NOTICE INVITING TENDER (NIT)

FOR

SUPPLY, INSTALLATION OF DT SMART METERS & ITS INTEGRATION WITH HES AT BYPL

NIT No.: CMC/BY/24-25/RS/SkS/APT/57

[SRM RFx Number: 2200000102]

Due Date for Submission of Bids: 21.04.2025, 15:00 Hrs

BSES YAMUNA POWER LIMITED (BYPL)
CONTRACTS & MATERIALS DEPT.,
SHAKTI KIRAN BUILDING, KARKARDOOMA,
DELHI-110032
CIN: U40109DL2001PLC111525
WEBSITE: www.bsesdelhi.com

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VOLUME – I:

INFORMATION TO BIDDERS

Supply, Installation of DT Smart Meters & Its Integration with HES at BYPL

NIT No. CMC/BY/24-25/RS/SkS/APT/57

SECTION – I: REQUEST FOR QUOTATION

1.00 Event Information

1.01 BSES Yamuna Power Ltd (hereinafter referred to as **"BYPL"**) invites e- tender for "Supply, Installation of DT Smart Meters & Its Integration with HES at BYP"L from reputed manufacturers.

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

Sl. No.	Item Description	Technical Specification	Requirement Total Qty.	Estimated Cost
BYPL,DELHI				
1	Supply, Installation of DT Smart Meters & Its Integration with HES at BYPL	SECTION V	4,200 Nos.	Rs. 4.78 Cr

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

1.02 The schedule of specifications with detailed terms & conditions can be obtained from address given below against demand draft/Pay Order of **Rs. 1,180/-** drawn in favour of **BSES YAMUNA POWER LIMITED,** payable at Delhi or Online transfer of requisite amount through IMPS/NEFT/RTGS. The sale of tender documents will be issued from 30.03.2025 onwards on all working days upto 21.04.2025. 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 or online transfer of the requisite amount through IMPS/ NEFT/ RTGS covering the cost of bid documents.

1.02 Bids will be received up to 21.04.2025 at 15:00 Hrs at the address given below.
Part A of bid will be opened on 21.04.2025 at 15:30 Hrs.

1.03 Part B of the Bid will be opened in case of Techno-Commercially Qualified Bidders and the date of opening of same shall be intimated in due course. It is the sole responsibility of the bidder to ensure that the bid documents reach this office on or before the last date

   Head of Department
   Contracts & Materials Deptt.
   BSES Yamuna Power Ltd
   Reception, Ground Floor
   Shaktikiran Building, Karkardooma
   Delhi 110032

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:

a) Tender fee of requisite value is not submitted.
b) **Earnest Money Deposit (EMD)** i.e. **Rs 9,56,000/-** is not deposited in form of Bank Guarantee drawn in favour of BSES YAMUNA POWER LIMITED, payable at Delhi or Online transfer of requisite amount through NEFT/RTGS.
c) The offer does not contain "FOR, NEW DELHI price indicating break-up towards all taxes & duties".
d) Complete Technical details are not enclosed as required in Technical Checklist enclosed in Annexure X and Incomplete Bids.
e) Sample is not submitted along with the offer.
f) Tender is received after due date and time due to any reason**.**

g) Price Bid as per the Price Schedule mentioned in Annexure-III is not submitted.

h) Necessary documents against compliance to Qualification Requirements mentioned at Section 1 Clause 2.0 of this Tender Document.

i) Duly filled in checklist as per Annexure X**.**

j) Filled in Schedule of Deviations as per Annexure-V.

2.00 QUALIFICATION CRITERIA:

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

a. TECHNICAL CRITERIA:-

Qualifying Criteria		
SL	Criteria	Documents required along with Bid in support of Qualification Criteria
1.	The Bidder must be an Original Equipment Manufacturer (OEM) of DT Smart meter with valid BIS License for the offered meters	a. Details of manufacturing facilities and associated processes. b. Manufacturing unit registration certificate. c. BIS License.
2.	The Bidder should have supplied at least Thirty (30) Thousand DT/ LTCT smart Meters in the last three (03) financial years i.e FY 2022-23, 2023-24 and 2024-25 as on date of bid submission to Power Utilities/Discoms/State electricity boards/PSU's in India.	a. Supply list. b. Purchase orders from clients; c. Supply proof from above mentioned PO's.
3.	Performance Certificate of satisfactory performance of DT/ LTCT meter from Power Utilities /Discoms/ State electricity boards/PSU's in India. In case the bidder has a previous association with BRPL/BYPL for supply of similar product and service, the performance feedback for that bidder by BRPL/BYPL shall only be considered irrespective of performance certificate issued by any third party organization.	Copies of Performance Certificates.
4.	The bidder should have plant installed capacity to supply at-least Thirty (30) Thousand. DT / LTCT smart meter per annum as on date of bid submission.	a. Installed Capacity Certificate issued by Statutory authority OR b. Chartered Engineer/CA certificate.
5.	The bidder must possess following certificates valid as on date of tender: a) ISO 9001:2015 or later Certificate for meter manufacturing. b) ISO 14001:2004 or later Certificate - Environmental	Copy of valid Certificate.

	Management System.	
6.	Bidder should have complete volume of type test reports as per IS 14697& 16444 (Part 2) (Including latest amendments if any) . The type test report should not be older than 5 years as on the date of opening of tender.	Copy of valid Type Test Reports
7.	The manufacturer should have following facility to meet both quality and quantity requirement of supplies	
a.	**Computerized test bench**: The manufacturer should have sufficient nos. of Computerized test benchessuitable for testing of smart meters. The benches should have electronic supply, Isolated CT/ PT system and data should be directly stored in central server	Self Undertaking
b.	**Seal tracking system**: The manufacturer has to put both his own seal and BSES seal on the meter. He should have a seal tracking software to ensure tracking of seal and no duplication of seals and meter nos	Self Undertaking
c.	**Meter Burn In system:** In order to ensure the reliability of components and that there is no drift in meter accuracy with time ; the manufacturer should have burn in facility --- Running meter with load at elevated temperature.	Self Undertaking
d.	**Routine test data:** During lot acceptance,all routine test data should be made available to inspector In fact as per BIS , STI all test data should be offered to inspector for verification.Routine test report should be packed with each meter.	Self Undertaking
e.	**Test benches:** During the lot acceptance , BSES inspector can test up to 5% of offered quantity .The manufacturer should agree to provide all test facility to do so . Further he should allow BSES inspector to check shop floor process.The place of inspection should be clearly marked in tender and same should be well equipped.	Self Undertaking
f.	**Test equipment:** Since the meters has lot of anti theft features , the manufacturer should have test set up too check the working of all anti theft features.Same should be available during lot inspection, otherwise inspector has a wright to withdraw inspection	Self Undertaking
g.	**PCB assembly facility:** The PCB facility should have auto- pick n place machine, in- circuit testor, Protection against static charge/ dust etc. and process to ensure no corrosion of solden points/ tracks. Incase service is taken from other vendor than bidder shall arrange inspection of facility. The bidder should be taking the service from the vendor since last two years and so far have procured & one million meter PCB from vendor.	Self Undertaking

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

b. COMMERCIAL CRITERIA:-

	Qualifying Criteria	
SL	Criteria	Documents Required
1.	The Bidder should have Average Annual Turnover of at least Rs. Fifty (50) Crores during the last three (03) Financial Years related to DT smart meters business i.e. FY 2021-22, 2022-23 and 2023-24.	Audited balance sheets / Duly certified CA certificate with UDIN.
2.	The bidder must be a Company/ LLP registered in India under the Companies Act/ Partnership under Partnership Act at least since last 5 years from the date of bid submission.	Copy of valid Certificate.
3.	The bidder shall submit an undertaking that "No Litigation" is pending with the BYPL or its group/associates companies as on the date of bid submission.	Self Undertaking
4.	An undertaking (self-certificate) that the bidder has not been blacklisted/ debarred by any central/state government institution/Electricity utilities as on the date of bid submission.	Self Undertaking
5.	The bidder must have valid PAN No., GST Registration Number, in addition to other statutory compliances. The bidder must submit the copy of registrations and submit an undertaking that the bidder shall comply all the statuary compliances as per the laws/rules etc. before the start of the supply/work.	Relevant Statutory Documents Copy/Undertaking

Note: Bidders who do not fulfil the QR criteria may apply under this tender for the purpose of trial Order, subject to meeting all technical specification & requirements as specified in the tender.

Any such bid shall be considered for trial order purpose only and shall not entitle the bidder to qualify/claim for tender quantity. The order shall be placed at the discovered L1 rate or price quoted by the bidder for trial order whichever is lower. It will be at the discretion of the BYPL to decide the quantity of such trial order. The EMD for bidders participating under trial order shall be Rs. 1 Lakh

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 website.

3.01 BID SUBMISSION

FOR BIDS INVITED THROUGH E-PROCUREMENT PORTAL:
BSES will carry out E-Procurement through its e-procurement portal (https://srmprdportal.bsesdelhi.com/irj/portal).

Interested Non-registered bidders are requested to obtain the portal user name and password (if not available) for bid submission. For participating in e-Tenders of BYPL, please write a mail to
1. Mr Rakesh Sharma, E-mail: Rakesh.Ku.Sharma@relianceada.com,
2. Mr Anup Toppo, E-mail: Anup.Toppo@relianceada.com, with your details as per below:

    a)   Existing Vendor Code with BYPL or its Group/Associates Companies (if available): ……………

    b)   Trade Name: ………………………….

    c)   Address of Principal Place of Business: ………………………….

    d)   Contact Person's Name: …………………………..……………….

    e)   Contact Person's Designation: …………………………..…………

    f)   Contact Person's Mobile No.: ……………………..……………..

    g)   Contact Person's email ID: ……………………………………….

    h)   Also, attach a valid copy of Power of Attorney in favour of mentioned Contact Person for being authorized to receive user ID and password on behalf of their organization.

The login ID details shall be sent through email to the email ID mentioned by you for the same.

Bids shall be submitted in 2 (Two) parts on the assigned folder of the e-procurement site. Please refer to the user manual available at https://srmprdportal.bsesdelhi.com/irj/portal and enclosed with the tender.

Bids have to be mandatorily submitted only through the e-procurement portal of BSES Delhi. Bids submitted through any other form/ route shall not be admissible.

However, documents that necessarily have to be submitted in originals like EMD or Tender Fee (in the form of BG/ DD as applicable) and any other documents mentioned in the tender documents have to be submitted at the BYPL office before the due date & time of submission.

Please mention our NIT Number: - …………… on the Tender and drop the same in our Tender Box placed at **BSES Yamuna Power Ltd, Reception, Ground Floor, Shaktikiran Building, Karkardooma, Delhi 110032**

The bids and the outer envelope shall be addressed to:
Head of Department
Contracts & Materials Deptt.
BSES Yamuna Power Ltd, Shaktikiran Building, Karkardooma, Delhi 110032

The Part - I (TECHNICAL BID) - 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.

