ASC
- Multi-Threading programming and Multi-Application execution
- Secure data transmission with HTTPS/SSL
- Customer IMEI/SIM-Lock as variant
- Multiplexer according 3GPP TS 27.010
- Real time clock with alarm functionality
- RLS Monitoring (Jamming detection)
- Informal Network Scan

Approvals -

- CE, R&TTE, GCF, PTCRB, IC, UL
- EuP, RoHS, REACH compliant

Level Sensor Specifications

- Reed level sensor with integral float actuator
- Integral blown polypropylene float, with integral magnet
- Hermetically sealed, magnetically operated contacts continue to operate long after optical and other technologies fail due to contamination from fumes/ pollution/ environmental degradation or moisture.
- No standby power required
- Operating Temperature: -40 °C to +105 °C
- Operate Time 1ms max
- Release Time 1ms max
- Shock - 11ms 1/2 sine G - 100 max
- Vibration - 50-2000Hz G - 30 max
- BLE communication

Oil temperature Sensor Specifications

- NTC¹⁷(Negative Temperature Coefficient) Thermistor¹⁸
- Operating Temperature: -50 °C to +150 °C
- Material Constant Beta¹⁹ 4500K +/- 1%
- Measurement of Temperature through Stein and Hart equation²⁰ to reduce error
- BLE communication

Current Sensor Specifications

- Sensing capability of 50 – 1000 Amps
- Wideband: DC to 250 kHz signal measurement
- Very high sensitivity with Integrated Magnetic Concentrator
- Short response time 3us
- Operating temperature: -40°C to 150°C
- Provides self-diagnostic features to detect internal memory errors and over- / under-voltage.
- Shall be qualified using state-of-the-art practices in accordance with automotive and environmental requirements.

Lug Temperature Sensor Specifications

- Resistance @25C 100000 ohm +/- 5%
- Applied voltage: max 5.0 V DC
- Applied Current: max 0.5m Amps
- High Voltage with stand Capacity: 1800V AC for 3 secs
- Operating Temperature: 0 °C to +150 °C
- Measurement of Temperature through Stein and Hart equation to reduce error

Battery Specifications –

- Li-Ion rechargeable battery used for battery backup.
- Capacity – 2150 mAh
- Over-heating protection
- Battery-temperature sensing to safeguard your phone's battery with automatic shutdown.
- Short-circuit protection - internal circuit remain protected in case of short circuit.

- Self-regulates charging
- PTC - Extra layer of protection from exceeding current and temperature over-limit.
- Input over-voltage protection
- Output over-voltage protection
- The programmed micro-controller monitors output voltage and shuts off when voltage exceeds the maximum limit.
- Output over-current protection
- Automatically adjusts the output-current and shuts off when current exceeds the maximum limit to protect the device.

M2M SIM Specifications -

- SIM Cards are especially designed for Machine-to-Machine (M2M) applications.
- These products use different microcontrollers which have been optimised and hardened for enhanced operation conditions.
- A dedicated and highly stressable memory area (HSM) is introduced to store frequently updated files.
- Comes in either a 2FF (Plugin SIM) or MFF (Solderable SIM Chip) form factor according to ETSI and JEDEC specifications.
- Basic countermeasures against side-channel attacks
- Dedicated smart card controller micro-architecture
- Extended temperature range -40 to +105°C

3.9 Preferable Makes

Sl	Component	Description	Manufacturer	Certifications
1	BLE Modules	BLE Module. SoC, 4.0/4.2, 2.54Ghz SoC On chip stack.	Texas Instruments, (US) / Nordic Semiconductor, Norway	CE, FCC certified, RoHS
2	Oil level sensor	Reed level sensor with integral float actuator. □Integral blown polypropylene float, with integral magnet.	Littelfuse (US)/ PIC Sensors (GERMANY)	CE, RoHS
3	Oil temperature Sensor	NTC (Negative Temperature Coefficient) Thermistor. □Operating Temperature Range : -50°C to +150°C □. Material Constant (Beta) 4500°K +/- 1%	Ametherm (US), US Sensors (US)	CE, RoHS

4	Lug temperature Sensor	Resistance @25°C - 100000 ohm \pm /- 5% □ High Voltage with stand capacity: 1800V AC for 3seconds □ Operating Temperature: 0°C to +150°C	Ametherm (US), JR Sensing (India)	CE, RoHS
5	GSM/GPRS	GSM module, QUAD BAND	Quectel (China), SIMCOM (China)	CE, FCC, ROHS
6	LTE/4G Module	LTE Module	Gemalto Netherlands(EU)	CE,FCC
7	Power Supply	AC/DC module – 110-260 VAC to 5VDC	HLK tech (Hong Kong) Power Integrations Fairchild Semiconductor(US)	CE, UL
8	On board Power supply	On board regulators and battery charger	Texas Instrument (US)	
9	PCB	PCB – main board and connector board	India	RoHS
10	Current Sensors	Integrated Hall effect IMC Sensors	Belgium	CE,FCC
11	Passives	ESD, RES, CAP, IND and Connectors	Wurth, NXP, Vishay, Panasonic, Yageo	Extended temp grade
12	Enclosure	Enclosure ABS/PC IP65	Local buy	IP65

3. General Technical conditions

3.1. Introduction

The purpose of this document is to outline general technical conditions that shall be applicable in SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION integrated web dashboard for data analytics and accompanying smartphone application for Smart Sub Station Management System (SSMS). This should be read in conjunction with detailed technical requirements specified.

3.2. Reliability & Safety

3.2.1. The Supply, installation of Sensors, Cables and Boxes for Smart Sub Station Management System (SSMS) shall comply with all the environmental conditions for outdoor parts system for tests such as rain, humidity, salt fog, sand and dust, temperature, solar radiation, vibrations and drops.

3.2.2. Each power output exceeding 48 volts shall be protected to prevent any accidental contact.

3.2.3. Each main unit shall have a main power switch for complete disconnection of power supply. If required, Secondary switches shall be installed to electrically disconnect part(s) of the main unit for maintenance purpose.

3.2.4. Chassis units and external metal units shall have permanent grounding, which shall remain at all the times. Alternating current outlets that are used for maintenance equipment shall be grounded

3.2.5. Sensors, Cables and Boxes in the PCB's shall comply with accepted Industrial standards such as IEC.

3.3. Environmental Conditions

3.3.1. Temperatures

3.3.1.1. The equipment shall be able to operate under environmental conditions detailed along with humidity and direct solar radiation for every occurrence.

3.3.1.2. The components shall be located in such a manner that they shall not exceed the allowable temperature range.

3.3.1.3. The components sensitive to heat shall be separated located away from heat sources. Heat sources shall be located in such a manner that the airflow above them shall not transfer heat-to sensitive units.

3.3.1.4. Ventilation shall be activated where proper environmental conditions enhance the life of the components. All units shall have ventilation filtering slots for protection against dust and bugs.

3.3.2. Humidity and Mildew

3.3.2.1. The hermetical seal or any other suitable seal shall be provided to protect elements susceptible to failure due to fungus and mildew.

3.3.2.2. The welding points and soldering points on the Sensors shall be protected from humidity and fungus.

3.4. Labels

3.4.1.. Vendor shall submit system (nomenclature) for equipment for Owner's approval. Vendor shall consider following guidelines for the labeling.

3.4.2. All the labels shall be in English language.

3.4.3. Each unit shall have a label indicating corresponding system and sub system.

3.4.4 Each equipment controls, operational controls and adjustment shall be clearly marked near their location.

3.4.5 Additional labels shall be provided to identify/understand the system controls along with explanation of mode of operation under different conditions.

3.4.6 Each power output exceeding 48 volts shall be protected to prevent any accidental contact.

3.4.7 Each main unit shall have a main power switch for complete disconnection of power supply. If required, Secondary switches shall be installed to electrically disconnect part(s) of the main unit for maintenance purpose.