Sr. No	Descriptions	Type of Documents
1.	**Index**	List containing Title of Tender document along with page nos.
Commercial :		

Sr. No	Descriptions	Type of Documents
1.	**Index**	List containing Title of Tender document along with page nos.
2.	**Tender Fee - Demand Draft (Rs.1180/-) (Incl GST)**	Non-refundable demand draft for Rs 1180/- in case the forms are downloaded from website
3.	**EMD**	In prescribed stamp paper & format.
4.	**Power-of-Attorney**	In prescribed stamp paper & format.
5.	**PQR Compliances**	a. Summary list of compliances against each qualification criteria as mentioned in Clause no. 2.0 of Section –I of this tender document in tabular format along with page no. of documentary evidence against the criteria. (To be submitted as per format attached as Annexure - 1.11 of Appendix -I) b. Documentary evidences required as specified in clause no. 2.0 of Section-I.
6.	**Signed Tender document**	Original Tender documents duly stamped & signed on each page as token of acceptance.
7.	**Commercial Terms and Conditions**	Acceptance on Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, PBG etc.
8.	**Acceptance on Reverse Auction**	Duly signed Acceptance Form For Participation In Reverse Auction Event as per attached format
9.	**Bid Form (Unpriced) Duly Signed**	Duly Signed Bid Form as per attached format
10.	**Un price Bid Duly Signed**	Duly Signed Un price Bid as per attached format
Technical:		
11.	**Technical Check List**	Complete filled in check list as mentioned in format i.e Annexure - 1.11 (Appendix -I) along with page no. of documents submitted.
12.	**Technical Documents**	All the documents required as per Technical checklist mentioned above.
13.	**Sample of energy meters**	Samples required as per technical specifications to be submitted in BYPL Meter Testing lab, Savita Vihar, Delhi. Receiving copy of samples submitted in the BYPL lab to be enclosed along with bid document.

The Part – II Financial: Comprising of Prices strictly in the format enclosed in Annexure IV indicating break up of basic prices, taxes duties, freight etc.

3.02 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	Bid Document	Date of availability of tender documents upto	21.04.2025
2	Pre-Bid Meeting	Date & Time of Pre-Bid Meeting Pre-Bid Meeting will be done online, Register in advance for this meeting via, the Zoom Meeting link: https://zoom.us/j/95697221223?pwd=8tapisuzXOkoriIXeAuwSIVvrDoUkg.1 After registering, you will receive a confirmation email containing information about joining the meeting.	04.04.2025, 11:00 Hrs

S. No.	Steps	Activity description	Due date
3	Last date of receipt of bid queries, if any	▪ All Queries related to RFQ to be submitted through email	07.04.2025
4	Last date of replies to all the pre- bid queries as received	• Replies to be made through email	11.04.2025
5	Samples Submission	• Sample with meter routine report as per bidder offer. • Samples will be submitted at BYPL Laboratory, at Savita vihar New Delhi **on or before the due date** • Sample of optical cord to be submitted with meter – 2 Nos. • Optical cord to be demonstrated for mechanical fixing & downloading.	21.04.2025, 15:00 Hrs
6	Date & Time of Opening of PART A Technical and Commercial Bid	▪ EMD of requisite amount ▪ Non-refundable DD for Rs 1180/- in case tender documents are downloaded from website. ▪ Documentary evidence in support of qualifying criteria ▪ Technical Literature/GTP duly filled in/Type test report, ▪ Qualified manpower available ▪ Testing Facilities ▪ Original Tender documents duly stamped & signed on each page as token of acceptance ▪ Acceptance to Commercial Terms and Conditions viz Delivery schedule/ period, Payment terms, PBG, Warranty etc. ▪ Power of Attorney to sign the bid.	21.04.2025, 15:30 Hrs
7	Date & Time of Opening of PART B PRICE BIDS	• Price strictly in the Format enclosed (Section V) indicating break up regarding basic price, taxes & duties, Freight etc.	**Price Bid** opening Will be notified to the qualified bidders through our website/e-mail.

Note:- In the event of the last date specified for submission of bids and the date of opening of bids is declared as a closed holiday for the BSES office, the last date of submission of bids and date of opening of bids will be the following working day at the appointed times.

Not with standing anything stated above, the Purchaser reserves the right to assess bidders capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.

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

4.00 AWARD DECISION

4.01 Purchaser intends to award the business on a lowest bid basis, so suppliers are encouraged to submit the bid competitively. The decision to place purchase order/LOI 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.

4.2 In the event of your bid being selected by purchaser (and / or its affiliates) and you 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 NIT/RFQ.

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

4.05 Rate Contract: Not Applicable.

4.06 Quantity Variation: The purchaser reserves the rights to vary the quantity by **(±) 30%** of the tender quantity during the execution of the contract.

4.07 Quantity Splitting: The purchaser reserves the right to distribute the procurable quantity on one or more than one of the eligible tenders. If the quantity is to be split, quantity distribution shall be in the manner detailed below:
a) If the quantity is to be split among 2 bidders, it will be done in the ratio of 70:30 on L1 price.
b) It the quantity is to be split among 3 bidders, it will be done in the ratio of 50:30:20 on L1

Note: In case quantity needs to be distributed and order splitting is required, distribution of quantity shall be maximum among three (3) bidders

4.08 Bidders are requested to quote their lowest NO-REGRET prices.

4.09 Repeat Order: BYPL reserves the right to place repeat order at the same rates & terms & conditions as per this tender against additional requirement subject to mutual agreement between BYPL & Supplier.

4.10 Trial Order: Bidders who is participating under trial order shall meet all technical specification & requirements as specified in the tender.
Any such bid considered for trial order purpose shall not be entitle to claim for tender quantity. The order shall be placed at the discovered L1 rate or price quoted by the bidder for trial order whichever is lower. It will be at the discretion of the BYPL to decide the quantity of such trial order.

5.00 MARKET INTEGRITY

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

6.00 SUPPLIER CONFIDENTIALITY

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

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

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

5.00 CONTACT INFORMATION

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

Address	Name/ Designation	E-mail Address
Technical		
CES Dept. 3rd Floor, B-Block, BSES Yamuna Power Ltd. Shaktikiran Building, Karkardooma, Delhi 110032	Gaurav Sharma (Head-CES)	Gaurav.A.Sharma@relianceada.com
	Ashish Kumar Joshi DGM (CES)	Ashish.K.Joshi@relianceada.com
Commercial		
C&M Dept. 3rd Floor, A-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Robin Sebastian (Head-Contracts & Materials)	Robin.Sebastian@relianceada.com
	Santosh Kumar Singh (Head-Procurement)	Santosh.kum.Singh@relianceada.com
	Anup Toppo (Buyer-Procurement)	Anup.Toppo@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.

SECTION – II: INSTRUCTION TO BIDDERS (ITB)

A. GENERAL

1.00   BSES YAMUNA POWER LIMITED, hereinafter referred to as the Purchaser "are desirous of implementing the various System Improvement/Repair & Maintenance works at their respective licensed area in Delhi. The Purchaser has now floated this tender for procurement of Single phase Meter with box notified earlier in this bid document.

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2.00   SCOPE OF WORK

The scope shall include Design, Manufacture, Testing,supply and integration of Smart DT Meter with existing HES conforming to the technical specifications enclosed along with packing, forwarding, freight and unloading and proper stacking at Purchaser's stores/Sites.

3.0   DISCLAIMER

3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/Bidding Consortium should conduct its own estimation and analysis and should check the accuracy, reliability and completeness of the information in this Document and obtain independent advice from appropriate sources in their own interest.

3.02 Neither Purchaser nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this Document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Purchaser or its employees, or otherwise a rising in any way from the selection process for the Supply.

3.03 Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy itself that Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.

3.04   This Document and the information contained herein are Strictly Confidential and are for the use of only the person(s) to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors).

4.0   COST OF BIDDING

The Bidder shall bear all cost associated with the preparation and submission of its Bid and Purchaser will in no case be responsible or liable for those costs. **Further the Purchaser has a right to get Sample Meter's tested by any reputed Independent Lab like CPRI/ERDA/NABL at the cost of bidder.**

5.0   BIDDING DOCUMENTS

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

Volume -I

a)	Request for Quotation (RFQ)	- Section – I
b)	Instructions to Bidders (ITB)	- Section – II
c)	General conditions of Contract	- Section –III
d)	Quantity and delivery requirement	- Section –IV

APPENDIX II

a)	Bid Form	- Annexure -I
b)	Reverse Auction Event	- Annexure –II
c)	Format for EMD	- Annexure –III
d)	Price Schedule	- Annexure –IV
e)	Summary of Commercial Terms & Conditions	- Annexure -V
f)	No Deviation Sheet	- Annexure- VI
g)	Qualification Criterion	- Annexure- VII
h)	Performance Bank Guarantee	- Annexure- VIII

Volume - II

a) Technical Specifications (TS)

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

6.0 AMENDMENT OF BIDDING DOCUMENTS

6.01   At any time prior to the deadline for submission of Bids, the Purchaser may for any reasons, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.

6.02   The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified on the website **www.bsesdelhi.com** and the same will be binding on them.

6.03   To afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids. The same shall be published as a corrigendum on the website **www.bsesdelhi.com**

6.04   Purchaser shall reserve the rights to the following:
        a) extend the due date of submission,
        b) modify the tender document in part/whole,
        c) cancel the entire tender

6.05   **Bidders are requested to visit the website regularly for any modification/ clarification/ corrigendum/ addendum of the bid documents**.

7.0 LANGUAGE OF BID

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

8.0 DOCUMENTS COMPRISING THE BID

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

(a)   Bid Form, Price & other Schedules (STRICTLY AS PER FORMAT) and Technical Data Sheets completed in accordance with Clause 9.0, 10.0, 11.0 and Technical Specifications ;

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

(c)   Power of Attorney indicating that the person(s) signing the Bid have the authority to sign the Bid and thus that the Bid is binding upon the Bidder during the full period of its validity, in accordance with clause 12.0.

9.0   BID FORM

9.01   The Bidder shall submit Bid Form and the appropriate Price Schedules and Technical Data Sheets duly filled in as per the attached specification enclosed with the Bidding Documents.

Un-priced "Copy" of the Bid Form and the appropriate Un Price Schedules duly filled in as per the attached format enclosed with the Bidding Documents with TECHNICAL BID Part A.

9.02   EMD

Pursuant to Clause 8.0(b) above, the bidder shall furnish, as part of its bid, an EMD amounting Rs 14,82,000/-. The EMD is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture.

The EMD shall be denominated in any of the following forms**:**
(a)   Bank Guarantee drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or
(b)   Online transfer of requisite amount through IMPS/NEFT/RTGS to BYPL account mentioned herein in Appendix II - **BYPL BANK DETAILS WITH IFSC CODE**.

EMD shall be valid for One Hundred Twenty (120) days after the due date of submission drawn in favour of BSES Yamuna Power Ltd.