3.4.8 Chassis units and external metal units shall have permanent grounding, which shall remain at all the times. Alternating current outlets that are used for maintenance equipment shall be grounded

3.4.9 Plastic or aluminum tags shall be used for cable identification. The tags shall be provided inside the box/enclosure tied to cable with the help of self locking nylon tie. Aluminum tags shall be provided identification with the help of punching whereas plastic tag shall be provided by printing with UV resistant ink.

4. Project Management

4.1. Project Management Schedule

Vendor shall submit a detailed work plan (Gantt chart) within weeks of award of contract indicating Start / End dates of the following milestones.

4.1.1. Site survey and Initial Sample Sensors, Cables and Boxes

4.1.2. Submission of critical documents for Owner's review

4.1.3. Testing

4.1.4. Requirement completion date for owner's scope of work

4.1.5 Installation

4.1.6.. Commissioning

4.1.7. Site acceptance test.

4.1.8. Final acceptance test.

4.1.9. Handover the portion of the system installed by.

Owner must approve the schedule before the Project is started. Vendor shall specify the schedule of work to be carried out by owner to achieve the milestones as planned. Vendor shall update the work plan incorporating progress highlighting delays, the reasons thereof and the steps to make up the delay.

4.3. Project Controls

4.3.1. Vendor shall submit to owner a Progress Report in writing every weeks. The report shall cover

4.3.1.1. Status of the project

4.3.1.2. Hold points from either side identifying clearly the responsibility

4.3.1.3. Projection of forward path (4 weeks look ahead plan)

4.3.2. Vendor in the first kick-off meeting at site shall submit the format of Project Report. All changes suggested by owner shall be incorporated.

4.3.3. Vendor shall organize subsequent meetings either at site or Vendor's premises at preset dates and/or when demanded by owner. Owner shall decide the agenda and duration of the meeting. There will be no limitation on number of meetings required. Vendor shall minute the proceedings of the meetings and shall publish it within two days of the meeting.

4.3.4 Vendor shall monitor and control the progress of his sub-vendors and sub vendors.

- 4.3.5 Owner shall expedite and follow up progress of vendor / Sub-vendor / Sub vendor at their premises or at site.
- 4.3.6. Owner retains the right to review technical documentation and reports that are directly connected to the project to see how the quality of work and materials are in compliance with the specification requirements. Vendor shall supply owner with free samples of components and materials for testing outside the factory, if so desired by owner.
- 4.3.7. Vendor shall prepare a Site Coordination Procedure and obtain approval of owner within weeks of start of project.

5 Testing

5.1. Frame work of acceptance test

- 5.1.1. Vendor shall cover at least the following topics while preparing draft for the FAT/SAT procedure and check lists

5.1.1.1. Visual inspection

The visual inspection shall include following.

- 5.1.1.1.1. The final bill of quantities of the system components.
- 5.1.1.1.2. All supplied components to be physically intact.
- 5.1.1.1.3. Cabling and wires counting.
- 5.1.1.1.4. Functionality and quality of markings.
- 5.1.1.1.5. Connector quality.
- 5.1.1.1.6. Other tests determined by owner.
- 5.1.1.1.7. Equipment mechanical installation quality.

5.1.1.2. Functional tests

The functional tests shall be carried out to ensure the functionality as per the specification. Functionality tests shall include the following:

- 5.1.1.2.1. Functionality testing of Sensors.
- 5.1.1.2.2. Any other test

5.1.1.3. Compliance Checks with Technical specifications

Compliance tests with the technical specifications shall ensure that the system complies with the required specifications of the system. The test shall include the following:

- 5.1.1.3.1. Environmental conditions.
- 5.1.1.3.2. Electronic requirements.
- 5.1.1.3.3. General mechanical requirements.
- 5.1.1.3.4. Wiring.
- 5.1.1.3.5. MTBF (According to Vendor documentation)
- 5.1.1.3.6. Signs and markings.
- 5.1.1.3.7. Components interchange ability
- 5.1.1.3.8. Complying with safety standards.
- 5.1.1.3.5. Any other tests.

- 5.1.2. If the results of the acceptance test are negative owner shall submit his remarks within 14 days upon completion of the tests. Vendor shall correct all that is required in no more than 14 days after receiving this document and submit the system for an additional acceptance test.

5.1.3.If the results of the acceptance test are affirmative, running of the system for 50 days will start. This will be covered closely by vendor and owner. During this period the system will be operated continuously for the test.

5.1.4.Upon completion of this period additional acceptance test will be carried out only after running the system for 50 days with positive results and compliance of other conditions required by the specification to owner's satisfaction, vendor shall receive "Completion Certificate". This certificate shall state that vendor has completed the project and has upheld his obligations as required by the specification and other project documentation.

5.1.5. The date upon which the completion certificate is received will be used as the start date of the year of warrantee

5.2. Final Acceptance Test

5.2.1.1. On completion of the above Testing, vendor shall submit the system for a Final Acceptance Test by owner during which owner shall check the overall performance of the system as per the specifications.

5.2.1.2. Only after owner is fully satisfied that the system had performed as per the guidelines laid down and without many malfunctions and problems, shall the system be taken as Finally Accepted.

The system shall then be handed over by vendor to owner.

6. System Warranty and SLA

6.1. System Operation

6.1.1. After the successful completion of FAT the system shall be provisionally accepted. The system shall then be put in operation.

6.1.2. Vendor shall assist owner for complete operation of the system for a period of three months.

6.1.3. During this period, vendor shall ensure that owner's operating and maintenance personnel are properly handling the system.

6.1.4. Vendor's Field Service Engineer shall record and maintain a detailed log of all malfunctions or problems that take place with the date and time of the reporting of the problem, its cause, actions taken for its rectification and remarks for preventing its recurrence.

6.1.5. Vendor shall duly inform and educate owner's personnel about all such problems.

6.1.6. Vendor shall also be responsible for undertaking any changes in the system during this period that may be required in case a problem persists, without any additional cost to owner.

6.1.7 Vendor will also quote for 3 years AMC after the completion of warranty and will also give details of how he arrived at this cost and what resources he will deploy during the period of the AMC.

6.2. System Guarantee / Warranty

6.2.1. System guarantee / warranty period will be for 3 years and shall be applicable from the date of issue of the Handing Over / system completion certificate by owner.

6.2.2. During the guarantee! Warranty period vendor shall replace any faulty equipment! system component / device with a new item at his expense, including the supply of parts and any other defected component of the system that was supplied by him including all it's accessories and components.

6.2.3. Vendor shall take necessary actions within 24 hours upon receiving notification of the malfunction of the system The telephone notification to vendor's offices shall be obligatory. Vendor shall use all his means to repair the system as mentioned above.

6.2.4. Warranty for the system includes software maintenance and version updates without any addition to the cost for

this as long as the system is operational.

6.2.5. During the Warranty Period vendor shall carry out preventive maintenance of the system. Preventive maintenance shall include complete testing of the system, sensitivity adjustment, equipment calibration and necessary repairs.

6.2.6. Vendor shall submit a summary report indicating all the adjustments and repairs that were carried out by vendor.

6.2.7. Vendor shall provide the support for quoted hardware for a minimum period of 10 years from the date of the purchase order.

6.2.8. The Equipment Monitoring System warranty period will start after successful implementation and User Acceptance Test (UAT).

6.3. Service Level Agreement

6.3.1. Vendor should guarantee the Uptime of system > 99 % for entire system

6.3.2. Response time of 2 Hours of receiving notification (by telephone or any other means)

6.3.3. Resolution time of 8 Hours of receiving notification (by telephone or any other means)

6.3.4. Should provide escalation matrix

6.3.5. Periodic maintenance, once every two months.

6.3.6. Report on response time, resolution time and up time should be submitted on weekly basis to owner from vendor. Vendor should propose the format of report

6.3.7. Annual check that includes repair / replace of defective items, which will bring the system to its original state

6.3.8. Annual audit report of system

6.3.9. Vendor shall submit a detail proposal for the work that will be carried out by him during preventive maintenance and annual check. Vendor shall provide a detailed list of the equipment covered under the maintenance services.

7. Installation and Commissioning

7.1. Working at site

7.1.1. Vendor shall keep work timings flexible to suit owner's requirement. Vendor shall keep provision to work round the clock, if so desired by owner.