The EMD may be forfeited in the case of:

(a)   the Bidder withdraws its bid during the period of specified bid validity

or

(b)   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 Supply/Work with a break-up of prices for individual items. The total Bid Price shall also cover all the Supplier's obligations mentioned in or

reasonably to be inferred from the Bidding Documents in respect of Design, Supply, Transportation to site, all in accordance with the requirement of Bidding Documents. The Bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total Price.

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

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

11.0   BID CURRENCIES

Prices shall be quoted **in Indian Rupees Only.**

12.0   PERIOD OF VALIDITY OF BIDS

12.01   Bids shall remain valid for 120 days from the due date of submission of the Bid.

12.02 Notwithstanding Clause 12.01 above, the Purchaser may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing and sent by 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 of Clause 22.03 & 22.04 regarding the rejection of Bids, which are not substantially responsive to the requirements of the Bidding Documents.

14.0   FORMAT AND SIGNING OF BID

14.01   The original Bid Form and accompanying documents (as specified in Clause 5.0), must be received by the Purchaser at the date, time and place specified pursuant to Clauses 15.0 and 16.0..

14.02   The original Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the Bidder. Such authorization shall be indicated by written Power-of-Attorney accompanying the Bid. The Bid submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorized to submit the Bid on behalf of the Company and shall be accompanied by certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Bid on behalf of the Company. Satisfactory evidence of the authority of the person signing on behalf of the Bidder shall be furnished with the bid. A bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent' or other designation without disclosing his principal will be rejected.

The Bidder's name stated on the Proposal shall be the exact legal name of the firm.

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.

15.0   SEALING AND MARKING OF BIDS

15.01   Bid submission: Bids have to be mandatorily submitted only through the e-procurement portal

of BSES Delhi. Bids submitted through any other form/ route shall not be admissible.

15.02   However, documents that necessarily have to be submitted in originals like EMD or Tender Fee (in the form of BG/ DD as applicable) and any other documents mentioned in the tender documents have to be submitted at the BYPL office before the due date & time of submission. The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with — "Technical Bid & EMD". All the envelopes should bear the Name and Address of the Bidder and mark for the Original. The envelopes should be superscribed 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 Purchaser to collect the proposals from Courier/Airlines/Cargo Agents etc. shall be entertained by the Purchaser.

15.04   The Bidder, along with the bid documents has to **submit four samples along with detailed GTP & Drawings.** The sample should clearly indicate (i) Name of the bidder (ii) Tender No.,(iii) Group & Item Sr. No. etc. Samples will be submitted at BYPL Meter Testing Laboratory, Savita vihar New Delhi or before the due date of tender submission. **Bidders are required to submit the receipt of sample submission along with the technical bid.** The samples shall not be returned back to the bidder.

16.0   DEADLINE FOR SUBMISSION OF BIDS

16.01   The Bid must be received by the Purchaser on or before the due date & time of submission.

16.02   The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause 6.0, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended

17.0   ONE BID PER BIDDER

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

18.0   LATE BIDS

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

19.0   MODIFICATIONS AND WITHDRAWAL OF BIDS

The Bidder is not allowed to modify or withdraw its Bid after the Bid's due date & time of submission subject to any corrigendum/addendum/modifications in the tender documents uploaded to the website.

20.0   PROCESS TO BE CONFIDENTIAL

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

21.0   CLARIFICATION OF BIDS

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

22.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

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

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

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

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

23.0   EVALUATION AND COMPARISON OF BIDS

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

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

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

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

(a) Supply Schedule

 (b) Deviations from Bidding Documents

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

The cost of all quantifiable deviations and omissions from the specification, terms and conditions specified in Bidding Documents shall be evaluated. **The Purchaser will make its own assessment of the cost of any deviation to ensure 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.

24.0 CONTACTING THE PURCHASER

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

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

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

Submission of bids shall not automatically construe qualification for evaluation. The Purchaser reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser's action.

26.0 AWARD OF CONTRACT

The Purchaser will award the Contract to the successful Bidder whose Bid has been Determined to be the lowest-evaluated responsive Bid, provided further that the Bidder has been determined to be qualified to satisfactorily perform the Contract. Purchaser reserves the right to award order other bidders in the tender, provided it is required for progress of project & provided he agrees to come to the lowest rate. Purchaser reserves the right to distribute the entire tender quantity at its own discretion without citing any reasons thereof.

27.0 THE PURCHASER 'S RIGHT TO VARY QUANTITIES

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

28.0 LETTER OF INTENT/ NOTIFICATION OF AWARD

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

29.0 PERFORMANCE BANK GUARANTEE

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

30.0 CORRUPT OR FRADULENT PRACTICES

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

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

(i) "Corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them ,or induce others

to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, 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 Purchaser, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non -competitive levels and to deprive the Purchaser of the benefits of free and open competition.

(a) 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 ;

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

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

31.0 STATUTORY GUIDELINES & REGULATIONS

The bidder shall make himself fully aware & familiarize himself with all applicable laws/guidelines/regulations.

32.0 PRIORITY OF CONTRACT DOCUMENTS

The several documents forming the Agreement are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies, the same shall be explained and adjusted by the company, who shall, accordingly, issue suitable instructions thereon to the Contractor. In such event, unless otherwise provided in the agreement or explained by way of instructions by the company, as mentioned above, the priority of the documents forming the Agreement shall be as follows:

i)   Contract Agreement/Purchase Order.

   (a) Special Conditions of Contract

   (b) General Conditions of Contract

(ii)   The Letter of Acceptance/ Intent

(iii)   Agreed Minutes of the Tender Negotiation Meetings

(iv)   Agreed Minutes of the Tender Technical Meetings

(v)   The Priced Bill of Quantities

(vi)   The Technical Specifications / Scope of work

(vii)   The Tender document, including all Appendices and/or Addenda, Corrigendum the latest

          taking precedence.

In the event of any conflict between the above-mentioned documents, the more stringent requirement or conditions which shall be favourable to the company shall govern and the decision of company/BYPL shall be final and binding upon the parties

SECTION – III: GENERAL CONDITIONS OF CONTRACT (GCC) - SUPPLY

The General Condition of Contract shall form a part of specifications, contract document.

1.0 General Instructions

1.01 All the Bids shall be prepared and submitted in accordance with these instructions.

1.02 Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Purchaser will in no case be responsible or liable for these costs.

1.03 The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred/sold to the other party.

1.04 The Purchaser reserves the right to request any additional information and also reserves the right to reject the proposal of any Bidder if, in the opinion of the Purchaser, the data in support of RFQ requirement is incomplete.

1.05 The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Purchaser's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Purchaser.

2.0 Definition of Terms

2.01 "Purchaser" shall mean BSES Yamuna Power Limited, on whose behalf this bid enquiry is issued by its authorized representative/officers.

2.02 "Bidder" shall mean the firm who quotes against this bid enquiry issued by the Purchaser. "Supplier" or "Supplier" shall mean the successful Bidder and/or Bidders whose bid has been accepted by the Purchaser and on whom the "Letter of Acceptance" is placed by the Purchaser and shall include his heirs, legal representatives, successors and permitted assigns wherever the context so admits.

2.03 "Supply" shall mean the Scope of Contract as described.

2.04 "Specification" shall mean collectively all the terms and stipulations contained in those portions of this bid document known as RFQ, Commercial Terms & Conditions, Instructions to Bidders, Technical Specifications and the Amendments, Revisions, Deletions or Additions, as may be made by the Purchaser from time to time.

2.05 "Letter of Acceptance" shall mean the official notice issued by the Purchaser notifying the Supplier that his proposal has been accepted and it shall include amendments thereto, if any, issued by the Purchaser. The "Letter of Acceptance" issued by the Purchaser shall be binding on the "Supplier" The date of Letter of Acceptance shall be taken as the effective date of the commencement of contract.

2.06 "Month" shall mean the calendar month and "Day" shall mean the calendar day.

2.07 "Codes and Standards" shall mean all the applicable codes and standards as indicated in the Specification.

2.08 "Offer Sheet" shall mean Bidder's firm offer submitted to BYPL in accordance with the specification.

2.09 "Contract" shall mean the "Letter of Acceptance/Purchase Order" issued by the Purchaser.

2.10 "Contract Price" shall mean the price referred to in the "Letter of Acceptance/Purchase Order".

2.11 "Contract Period" shall mean the period during which the "Contract" shall be executed as agreed between the Supplier and the Purchaser in the Contract inclusive of the extended contract period for reason beyond the control of the Supplier and/or Purchaser due to force majeure.

2.12 "Acceptance" shall mean and deemed to include one or more of the following as will be stipulated in the specification:
   a) The written acceptance of material by the inspector at suppliers works to ship the materials.
   b) Acceptance of material at Purchaser site stores after its receipt and due inspection/ testing and release of material acceptance voucher.
   c) Where the scope of the contract includes supply, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.

3.0 Contract Documents & Priority

3.01 Contract Documents: The terms and conditions of the contract shall consist solely of these RFQ conditions and the offer sheet.

4.0 Scope of Supply -General

4.01 The "Scope of Supply" shall be on the basis of Bidder's responsibility, completely covering the obligations, responsibility and supplies provided in this Bid enquiry whether implicit or explicit.

4.02 Bidder shall have to quote for the Bill of quantities as listed in Section – IV of this RFQ.

4.03 Quantity variation and additional requirements if any shall be communicated to successful bidder during project execution.

4.04 All relevant drawings, data and instruction manuals.

5.0 Quality Assurance and Inspection

5.01 Immediately on award of contract, the bidder shall prepare detailed quality assurance plan/test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance of standards/values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in-house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc.

5.02 Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the Purchaser. Final inspection is a mandatory hold point. The supplier is to proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BYPL.

5.03 The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.

5.04 On completion of manufacturing the items can only be dispatched after receipt of dispatch Instructions issued by the Purchaser.

5.05 All in-house testing and inspection shall be done without any extra cost. The in-house inspection shall be carried out in presence of BSES/BSES authorized third-party inspection agency. Cost of Futile/abortive visit(s) shall be debited from the invoices.

5.06 Purchaser reserves the right to send any material being supplied to any recognized laboratory for testing, wherever necessary and the cost of testing shall be borne by the Bidder. In case the material is found not in order with the technical requirement/specification, the charges along with any other penalty that may be levied are to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of the bidder's representative.

6.0   Inspection & Test Charges

6.01   GOODS shall be inspected by BUYER and/or third-party inspection agency nominated by BUYER. Inspection shall carry out stage-wise/final inspection as per agreed QA /QC procedure.
In addition, inspection of GOODS shall be carried out at our Site/stores. SELLER shall, however, repair/replace the damaged/rejected GOODS to the satisfaction of BUYER at no extra cost.

6.02   Inspection charges are included in total order value, however, BUYER will bear third-party inspection charges. In case of a futile/abortive visit of BUYER's inspector at SELLER'S works, the cost towards the same shall be debited from the SELLER's invoices.

6.03   GOODS covered by this PURCHASE ORDER shall not be dispatched in whole or in part until SELLER has received a written Release for Shipment Notice from BUYER or their designated representative.

6.04   Inspection call shall be raised a minimum of 7 (seven) days in advance from the delivery schedule mentioned in the PO and duly filled Format issued by BYPL

7.0   Handling and Storage

7.01   Material Safety Data Sheet (MSDS), detail handling & storage instruction sheet/manual, wherever applicable, to be furnished before the commencement of supply and one copy is to be submitted in store/site with First Lot.

8.0   Packing, Packing List & Marking

8.01   **Packing:** Supplier shall pack or shall cause to be packed all Commodities in crates/boxes/drums/containers/cartons and otherwise in such a manner as shall be reasonably suitable for shipment by road or rail to BYPL, Delhi/New Delhi stores/site without undue risk of damage in transit. All the packaging materials as prescribed shall be supplied preferably with bio-degradable packing- materials.

8.02   **Packing List:** The contents of each package shall be itemized on a detailed list showing the exact weight, extreme outside dimensions (length, width & weight) of each container/box/drum/carton, Item SAP Code, PO No & date. One copy of the packing list shall be enclosed in each package delivered.

9.0   PRICES/RATES/TAXES

9.01   **Price basis for supply of materials**

a) Bidder to quote their prices on Landed Cost Basis and separate price for each item for supply to BYPL Delhi/New Delhi stores inclusive of packing, forwarding, loading at manufacturer's premises, payment of GST, Freight, and any other local charges. **Octroi is presently not applicable in Delhi and however if applicable shall be reimbursed at actuals.**

b) The above supply prices shall also include unloading at BYPL Delhi/New Delhi stores/sites.

c) Transit insurance will be arranged by Bidder

10.0   Taxes & Duties

10.01   Prices for Goods are on Ex- Works basis. For the Goods covered under the GST laws, all taxes that are applicable under CGST, SGST, UGST, IGST and GST Compensation Cess shall be payable extra.

10.02   For the Goods not covered in the GST laws, the applicable ED, VAT/ CST shall be payable extra at applicable rates.

10.03   GSTIN of BSES YAMUNA POWER LTD - 07AABCC8569N1Z0
CST No of BSES YAMUNA POWER LTD -07740254593
TIN NO of BSES YAMUNA POWER LTD - 07740254593
PAN NO of BSES YAMUNA POWER LTD - AABCC8569N

10.04   At the end of each month, the SELLER must submit their detail of invoices and amount thereof to the concerned officer in charge, within 07 days after the close of the respective month to which supply relates. Non-submission of the said request would be treated as good as that the SELLER has no requirement of reconciliation.

11.0   Invoicing Instructions

11.01   Invoices in triplicate [1) Original for recipient, 2) Duplicate for Transporter, 3) Triplicate for supplier] shall be made out and delivered to the following address: BSES YAMUNA POWER LIMITED, SHAKTI KIRAN BUILDING, KARKARDOOMA, DELHI-110032.
MDCC will be released separately for Capex & Opex. Invoice will be submitted by the supplier as per the MDCC.

11.02   Vendor shall obtain GST registration in the State from where the supply will be carried out. Vendors supplying Goods to the Purchaser shall have a valid GST registration number and shall submit GST Tax Invoice and other documents as per SGST Act, CGST Act, IGST Act, UTGST Act, GST Compensation Cess Act and Rules made there under. Failure to submit GST Tax Invoice shall be liable for withholding SGST, CGST, IGST, UTGST, GST Compensation Cess amount charged by the vendor while releasing the payment.

11.03   Invoice will be in the name of BSES YAMUNA POWER LIMITED & address of the store/site mentioned in the MDCC. Invoice should contain all information as required under GST Invoice, Debit Note and Credit Rules. The government has notified rules of invoicing under GST along with a template of invoice(GST INV-01) covering the elements such as supplier's details, GSTIN No, HSN Codes, item details, GST tax rates, etc that need to be presented by the supplier.

11.04   Vendor to carefully examine and charge relevant CGST / SGST, UGST, IGST and GST compensation cess as applicable to the transactions.

11.05   Timely provision of invoices / Debit Notes / Credit Notes:

11.05.1 Vendor to timely provide invoice / Debit note / Credit note to enable Purchaser to claim tax benefit on or before stipulated time period. All necessary adjustment entries (Credit Notes, Purchase Returns, Debit Notes) shall be made within the timelines prescribed under the GST Laws.

11.05.2 In case of receipt of advance, the Vendor undertakes to raise the tax invoice. Purchaser, upon payment of advance, shall issue payment voucher as per applicable GST laws and rules. Four copies of the invoices need to be provided by suppliers and wherever the law requires, an Electronic Reference Number for each invoice.

Documents and devices to be carried by a person in charge of a conveyance under.

11.06 E Way Bills/transit documents for movement of Goods:

Wherever applicable, the Vendor shall be responsible for issuing required transit documents / E Way Bills for the movement of Goods and the logistic partner/transporter shall not be liable for any loss arising due to confiscation of goods by government agencies on account of lack of proper documents or any misdeclaration. The Supplier is responsible for complying with rules applicable to the E-way bill. Any violation in provision of E-way Bill will attract penalties and seizure of Transit Material. Any Penalty and Pre-Deposit due to violation of rules/provisions shall be paid and borne by the Supplier. Also, the Supplier is responsible for releasing goods from the Authority whether CGST/SGST. Delay in supply from the contractual date due to the seizure of goods shall also attract liquidated damages.

12.0   Terms of Payment and Billing

12.01   Payment shall be made in milestone as per following:

For item No. 1 & 2 (Supply of DT Smart Meter and Meter Boxes):

(i)   70% of the cost of meter and Box shall be released within 45 days subject to submission of following documents at our Vendor Support Cell (VSC):
   a) Submission of 10% PBG of total contract value.
   b) Signed copy of accepted Purchase Order (for first payment)
   c) LR / RR / BL as applicable
   d) Challan as applicable
   e) Two (02) copies of the Supplier's detailed Recipient Invoice showing Commodity description, quantity, unit price, total price and basis of delivery, and is 100% of the value of the consignment claimed.
   f) Two (02) copies of Supplier's transporter invoice duly receipted by BYPL Store & Original certificate issued by BYPL confirming receipt of the subject material at Store/Site and acceptance of the same as per the provisions of the contract.
   g) Two (02) copies Packing List / Detailed Packing List
   h) Approved Test certificates / Quality certificates, if applicable
   i) Certificate of Origin, if applicable
   j) Material Dispatch Clearance Certificate (MDCC)
   k) Warranty / Guarantee Certificate, if applicable
   l) Checklist for bill submission.

(ii)   20% of the cost of supplied meters and Box after their installation and Integration with Existing HES

(iii)   Balance 10% of the cost of meter and Box supplied shall be released after completion of 100% installation of all DT smart meters

b) For item No. 3 & 4 (Installation, Integration, Testing & Commissioning):

(i)   **9**0% cost shall be released after successful installation and their integration with existing HES

(ii)   Balance 10% of the cost shall be released after completion of 100% installation and their integration with HES of all DT smart meters.

12.02 Purchaser has the right to recover tax loss, interest and penalty suffered due to any non-compliance of tax laws by the Vendor. In the event, Purchaser is not able to avail of any tax credit due to any shortcoming on the part of the Vendor (which otherwise should have been available to Purchaser in the normal course), then the Vendor at his own cost and effort will get the short coming rectified. If for any reason the same is not possible, then the Vendor will make 'good' the loss suffered by Purchaser due to the tax credit it lost. In such event, any amount paid to the Vendors shall be first attributable to the tax (GST) charged in the invoice and the balance shall be considered towards the 'value' of supply of goods/ services.

12.03 Purchaser shall deduct "Tax Deducted at Source" wherever applicable and at the rate prescribed under the GST Laws or any other Indian law and remit the same to the Government. Necessary TDS certificates as per law shall be issued by the purchase to the vendor.

12.04 Any liability arising out of dispute on the tax rate, classification under HSN, calculation and payment of tax to the Government will be to the Vendor's account.

12.05 Where the supply of Goods is liable to GST under reverse charge mechanism, then the supplier should clearly mention the category under which it has been registered and also that "the liability of payment of GST is on the Recipient of Supply".

13.0 Tax Indemnity Clause

13.01 Vendor (along with its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement) agrees that it will be solely responsible for performing all compliances and making payments of all taxes (direct tax or indirect tax including but not limited to income-tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability arising either out of laws/ regulations applicable in India and overseas or because of a demand/ recovery initiated by any revenue authority under laws/ regulations applicable in India or overseas.

13.02 In case any tax liability (including but not limited to income tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess, custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability becomes payable by Purchaser due to failure of the Vendor, or any of its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement, to comply with the relevant laws/ regulations applicable in India or overseas, Vendor undertakes to indemnify Purchaser for an amount equal to amount payable by Purchaser.

13.03 Further, Vendor undertakes to keep Purchaser indemnified at all times against and from all other actions, proceedings, claims, loss, damage, costs and expenses which may be brought against Purchaser or suffered or incurred by Purchaser and which shall have arisen either directly or indirectly out of or in connection with failure of The Vendor, or any of its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement, to comply with relevant obligations/ compliance under any law/ regulations applicable in India and overseas.

13.04 The parties agree to follow the following process in case any communication of demand, arising out of non-compliance by Vendor (along with its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement), is received by Purchaser:

13.04.1 On Purchaser receiving any communication from a competent authority demanding tax liability (including but not limited to income tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability, Purchaser shall, within 5 common working days from the date of receipt of such communication (save where the period to respond to the relevant authority is less than five days, in which case, as soon as reasonably possible) inform Vendor in writing of such communication.

13.04.2 Pursuant to receiving communication from Purchaser, Vendor shall suggest to accept the communication and pay the demand amount to the competent authority. In such an event, Vendor shall reimburse such amount paid to Purchaser within 5 working days from the date of payment by Purchaser to the competent authority.

13.04.3 If Vendor advises in writing and Purchaser agrees to dispute the demand, then Purchaser shall dispute the matter with competent authority as per due process prescribed under the regulations and Purchaser shall not pay the Tax Demand. In such scenario, cost of litigation including but not limited to Counsel cost, filing fees, other related charges, should be reimbursed by Vendor to Purchaser. Additionally, If any coercive steps of recovery are initiated by the department, then Purchaser would pay such amount (including by way of adjustment of refunds due to it) and the same would be reimbursed by Vendor within 5 working days from date of such recovery from Purchaser. Purchaser will take all necessary steps to avoid such recovery measures.

13.04.4 On determination of the demand through an Order issued by a Tribunal or any other similar Authority, by whatever name called, under any law applicable in India or overseas, if the demand or any part thereof becomes payable and is paid by Purchaser, then Vendor undertakes to reimburse such amount to Purchaser within 10 days from the date of payment. Alternatively, if on determination of the demand through an Order, no amount is payable by Purchaser then any refund arising to Purchaser due to such an Order shall be passed on to Vendor within 10 days from the date of receipt of refund.