7.1.2. Vendor shall use his own tools, tackles and accessories while working at site.

7.1.3. Vendor shall maintain the work place clean and tidy to the satisfaction of owner.

Vendor shall dispose waste, scrap etc. to the area defined by owner.

7.1.4. Any welding job and/or hot work shall require Work Permits in the identified area. Vendor should take into consideration that there may be times when he will not be able to carry out a welding / hot work.

7.1.5. Vendor shall keep documents and other valuables in a safely guarded place. Owner will not be responsible for any theft / damage caused to Vendor's belongings.

7.2. Installation

7.2.1. Vendor is responsible for the site assembly and complete installation of the Sub Station Remote Tracking System except for the exclusion listed in Scope of Work.

7.2.2. Vendor shall carry out the installation and site work in full compliance with the safety requirements of the site.

- 7.2.3. In the Operating Areas the work shall be carried out only after obtaining the necessary Work Permits.
- 7.2.4. System installation work shall include following activities –
- 7.2.4.1. Unpacking the shipped boxes/containers
- 7.2.4.2. Lifting and shifting to the required location
- 7.2.4.3. Setting the equipment in it's exact location
- 7.2.4.4. Physical installation of the equipment including mounting, welding, bolting or any other process that may be required
- 7.2.4.5. Installation of all the items and hardware required
- 7.2.4.6. Any other parts required for the completion of the installation.
- 7.2.4.7. Only certified electricians shall carry out electrical installation. Before the start of the installation vendor shall submit certifications proving that all the electricians working for him are certified electricians with operating licenses. Electrical installation includes the supply and installation of all the electrical cable from owner's main electrical board and to all the end units of the system
- 7.2.4.8. The electrical cables to be installed by vendor shall be from the electrical point supplied by owner to the equipment cabinets, command table, and the various equipment items supplied by vendor. Vendor shall install at the site distribution boards and various outlets that are required for the system.
- 7.2.4.9. The supply and installation of connecting cables, bridges, connectors for various types of equipment, laying of conduits, end-identification, connection to terminal boxes, internal wiring in the equipment cabinets, command table, panels and all that is required until full integration and all components of the integrated system are operating correctly.
- 7.2.4.7. Mechanical and electrical finishing touches such as fixing up the paint, tightening mechanical connections, tying the cable into harnesses, marking and any other worked required to finish installation work as for the defined standards.
- 7.2.4.11. Even if not detailed here, the installation work includes all the design actions, production, installation including the supply of any required installation accessories, routing of cables, wiring, tests, operation and any other operation required so that in the equipment operates properly according to the technical specifications.
- 7.2.4.12. Any equipment components, installation accessories and all system components that were supplied by vendor shall comply with standards/relevant safety requirements of the Indian standards Institute or other international standards such as the Industrial standard for the Military etc
- 7.2.4.13. The installation work shall be carried out according to the specification requirements and according to the detailed design of the installation that will be carried out by vendor and has been approved by owner.
- 7.2.4.14. The installation shall be carried out in parallel with work by other Vendors therefore vendor must cooperate with the other Vendors that are working on the site.
- 7.2.4.15. Vendor shall immediately repair any damage/change in infrastructure that is caused by vendor during the installation to the satisfaction of owner without any additional cost unless written Permission was given to vendor by owner to carry out changes as conceptual part of the project.
- 7.2.4.16. Vendor shall include the services of a field service engineer from the system specialist/manufacturer to provide technical direction, supervision and assistance to vendor's installation personnel, conduct tests and implement any required field changes identified during installation. This engineer shall be a responsible member of the factory checkout team and shall be previously trained in all associated hardware and system software.

7.3. Commissioning

7.3.1. Vendor shall take up the Commissioning of the system along with owner. Vendor shall employ field service engineer as referred above for commissioning of the system.

7.3.2. The field service engineer provided by vendor, as referred above, shall provide and perform the following functions-

7.3.2.1. Provide technical assistance to site operator personnel in proper method of placing the equipment into initial operation.