14.0   The Micro, Small and Medium Enterprises (MSME)

14.01   If the SELLERS establishment is covered under the purview of The Micro, Small and Medium Enterprises Development Act, 2006 and its amendments, he shall declare so within the bid of its status failing which it will be presumed that it is a non-MSME unit. Also submit a copy of Udyog Aadhaar (UA) & Udyam Registration Number.

15.0   Price Validity
15.01   All bids submitted shall remain valid, firm and subject to unconditional acceptance by BYPL Delhi for 120 days from the due date of submission. For awarded suppliers, the prices shall remain valid till contract completion.

16.0   Performance Guarantee

16.01   The successful Bidder shall furnish the Performance Bank Guarantee within fifteen(15) days from the issuance of Purchase Order, for an amount of 10% (Ten percent) of the Total Contract value. The Performance Bond shall be valid for a period of Sixty months (60) from the date of the commissioning or Sixty six months (66) from the date of receipt of material (last consignment) at site/stores whichever is earlier plus 3 months towards claim period. Upon submission of the performance security, the EMD shall be released

16.02   Bank guarantee shall be drawn in favour of BSES Yamuna Power Ltd as applicable. The performance Bank guarantee shall be in the format as specified by BYPL.

17.0   Forfeiture

17.01   Each Performance Bond established under Clause 10.0 shall contain a statement that it shall be automatically and unconditionally forfeited without recourse and payable against the presentation by BYPL of this Performance Bond, to the relevant bank referred to above, together with a simple statement that supplier has failed to comply with any term or condition set forth in the Contract.

17.02   Each Performance BG established under will be automatically and unconditionally forfeited without recourse if BYPL in its sole discretion determines that supplier has failed to comply with any term or condition set forth in the contract.

18.0   Release

18.01   All Performance Bonds will be released without interest within seven (7) days from the last date up to which the Performance Bond has to be kept valid except for the case set forth in Clause 22.0.

19.0   Defects Liability Period/Guarantee/Warranty

19.01   The bidder is to Guarantee the materials/items supplied against any defect or failure, which arises due to faulty materials, workmanship or design for the entire defects liability period. The Defect liability period shall be 60 months from the date of commissioning or 66 months from the date of delivery whichever is earlier.

19.02   If during the Defects Liability Period, any GOODS are found to be defective, they shall be promptly replaced or rectified by BIDDER at its own cost (including the cost of dismantling and (reinstallation) on the instructions of BUYER and if removed from SITE for such purpose, shall be removed and re-delivered to SITE by BIDDER at its own cost.

20.0   Return, Replacement or Substitution

20.01   BYPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BYPL may at its discretion elect to return defective Commodities to Supplier for replacement, free of charge to BYPL, or may reject such Commodities and purchase the same or similar Commodities from any third party. In the latter case, BYPL shall furnish proof to Supplier of the cost of such substitute purchase. In either case, all costs of any replacement, substitution, shipping, labour and other related expenses incurred in connection with the return and replacement or for the substitute purchase of a Commodity hereunder should be for the account of Supplier. BYPL may set off such costs against any amounts payable by BYPL to Supplier. Supplier shall reimburse BYPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid. BUYER at its sole discretion shall have the opinion to dispose of the material or GOODS so rejected and not taken back within forty-five days from the date of intimation of rejection.

21.0   Effective Date of Commencement of Contract

21.01   The date of the issuance of the Letter of Acceptance/Purchase Order shall be treated as the effective date of the commencement of Contract.

22.0   Time – The Essence Of Contract

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

23.0   The Laws and Jurisdiction of Contract:

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

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

24.0   Events of Default

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

(a) Supplier fails or refuses to pay any amounts due under the Contract;

(b) Supplier fails or refuses to deliver Commodities conforming to this RFQ/ specifications, or fails to deliver Commodities within the period specified in P.O. or any extension thereof

(c) Supplier becomes insolvent or unable to pay its debts when due, or commits any act of bankruptcy, such as filing any petition in any bankruptcy, winding-up or reorganization proceeding, or acknowledges in writing its insolvency or inability to pay its debts; or the Supplier's creditors file any petition relating to bankruptcy of Supplier;

(d) Supplier otherwise fails or refuses to perform or observe any term or condition of the Contract and such failure is not remediable or, if remediable, continues for a period of 30 days after receipt by the Supplier of notice of such failure from BYPL.

25.0   Consequences of Default.

(a) If an Event of Default shall occur and be continuing, BYPL may forthwith terminate the Contract by written notice.

(b) In the event of an Event of Default, BYPL may, without prejudice to any other right granted to it by law, or the Contract, take any or all of the following actions;

(i) present for payment to the relevant bank the Performance Bond;

(ii) purchase the same or similar Commodities from any third party; and/or

(iii) recover any losses and/or additional expenses BYPL may incur as a result of Supplier's default.

26.0   Penalty for Delay

26.01   If supply of items/equipments is delayed beyond the supply schedule as stipulated in the purchase order then the Supplier shall be liable to pay to the Purchaser as penalty for delay, a sum of 1% (one percent) of the basic (ex-works) price for every week delay of undelivered units or part thereof for individual milestone deliveries.

26.02   The total amount of penalty for delay under the contract will be subject to a maximum of ten percent (10%) of the basic (ex-works) price of total undelivered units.

26.03 The Purchaser may, without prejudice to any method of recovery, deduct the amount for such damages from any amount due or which may become due to the Supplier or from the Performance Bond or file a claim against the supplier.

26.4 If the Penalty is levied as per the Order terms & conditions; BYPL will raise the Invoice for the penalty amount along with applicable GST rates. Accordingly, after setting off the penalty Invoice amount, net payment shall be made.

27.0   Variation in Taxes, Duties & Levies

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

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

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

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

28.0   Taxes & Duties on raw materials & bought out components

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

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

29.0   Force Majeure

29.01 General

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

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

(i) The following events and circumstances :

a) Effect of any natural element or other acts of God, including but not limited to storm, flood, earthquake, lightning, cyclone, landslides or other natural disasters.

b) Explosions or fires

(ii) War declared by the Government of India.

(iii) Dangers of navigation, perils of the sea.

Note: Causes like power breakdown/strikes, accidents etc do not fall under Force Majeure.

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

i) Immediately notify the other party in writing of the force majeure events within 7(seven) working days of the occurrence of the force majeure event

ii) Be entitled to suspend performance of the obligation under the Contract which is affected by force majeure event for the duration of the force majeure event.

iii) Use all reasonable efforts to resume full performance of the obligation as soon as practicable

iv) Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis.

v) Provide prompt notice of the resumption of full performance or obligation to the other party.

29.04 Mitigation of Events of Force Majeure Each Party shall:

(i) Make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any delay occasioned by an Event of Force Majeure including recourse to alternate methods of satisfying its obligations under the Contract;

(ii) Use its best efforts to ensure resumption of normal performance after the termination of any Event of Force Majeure and shall perform its obligations to the maximum extent practicable as agreed between the Parties; and

(iii) Keep the other Party informed at regular intervals of the circumstances concerning the event of Force Majeure, with best estimates as to its likely continuation and what measures or contingency planning it is taking to mitigate and or terminate the Event of Force Majeure.

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

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

The Purchaser may terminate the contract after giving 7 (seven) days' notice if any of the following occurs:

i. Bidder fails to complete the execution of works within the approved schedule of works, terms and conditions.

ii. In case the Bidder commits any Act of Insolvency, or is adjudged insolvent

iii. Has abandoned the contract

iv. Has failed to commence work or has suspended the progress of works

     v. Has failed to proceed with the works with due diligence and failed to make such due progress

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

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

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

29.10   <u>Severability</u>: If any provision of this Agreement is or becomes invalid or unenforceable by the courts of any jurisdiction to which it is subject, such invalidity or unenforceability shall not prejudice the remaining provisions of this Agreement, which shall continue in full force and effect.

30.0   Transfer and Sub-Letting

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

31.0   Recoveries

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

32.0   Waiver

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

33.0   Indemnification

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

34.00   Termination for convenience of Purchaser

34.1   Purchaser at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Supplier. Purchaser shall pay the Supplier for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Supplier to that effect.

34.2   Payment of such compensation is the sole and exclusive remedy of the supplier for termination of this Agreement by Purchaser hereunder and the supplier shall not be entitled to, and hereby waives, claims for lost profits and all other damages and expenses.

34.3 Supplier hereby agrees that substantiation for settlement of any claims submitted by supplier shall be complete and in sufficient detail to allow Purchaser's evaluation. Terminate all sub-contracts except those that have been/ to be assigned to the Purchaser all rights, titles and benefits of the Suppliers/Vendor as the case may be.

35.00 Documentation

35.01 The Bidder shall procure all equipment from BYPL-approved sources as per the attached specifications. The Bidders shall submit copies of Material/Type Test Certificates, O&M Manuals, and Approved & As-built drawings, related to various equipment (as applicable). The Bidder shall ensure strict compliance with the specifications and Field Quality Procedures issued by BYPL.

36.0 Transit Insurance

36.01 Transit Insurance shall be arranged by the Bidder.

36.02 DAMAGE / LOSS OF CARGO IN TRANSIT: Vendor shall be solely responsible for coordinating with the concerned insurance company for procuring insurance for material and/or Goods, processing claims lodgment and settlement. Notwithstanding the insurance cover, in case of loss/damage to material and/or Goods, in any manner and for any cause whatsoever, Vendor shall cause the damaged cargo to be replaced and delivered to the Purchaser with new material and/or Goods within 30 days of such loss/damage. The Vendor shall be solely responsible for all expenses in relation to the replacement and delivery in such circumstances.

37.0 Limitation of Liability

37.01 Except for willful misconduct or gross negligence, neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or any other indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract. The total liability of the Supplier to the Purchaser under the Contract shall not exceed the Contract Value. Except that this Clause shall not limit the liability of the Supplier:
(a)   In cases of fraud, willful misconduct or illegal or unlawful acts, or
(b)   In cases of acts or omissions of the Supplier that are contrary to the most elementary rules of diligence that a conscientious Supplier would have followed in similar circumstances.

38.0 Liability of Suppliers

38.1 Subject to the due discharge of its obligations under the Contract and except in case of gross negligence or willful misconduct on the part of the Supplier or on the part of any person acting on behalf of the Supplier, with respect to any loss or damage caused by the Supplier to the Purchaser's property or the Site, the Supplier shall not be liable to the Purchaser for the following:
(a)   For any indirect or consequential loss or damage; and
(b)   For any direct loss or damage that exceeds:
(i)   The total payments made and expected to be made to the Supplier under the Contract including reimbursements, if any; or
(ii)   The insurance claim proceeds that the Supplier may be entitled to receive from any insurance purchased by the Supplier to cover such a liability, whichever is higher.