7.3.2.2. Perform or assist site operator personnel in all necessary calibration and loop checking.

7.3.2.3. Provide all equipment required for testing, calibrating and maintaining the furnished equipment.

7.3.2.4. Actively participate in every aspect of system start up with strict approval from owner.

7.3.2.5. Perform start up work, co-ordinate with site operator personnel and other suppliers, co-operate in matters of mutual support and participate in meetings to meet project schedule.

7.3.2.6. Maintain a record of drawing revisions based on required field changes.

7.3.2.7. Successful SAT, as defined earlier, will culminate into the commissioning of the system. The system shall then be considered to be Provisionally Accepted.

7.4. Special Tools and Spares

7.4.1.1. A complete set of accessories, including special tools, shall be provided by vendor for operating, maintaining and testing the system.

7.4.1.2. Any special tools or test equipment required for installation, testing and commissioning and any additional equipment necessary (or implied) for fully functional Sub Station Remote Tracking System shall also be provided by vendor.

7.5. Spares

7.5.1.1. Vendor shall provide all the spares (commissioning spares/insurance spares etc.) required for system installation / commissioning and operation till Final Acceptance Test.

7.5.1.2. In the event of equipment failure during testing, commissioning and/or during system start-up, Vendor shall provide all necessary spare parts required. Until sign-off of the Sub Station Remote Tracking System by owner vendor shall provide these spare parts at their cost.

7.5.1.3. Vendor shall provide along with offer a comprehensive list of all necessary spares along with their rates required for 5 years of operation Installation, Commissioning

7. BILL OF MATERIAL

SL.NO.	ITEM DESCRIPTION	QTY	UoM
1	Hardware		
1.1	Transformer Sensing Module - Transformer Sensing Unit with wireless sensors - one integrated wireless oil level and temperature sensor, 4 wireless palm/lug temperature sensors with bluetooth low energy technology and battery run operation.	80	Nos.
1.2	Meter Module - Automatic Meter Reading Module with 4G and bluetooth low energy technology	80	Nos.

1.3	RMU Module - RMU Sensing Unit with 6 GPIOs (general purpose input/output) with wireless communication for sensing Circuit Breaker, Isolator, FPI and SF6 levels through bluetooth low energy technology and battery run operation.	80	Nos.
1.4	Current Sensing Module - LT ACB Current Sensing wireless module with bus bar/cable current sensing capability and transmission through bluetooth low energy technology	560	Nos.
2	Software		
2.1	Anaytical Dashboard with all data analytics	1	Lot
2.2	Field Force Application to be deployed with field force for monitoring of asset performance through real-time sensor data	1	Lot

8. Checklists

Please submit a copy of this section with cover letter while submitting the proposal.

8.1. Mandatory forms

Sr. No	Item	Furnished
1	One original copy duly signed - Technical proposal	Yes/No
2	Proposed SLA template	Yes/No
3	One original copy duly signed - Price proposal	Yes/No

8.2. Checklist Compliance

Sr. No.	Item	furnished
1	Please confirm you agree to all specified clauses	Yes/No
2	Please confirm you have submitted all the mandatory forms (Technical & Financial Proposal)	Yes/No
3	Please confirm you have complied with the proposed solution architecture	Yes/No
4	Please confirm you have complied with all clauses specified in the general technical conditions	Yes/No
5	Please confirm that all goods (software and hardware) and service have been included in the price proposal and is complete in all respect without any deviation/missing items	Yes/No

Annexure No: V

BID FORM**SUPPLY, TESTING AND INSTALLATION OF SENSORS, CABLES, BOXES AND MAINTENANCE SERVICES FOR
SMART SUBSTATION MANGMENT SYSTEM (SSMS- MIDAS)**

To
Head of the Department
Contracts & Materials
BSES Yamuna Power Ltd
BSES Bhawan, Karkardooma
New Delhi- 110032

Sir,

We understand that BYPL is desirous of procuring" SUPPLY & INSTALLATION OF SUITABLE HARDWARE AS PER SPECIFICATION FOR CONDITION MONITORING OF DISTRIBUTION SUB-STATION ALONG WITH ITS COMPREHENSIVE SOLUTION - SOFTWARE DEVELOPMENT & INTEGRATION 'in it's licensed distribution network area in Delhi.