38.2 This limitation of liability shall not affect the supplier's liability, if any, for damage to third-party property or injury or death of a person due to negligence of the Contractor or any Person or firm acting on behalf of the supplier in executing the order.

38.3 Notwithstanding anything contained in the Contract, the Supplier shall not be liable for any gross negligence or willful misconduct on the part of the Purchaser or any of its affiliates, any vendor, or any

party, other than Supplier and/or, its directors, officers, agents or representatives or its affiliates, or SubSupplier, or the vendor or any third party engaged by it.

38.4 Notwithstanding anything contained in the Contract, including but not limited to approval by the Purchaser of any drawings, documents, vendor list, supply of information or data or the participation of the Purchaser in any meeting and/or discussion or otherwise, shall not absolve the Supplier from any of its liabilities or responsibilities arising in relation to or under the Contract.

39.0 Intellectual Property Rights and Royalties

39.1 The Supplier shall indemnify the Purchaser and the Purchaser's Representative from and against all claims and proceedings on account of infringement (or alleged infringement) of any patent rights, registered designs, copyright, design, trademark, trade name, know-how or other intellectual property rights (hereinafter collectively referred to as "**Intellectual Property Rights**") in respect of the Works, Supplier's Equipment, machines, Works method, Plant, Materials, or anything whatsoever required for the execution of the Works and from and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. In the event of an infringement of any Intellectual Property Rights of any third party as a result of the execution of the Works (or any part thereof) by the Supplier, the Supplier shall rectify, modify or replace, at its own cost, the Works, Plant or Materials or anything whatsoever required for the Works so that infringement ceases to exist or, in the alternative, the Supplier shall procure necessary rights/ licenses from the affected third party so that there is no infringement of Intellectual Property Rights.

39.2 The Supplier shall be promptly notified of any claim made against the Purchaser. The Supplier shall, at its cost, conduct negotiations for the settlement of such claim, and any litigation or arbitration that may arise from it. The Purchaser or the Purchaser's Representative shall not make any admission that might be prejudicial to the Supplier, unless the Supplier has failed to take over the conduct of the negotiations, litigation or arbitration within a reasonable time after having been so requested. In the event of the Supplier failing to act at the Purchaser's Representative's notice, the Purchaser shall be at full liberty to deduct any such amount of pending claim from any amount due to the Supplier under the Contract or any other contract and the balance portion of claim shall be treated as debt due from the Supplier.

39.3 All Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, documents, specifications, data, materials, know-how, charts, information, etc., provided to the Supplier by the Purchaser pursuant to this Contract for the execution of the Works, belongs to and shall continue to belong to the Purchaser and the Supplier shall not have any rights in the same other than the limited right for its use for the purpose of execution of the Works.

39.4 Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, calculations, drawings, documents, know-how and information relating to the Works which are proprietary to the Supplier and/ or its third-party licensors ("**Supplier's IPR**") shall continue to vest with the Supplier and/ or its third-party licensors and the Supplier shall grant and/ or procure from its third party licensors, at its own cost, a worldwide, perpetual, royalty free, non-exclusive license (along with the right to sub-license) to use and reproduce such Supplier's IPR for the use, operation, maintenance and repair of the Works.

39.5 If any patent, trademark, trade name, registered design or software is developed by the Supplier or its SubSupplier specifically for the execution of the Works, then all Intellectual Property Rights in respect of such design, trademark, trade name or software shall be the absolute property of the Purchaser and shall not be utilized or retained by the Supplier (or its SubSuppliers) for any purpose other than with the prior written consent of the Purchaser.

39.6 If the Supplier uses proprietary software (whether customized or off the shelf) for the purpose of storing or utilizing records in relation to the Works, the Supplier shall obtain at its own expense, the grant of a worldwide, royalty-free, perpetual licence or sublicence (including the right to sublicense) to use such software, in favour of the Purchaser provided that the use of such software under the licence or the sublicense may be restricted to use any such software only for the design, construction, reconstruction,

manufacture, installation, completion, reinstatement, extension, repair and operation of the Works or any part thereof.

39.7 If any software is used by the Supplier for the execution of the Works over which the Supplier or a third party holds pre-existing title or other rights, the Supplier shall obtain for the Purchaser, a worldwide, royalty-free, perpetual license for the right to use and apply that software (together with any modifications, improvements and developments thereof).

40.0 Acceptance

40.01 Vendor confirms to have gone through the Policy of BYPL on legal and ethical code required to be followed by vendors encapsulated in the "Vendor Code of Conduct" displayed on the official website of BYPL (www.bsesdelhi.com) also, which shall be treated as a part of the contract/PO/WO.
The vendor undertakes that he shall adhere to the Vendor Code of Conduct and also agrees that any violation of the Vendor Code of Conduct shall be treated as breach of the contract/PO/WO.
In event of any such breach, irrespective of whether it causes any loss/damage, Purchaser (BYPL) shall have the right to recover loss/damage from Vendor.
The Contractor/Vendor hereby indemnifies and agrees to keep indemnified the Purchaser (BYPL) against any claim/litigation arising out of any violation of Vendor Code of Conduct by the Contractor/Vendor or its officers, agents & representatives etc.

40.02 Acceptance of the CONTRACT implies and includes acceptance of all terms and conditions enumerated in the CONTRACT in the technical specification and drawings made available to Contractor consisting of general conditions, detailed scope of work, detailed technical specification, detailed equipment drawing and complete scope of work.

40.03 Contractor and Company contractual obligations are strictly limited to the terms set out in the CONTRACT. No amendments to the concluded CONTRACT shall be binding unless agreed to in writing for such amendment by both parties.

40.04 We expect your services and supplies to be aligned to our Vision, Mission and Values. Please refer to the following link to know about our Vision, Mission and Values;
https://www.bsesdelhi.com/web/bypl/about-bses

SECTION – IV: QUANTITY AND DELIVERY REQUIREMENT

Sl. No.	Item Description	Specification	Schedule of requirement			Location
			Month	**Supply**	**Installation**	
1.	Supply, Installation of DT Smart Meters & Its Integration with HES at BYPL	SECTION V	Month 1	Submission of Commencement Sample & Integration with Existing HES		Stores/Site BYPL Delhi
			Month 2			
			Month 3	200		
			Month 4	600	200	
			Month 5	2700	700	
			Month 6	700	1100	
			Month 7		1100	
			Month 8		1100	
Total quantity (Nos)				**4200**	**4200**	

The delivery schedule shown above is tentative. PO(s) will be released as per the actual requirement. However, the supplier has to deliver the material within the delivery schedule provided.

APPENDIX - I

FORMATS

SUPPLY, INSTALLATION OF DT SMART METERS & ITS INTEGRATION WITH HES AT BYPL

NIT No. CMC/BY/24-25/RS/SkS/APT/57

BSES
BSES Yamuna Power Limited

APPENDIX – I   <u>**ANNEXURE – 1.01**</u>

<u>**BID FORM**</u>

To,

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

Sir,

1 We understand that BYPL is desirous of procuring "**Supply, Installation of DT Smart Meters & Its Integration with HES at BYPL"** in its licensed distribution network area in Delhi.

2 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.

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

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

5 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.

6 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.

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

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

9 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...   20   ....

Signature... In the capacity of ……………………………

....duly authorized to sign for and on behalf of

(IN   BLOCK   CAPITALS)   ....

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

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

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

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

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

Signature & seal of the Bidder

APPENDIX – I   **ANNEXURE – 1.03**

BIDDER DETAIL FORM

Bidder's Offer No.: ………………………………………..

Offer Dated: …………

To,
Head of the Department
Contracts & Materials
BSES Yamuna Power Ltd
BSES Building, Karkardooma
New Delhi– 110032.

Dear Sir,

In response to your Tender No. CMC/BY/24-25/RS/SkS/APT/57 dated 30.03.2025 for Supply, Installation of DT Smart Meters & Its Integration with HES at BYPL for BSES YAMUNA POWER LTD, Delhi-32. We hereby submit our offer herewith.

    1. Bidder Name   : ………………………………………….

    2. Website Address   : …………………………………….…

    3. Email Address   : ………………………………………

    4. Address for Communication   : ……………………………………….

                                     ………………………………………….

                                   ………………………………………

    5. Telephone Number   : ………………………………….

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

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

                  a.   Designation : ………………………………….

                  b.   Mobile No. : …………………………………..

                  c.   Email-ID   : …………………………….……

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

                  a.   Designation :…………………………………

                    b.   Mobile No. : ……………………………….

                    c.   Email-ID   : ………………………………

9. PAN Number : ....

10. TIN Number : ....

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

12. ECC Number : ....

13. <u>Particulars of EMD:</u>
    a. Amount : Rs. ....
    b. Mode of Payment (BG) : ....
    c. BG No. : ....
    d. Date : ....
    e. Name of the Bank : ....
    f. Address of the Bank : ....
    g. Validity of BG : ....

14. <u>Particulars of Tender Fee:</u>
    a. Amount : Rs. ....
    b. DD No. : ....
    c. Date : ....
    d. Name of the Bank : ....
    e. Address of the Bank : ....

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

Year	Annual Report attached at Page No.	Turnover in Rs. (Crores)
2021-2022		
2023-2023		
2023-2024		
Average Turnover		

16. Details of similar work / order executed during last 3 years (Please submit copy of completion certificate from the client.

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

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

    i) ....

    ii) ....

iii) ....

DECLARATION

1) We have read and understood the terms & conditions of the above mentioned tender and comply with all Terms & Conditions of your Tender. (In case of any deviation the Bidder must attach a separate sheet clearly mentioning the Clause No. of the Tender and Deviation thereto)

2) We certify that the information mentioned above are true and correct to best of our Knowledge.

3) In case of receipt of order we confirm that payment shall be received through e-Banking / Electronics Transfer.

4) This offer contains ……………. No. of pages including all Annexure and   Enclosures.

Place: _____   Signature of Authorized Signatory

Date: _____

Name:

Designation:

Seal:

FORMAT FOR EMD 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 Power Ltd., with its Corporate Office at BSES Shakti Kiran Building Karkardooma, New Delhi - 110032, (herein after called - the Purchaser) in the sum of Rs. ……………. (Rupees…………………………………………………only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this_____ day of_____ 20____.

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form ;or

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

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

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

(Stamp & signature of the bank)

Signature of the witness

APPENDIX – I

PRICE BID FORMAT

S. No.	Item Description	Qty	Uom	Ex-Works Price Per EA (INR)	GST %	GST Amount (INR)	Unit Landed Cost Per EA (INR)	Total Landed Cost In (INR)
A1	Supply of DT Smart Meter (As per Technical Specification enclosed)	4200	Nos					
A2	Supply of DT's Smart Meter Boxes	4200	Nos					
A3	Integration support with existing HES as per Technical Specification enclosed	4200	Nos					
A4	Installation of DT Smart Meter with accessories	4200	Nos					
Total Package Cost (A1+A2+A3+A4)								

Please find attach the covering letter head along with the price format.