Having examined the Bidding Documents for the above named works, we the undersigned, offer to deliver the goods in full conformity with the Drawings, Conditions of Contract and 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.

If our Bid is accepted, we under take to deliver the entire goods as per delivery schedule given by you from the date of award of purchase order/letter of intent.

If our Bid is accepted, we will furnish a performance bank guarantee for an amount of 10% (Ten) percent of the total contract value for due performance of the Contract in accordance with the General Conditions of Contract.

We agree to abide by this Bid for a period of 120 days from the date fixed for bid opening under clause 9.0 of GCC, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

We declare that we have studied the provision of Indian Income Tax Law and other Indian Laws for supply of equipments/materials and the prices have been quoted accordingly.

Unless and until Letter of Intent is issued, this Bid, together with your written acceptance there of, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest, or any bid you may receive.

There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract, Clause 19 of GCC.

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

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 Bhawan Karkarduma, New Delhi -110032 ,(herein after called –the Purchaser")in the sum of Rs.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/GENERAL condition;

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 one or both of the two conditions, specifying the occurred condition or conditions.

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

(Signature of the bank)

Signature of the witness

Annexure -VI

Price Format

SL.NO.	ITEM DESCRIPTION	QTY	UoM	UNIT EX-WORKS RATE	UNIT IGST as applicable	UNIT CGST as applicable	UNIT SGST as applicable	UNIT LANDED COST	TOTAL LANDED COST (QTY x UNIT LANDED)
1	Hardware								
1.1	Transformer Sensing Module - Transformer Sensing Unit with wireless sensors - one integrated wireless oil level and temperature sensor, 4 wireless palm/lug temperature sensors with bluetooth low energy technology and battery run operation.	80	Nos.						
1.2	Meter Module - Automatic Meter Reading Module with 4G and bluetooth low energy technology	80	Nos.						
1.3	RMU Module - RMU Sensing Unit with 6 GPIOs (general purpose input/output) with wireless communication for sensing Circuit Breaker, Isolator, FPI and SF6 levels through bluetooth low energy technology and battery run operation.	40	Nos.						
1.4	Current Sensing Module - LT ACB Current Sensing wireless module with bus bar/cable current sensing capability and transmission through bluetooth low energy technology	560	Nos.						
2	Software								
2.1	Anaytical Dashboard with all data analytics	1	Lot						
2.2	Field Force Application to be deployed with field force for monitoring of asset performance through real-time sensor data	1	Lot						

Grand Total Rs:.....(In Figures & Words)

Name :.....

Tel/Mobile No:.....

Email ID:.....

Date:

Signature with Seal

Place :.....

Annexure-VII**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	Firm, FOR Delhi store basis. Prices shall be inclusive of all taxes & duties, freight upto Delhi stores. Unloading at stores shall be in vendor's scope Transit insurance in BYPL scope	
3	Payment terms	As per Tender Document.	
4	Delivery schedule	Within Three month	
5	Defect Liability period	3 years from date of successful commissioning	
6	Penalty for delay	1% per week of delay of undelivered units or part thereof subject to maximum of 10% of total PO value of undelivered units	
7	Performance Bank Guarantee	10% of total PO value valid for 36 months after commissioning or 42 months from the last date of dispatch, whichever is earlier plus 3 months towards claim period	

ANNEXURE VIII

& DATE : DT:

NO DEVIATION SHEET

SL NO	SL NO OF TECHNICAL SPECIFICATION	DEVIATIONS,IF ANY

SIGNATURE & SEAL OF BIDDERNAME OF BIDDER

Annexure - IX

Sno	Qualification Criteria	Description by bidder with qualifying the fulfillment	Documentary Evidence attached page no. detail
1	Bidder should have sufficient experience in Supply, Installation of sensors,		
2	Bidder should submit the documentary Evidence for showing the work exp for the Same work.		
3	Bidder should have valid Registration No. of Sales GSTIN		

Owner reserves the right to carry out capability assessment of the bidder and owners decision shall be final in this regards.

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