Note :
1)   Reverse Auction(RA) shall be conducted on total package Cost i.e. (A1+A2+A3+A4)
2)   Bidder's requested to quote price for Installation of DT's Smart Meter including all accessories required for completion of installation work except CTs, Seals which is in BYPL Scope.
3)   BYPL shall provide SIM and Cloud servie for integration and data communication with server.
4)   BYPL has the right to split the quantity among bidders as per splitting clause mentioned in NIT.
5)   Bidder shall provide Encryption Keys and Authentication Keys of supplied DT smart meters.
6)   Bidder shall provide HLS and LLS Password for supplied DT smart meters

Date: Bidders Name:

Place: Bidders Address:

Signature: ………………………………….. Designation: ……………………………………………………….

Printed Name: ……………………………… Common Seal: ………………………………………………….

APPENDIX – I   <u>**ANNEXURE – 1.06**</u>

<u>**SCHEDULE OF DEVIATIONS**</u>

Vendor shall refrain from taking any deviations on this TENDER. Still in case of any deviations, all such deviations from this tender shall be set out by the Bidder, Clause by Clause in this schedule and submit the same as a part of the Technical Bid.

Unless **specifically** mentioned in this schedule, the tender shall be deemed to confirm the BYPL's specifications:

<u>**Technical Deviations:-**</u>

S. No	NIT Clause No.	NIT Page No.	Details of Clarification/deviation with justifications

<u>**Commercial Deviations:-**</u>

S. No	NIT Clause No.	NIT Page No.	Details of Clarification/deviation with justifications

Bidder should also furnish the below details for future communication:-
GENERAL INFORMATION
NAME OF COMPANY
POSTAL ADDRESS

FOR TECHNICAL QUERY:
CONTACT PERSON NAME
DESIGNATION
E-MAIL
CONTACT NO.

FOR COMMERCIAL QUERY:
CONTACT PERSON NAME
DESIGNATION
E-MAIL
CONTACT NO.

By signing this document we hereby withdraw all the deviations whatsoever taken anywhere in this bid document and comply with all the terms and conditions, technical specifications, scope of work etc. As mentioned in the standard document except those mentioned above.

Seal of the Bidder:

Signature:

Name:

APPENDIX – I   <u>**ANNEXURE – 1.07**</u>

<u>**UNDERTAKING/ SELF DECLARATION FORM**</u>

(To be submitted on Bidders Letter Head)

Tender No: _____

To,
The HOD
Contract & Material Dept
BSES Yamuna Power LTD
Karardooma Delhi-110032

Subject: Declaration for Not blacklisted

Sir,

1.   I / We, the undersigned do hereby declare that, I / We have never ever been blacklisted and / or there were no debarring actions against us for any default in supply of material/ Services or in the performance of the contract entrusted to us in any of the State Government, Central Government or any other public sector undertaking or a corporation or Electricity Utilities of India.

2.   In the event of any such information pertaining to the aforesaid matter found at any given point of time either during the course of the contract or at the bidding stage, my bid/ contract shall be liable for truncation/ cancellation/ termination without any notice at the sole discretion of the purchaser.

                                                                    Yours faithfully

Place:

Date:

                                                        Signature of the bidder with seal

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

VENDOR CODE OF CONDUCT

Purchaser is committed to conducting its business in an ethical, legal and socially responsible manner. To encourage compliance with all legal requirements and ethical business practices, Purchaser has established this Vendor Code of Conduct (the "Code") for Purchaser's Vendors. For the purposes of this document, "Vendor" means any company, corporation or other entity that sells, or seeks to sell goods or services, to Purchaser, including the Vendor's employees, agents and other representatives.

Fundamental to adopting the Code is the understanding that a business, in all of its activities, must operate in full compliance with the laws, rules and regulations of the countries in which it operates. This Code encourages Vendors to go beyond legal compliance, drawing upon internationally recognized standards, in order to advance social and environmental responsibility.

I. Labour and Human Rights

Vendors must uphold the human rights of workers, and treat them with dignity and respect as understood by the international community.

. Fair Treatment - Vendors must be committed to a workplace free of harassment. Vendors shall not threaten workers with or subject them to harsh or inhumane treatment, including sexual harassment, sexual abuse, corporal punishment, mental coercion, physical coercion, verbal abuse or unreasonable restrictions on entering or exiting company provided facilities.

. Antidiscrimination - Vendors shall not discriminate against any worker based on race, colour, age,gender,sexual orientation, ethnicity, disability, religion, political affiliation, union membership, national origin, or marital status in hiring and employment practices such as applications for employment, promotions, rewards, access to training, job assignments, wages, benefits, discipline, and termination. Vendors shall not require a pregnancy test or discriminate against pregnant workers except where required by applicable laws or regulations or prudent for workplace safety. In addition, Vendors shall not require workers or potential workers to undergo medical tests that could be used in a discriminatory way except where required by applicable law or regulation or prudent for workplace safety.

. Freely Chosen Employment - Forced, bonded or indentured labour or involuntary prison labour is not to be used. All work will be voluntary, and workers should be free to leave upon reasonable notice. Workers shall not be required to hand over government-issued identification, passports or work permits as a condition of employment.

. Prevention of Under Age Labor - Child labor is strictly prohibited. Vendors shall not employ children. The minimum age for employment or work shall be 15 years of age, the minimum age for employment in that country, or the age for completing compulsory education in that country, whichever is higher. This Code does not prohibit participation in legitimate workplace apprenticeship programs that are consistent with Article 6 of ILO Minimum Age Convention No. 138 or light work consistent with Article 7 of ILO Minimum Age Convention No. 138.

. Juvenile Labor - Vendors may employ juveniles who are older than the applicable legal minimum age for employment but are younger than 18 years of age, provided they do not perform work likely to jeopardize their health, safety, or morals, consistent with ILO Minimum Age Convention No. 138.

.Minimum Wages - Compensation paid to workers shall comply with all applicable wage laws, including those relating to minimum wages, overtime hours and legally mandated benefits. Any Disciplinary wage deductions are to conform to local law. The basis on which workers are being paid is to be clearly conveyed to them in a timely manner.

. Working Hours - Studies of good manufacturing practices clearly link worker strain to reduced productivity, increased turnover and increased injury and illness. Work weeks are not to exceed maximum set by local law. Further, a work week should not be more than 60 hours per week, including overtime, except in emergency or unusual situations. Workers should be allowed at least one day off per seven-day week.

. Freedom of Association - Open communication and direct engagement between workers and management are the most effective ways to resolve workplace and compensation issues. Vendors are to respect the rights of workers to associate freely and to communicate openly with management regarding working conditions without fear of reprisal, intimidation or harassment. Workers' rights to join labour unions seek representation and or join worker's councils in accordance with local laws should be acknowledged.

II. Health and Safety

Vendors must recognize that in addition to minimizing the incidence of work-related injury and illness, a safe and healthy work environment enhances the quality of products and services, consistency of production and worker retention and morale. Vendors must also recognize that ongoing worker input and education is essential to identifying and solving health and safety issues in the workplace.

The health and safety standards are:

. Occupational Injury and Illness - Procedures and systems are to be in place to prevent, manage, track and report occupational injury and illness, including provisions to: a) encourage worker reporting; b) classify and record injury and illness cases; c) provide necessary medical treatment; d) investigate cases and implement corrective actions to eliminate their causes; and e) facilitate return of workers to work.

. Emergency Preparedness - Emergency situations and events are to be identified and assessed, and their impact minimized by implementing emergency plans and response procedures, including: emergency reporting, employee notification and evacuation procedures, worker training and drills, appropriate fire detection and suppression equipment, adequate exit facilities and recovery plans.

. Occupational Safety - Worker exposure to potential safety hazards (e.g., electrical and other energy sources, fire, vehicles, and fall hazards) are to be controlled through proper design engineering and administrative controls, preventative maintenance and safe work procedures (including lockout/ragout), and ongoing safety training. Where hazards cannot be adequately controlled by these means, workers are to be provided with appropriate, well-maintained, personal protective equipment. Workers shall not be disciplined for raising safety concerns.

. Machine Safeguarding - Production and other machinery is to be evaluated for safety hazards. Physical guards, interlocks and barriers are to be provided and properly maintained where machinery presents an injury hazard to workers.

. Industrial Hygiene - Worker exposure to chemical, biological and physical agents is to be identified, evaluated, and controlled. Engineering or administrative controls must be used to control overexposures. When hazards cannot be adequately controlled by such means, worker health is to be protected by appropriate personal protective equipment programs.

. Sanitation, Food, and Housing - Workers are to be provided with ready access to clean toilet, facilities potable water and sanitary food preparation, storage, and eating facilities. Worker dormitories provided by the Participant or a labour agent are to be maintained clean and safe, and provided by the Participant or a labour

egress, hot water for bathing and showering, and adequate heat and ventilation and reasonable personal space along with reasonable entry and exit privileges.

. Physically Demanding Work - Worker exposure to the hazards of physically demanding tasks, including manual material handling and heavy or repetitive lifting, prolonged standing and highly repetitive or forceful assembly tasks is to be identified, evaluated and controlled.

III. Environmental

Vendors should recognize that environmental responsibility is integral to producing world class products In manufacturing operations, adverse effects on the environment and natural resources are to be minimized while safeguarding the health and safety of the public.

The environmental standards are:

. Product Content Restrictions - Vendors are to adhere to applicable laws and regulations regarding prohibition or restriction of specific substances including labeling laws and regulations for recycling and disposal. In addition, Vendors are to adhere to all environmental requirements specified by Purchaser.

. Chemical and Hazardous Materials -Chemical and other materials posing a hazard if released to the environment are to be identified and managed to ensure their safe handling, movement storage, recycling or reuse and disposal.

. Air Emissions - Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge.

. Pollution Prevention and Resource Reduction -Waste of all types, including water and energy, are to reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials.

. Wastewater and Solid Waste - Wastewater and solid waste generated from operations industrial processes and sanitation facilities are to be monitored, controlled and treated as required prior to discharge or disposal.

. Environmental Permits and Reporting - All required environmental permits (e.g. discharge monitoring) and registrations are to be obtained, maintained and kept current and their operational and reporting requirements are to be followed.

IV. Ethics

Vendors must be committed to the highest standards of ethical conduct when dealing with workers, Vendors, and customers.

. Corruption, Extortion, or Embezzlement - Corruption, extortion, and embezzlement, in any form, are strictly prohibited. Vendors shall not engage in corruption, extortion or embezzlement in any form and violations of this prohibition may result in immediate termination as an Vendor and in legal action.

. Disclosure of Information - Vendors must disclose information regarding its business activities, structure financial situation, and performance in accordance with applicable laws and regulations and prevailing industry practices.

. No Improper Advantage - Vendors shall not offer or accept bribes or other means of obtaining undue or improper advantage.

. Fair Business, Advertising, and Competition - Vendors must uphold fair business standards in advertising, sales, and competition.

. Business Integrity - The highest standards of integrity are to be expected in all business interactions. Participants shall prohibit any and all forms of corruption, extortion and embezzlement. Monitoring and enforcement procedures shall be implemented to ensure conformance.

. Community Engagement - Vendors are encouraged to engage the community to help foster social and economic development and to contribute to the sustainability of the communities in which they operate.

. Protection of Intellectual Property - Vendors must respect intellectual property rights; safeguard customer information; and transfer of technology and know-how must be done in a manner that protects intellectual property rights.

V. Management System

Vendors shall adopt or establish a management system whose scope is related to the content of this Code. The management system shall be designed to ensure (a) compliance with applicable laws, regulations and customer requirements related to the Vendors' operations and products; (b) conformance with this Code; and (c) identification and mitigation of operational risks related to this Code. It should also facilitate continual improvement.

The management system should contain the following elements:
. Company Commitment - Corporate social and environmental responsibility statements affirming Vendor's commitment to compliance and continual improvement.

. Management Accountability and Responsibility - Clearly identified company representative[s]responsible for ensuring implementation and periodic review of the status of the management systems.

. Legal and Customer Requirements - Identification, monitoring and understanding of applicable laws, regulations and customer requirements.

. Risk Assessment and Risk Management - Process to identify the environmental, health and safety and labour practice risks associated with Vendor's operations. Determination of the relative significance for each risk and implementation of appropriate procedural and physical controls to ensure regulatory compliance to control the identified risks.

.Performance Objectives with Implementation Plan and Measures - Areas to be included in a risk assessment for health and safety are warehouse and storage facilities, plant/facilities support equipment, laboratories and test areas, sanitation facilities (bathrooms), kitchen/cafeteria and worker housing /dormitories. Written standards, performance objectives, and targets an implementation plans including a periodic assessment of Vendor's performance against those objectives.

. Training - Programs for training managers and workers to implement Vendor's policies, procedures and improvement objectives.

. Communication - Process for communicating clear and accurate information about Vendor's performance, practices and expectations to workers, Vendors and customers.

. Worker Feedback and Participation - Ongoing processes to assess employees' understanding of and obtain feedback on practices and conditions covered by this Code and to foster continuous improvement.

. Audits and Assessments - Periodic self-evaluations to ensure conformity to legal and regulatory requirements, the content of the Code and customer contractual requirements related to social and environmental responsibility.

. Corrective Action Process - Process for timely correction of deficiencies identified by internal or external assessments, inspections, investigations and reviews.
. Documentation and Records - Creation of documents and records to ensure regulatory compliance and conformity to company requirements along with appropriate confidentiality to protect privacy.

The Code is modeled on and contains language from the Recognized standards such as International Labour Organization Standards (ILO), Universal Declaration of Human Rights (UDHR), United Nations Convention against Corruption, and the Ethical Trading Initiative (ETI) were used as references in preparing this Code and may be useful sources of additional information

<u>VENDOR DATA FORM</u>

1.   Name of the company   :_____

2.   Address of the company   :_____

         _____

         _____

3.   During the time the tender enquiry is received and the tender is submitted by us to your office, we authorize following person/ persons whose signatures are attested below to deal with BYPL on our behalf for any clarifications:

S.No	Name & Designation	Contact Telephone & fax	E-mail Address	Specimen Signature
1				
2				
3				

Yours faithfully

Place:

Date: Signature of the bidder with seal

APPENDIX – I   <u>**ANNEXURE – 1.10**</u>

INDEX FOR PART - A (TECHNICAL BID)

(To be filled & submitted on Bidders Letter Head)

S. No	Item Description	Submitted
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 1180/- DRAWN IN FAVOUR OF BSES YAMUNA POWER LTD	Yes/No
10	POWER OF ATTORNEY/AUTHORISATION LETTER FOR SIGNING THE BID	Yes/No

S.N.	PO No	PO Date	Item Description	UoM	PO Qty	Supplied		Customer Name	End User (shall be Utility/ SEB's/ PSU's) name and details	Financial Year	Purchase order copy enclosed on Page no.	Material delivery clearance certificate copy or Delivery completion certificates or Invoice Copies enclosed on Page no.
						Qty.	Date					
PURCHASE ORDERS EXECUTED LIST												
1												
2												
so on..												
Total					∑	∑						

S.N.	PO No	PO Date	Item Description	UoM	PO Qty	Supplied		Customer Name	End User (shall be Utility/ SEB's/ PSU's) name and details	Financial Year	Performance certificate Issued Date	Performance certificate Copy enclosed on Page no.
						Qty.	Date					
PERFORMANCE CERTIFICATES LIST												
1												
2												
so on..												
Total					∑	∑						

APPENDIX - II

FORMATS

SUPPLY, INSTALLATION OF DT SMART METERS & ITS INTEGRATION WITH HES AT BYPL

NIT No. CMC/BY/24-25/RS/SkS/APT/57

FORMAT OF PERFORMANCE BANK GUARANTEE

(To be executed on a Non-Judicial Stamp Paper of appropriate value)

This Guarantee made at _____ this [____] day of [_____] 20XX

1. WHEREAS M/s BSES Yamuna Power Limited, a Company incorporated under the provisions of Companies Act, 1956 having its Registered Office at Shaktikiran Building, Karkardoa, Delhi 110032, India hereinafter referred to as the " Owner ", (which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns).

2. AND WHEREAS the Owner has entered into a contract for _____(Please specify the nature of contract here) vide Contract No. _____dated _____(hereinafter referred to as the "Contract") with M/s._____, (hereinafter referred to as "the Supplier", which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include each of their respective successors and assigns) for providing services on the terms and conditions as more particularly detailed therein.

3. AND WHEREAS as per clause _____of conditions of Contract, the Suppliers are obliged to provide to the Owners an unconditional bank guarantee for an amount equivalent to Ten percent (10%) of the total Contract Value for the timely completion and faithful and successful execution of the Contract from [_____] pl. specify the name of Bank) having its head/registered office at [_____] through its branch in _____(pl. specify the name of Branch through which B.G is issued) hereinafter referred to as "the Bank", (which expression shall unless it be repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns).

4. NOW THEREFORE, in consideration inter-alia of the Owner granting the Suppliers the Contract, the Bank hereby unconditionally and irrevocably guarantees and undertakes, on a written demand, to immediately pay to the Owner any amount so demanded (by way of one or more claims) not exceeding in the aggregate [Rs.]…………………(in words) without any demur, reservation, contest or protest and/or without reference to the Supplier and without the Owner needing to provide or show to the Bank ,grounds or reasons or give any justification for such demand for the sum/s demanded.

5. The decision of the Owner to invoke this Guarantee and as to whether the Supplier has not performed its obligations under the Contract shall be binding on the Bank. The Bank acknowledges that any such demand by the Owner of the amounts payable by the Bank to the Owner shall be final, binding and conclusive evidence in respect of the amounts payable by the Supplier to the Owner. Any such demand made by the Owner on the Bank shall be conclusive and binding, notwithstanding any difference between the Owner and the Supplier or any dispute raised, invoked, threatened or pending before any court, tribunal, arbitrator or any other authority.

6. The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor without proceeding against the Suppliers notwithstanding any other security or other guarantee that the Owner may have in relation to the Supplier's liabilities.

7. The Bank hereby waives the necessity for the Owner first demanding the aforesaid amounts or any part thereof from the Suppliers before making payment to the Owner and further also waives any right the Bank may have of first requiring the Owner to use its legal remedies against the Suppliers, before presenting any written demand to the Bank for payment under this Guarantee.

8. The Bank's obligations under this Guarantee shall not be reduced by reason of any partial performance of the Contract. The Bank's obligations shall not be reduced by any failure by the Owner to timely pay or perform any of its obligations under the Contract.

9. The Bank further unconditionally and unequivocally agrees with the Owner that the Owner shall be at liberty, without the Bank's consent and without affecting in any manner its rights and the Bank's obligation under this Guarantee, from time to time, to:
(i) vary and/or modify any of the terms and conditions of the Contract;
(ii) Forebear or enforce any of the rights exercisable by the Owner against the Suppliers under the terms and conditions of the Contract; or
(iii) Extend and/or postpone the time for performance of the obligations of the Suppliers under the Contract;

and the Bank shall not be relieved from its liability by reason of any such act or omission on the part of the Owner or any indulgence shown by the Owner to the Suppliers or any other reason whatsoever which under the law relating to sureties would, but for this provision, have the effect of relieving the Bank of its obligations under this Guarantee.

10. This Guarantee shall be a continuing bank guarantee and shall not be discharged by any change in the constitution or composition of the Suppliers, and this Guarantee shall not be affected or discharged by the liquidation, winding-up, bankruptcy, reorganization, dissolution or insolvency of the Suppliers or any of them or any other circumstances whatsoever.

11. This Guarantee shall be in addition to and not in substitution or in derogation of any other security held by the Owner to secure the performance of the obligations of the Suppliers under the Contract.

12. NOTWITHSTANDING anything herein above contained, the liability of the BANK under this Guarantee shall be restricted to _____*(insert an amount equal to Ten percent (10%) of the Contract Value)* and this Guarantee shall be valid and enforceable and expire on_____*(pl. specify date)* or unless a suit or action to enforce a claim under this Guarantee is filed against the Bank on or before the date of expiry.

13. On termination of this Guarantee, all rights under the said Guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities hereunder.

14. The Bank undertakes not to revoke this Guarantee during its validity except with the prior written consent of the Owner and agrees that any change in the constitution of the Bank or the Suppliers shall not discharge our liability hereunder.

15. This Guarantee shall be governed by the laws of India. Any suit, action, or other proceeding arising out of, connected with, or related to this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of the courts of **Delhi,** India.

Dated this ………… day of ………….. …20XX at …………….

(Signature)
....
(Name)
....
(Designation with Bank Stamp)
Attorney as per Power of Attorney

No..

Date..

BENEFICIARY'S BANK DETAIL WITH IFSC CODE:

1. Name of the Bank: State Bank of India

2. Branch Name & Full Address: Industrial Finance branch New Delhi, 14-15 Floor,

   Jawahar vypar bhawan1, Tolstoy Marg, New Delhi 110001

3. Branch Code: 09601

4. Bank Account No: 10277791808

5. IFSC Code: SBIN0009601

FORMAT OF WARRANTY/GUARANTEE CERTIFICATE

(To be filled & submitted on Bidders Letter Head)

BSES YAMUNA POWER LIMITED Shakti Kiran Building, Karkardooma, Delhi -110032.

Ref. Purchase Order No. :

Dear Sir,

We hereby confirm that the.................dispatched to BSES YAMUNA POWER LTD vide invoice no...............

Dated ....is exactly of the same nature and description as per above mentioned Purchase Order.

We further confirm that we will replace/repair our.....................free of cost If found any manufacturing defect during......months from the date of dispatch of material or......................months from the date of commissioning whichever is earlier.

Vendor's Name & Signature

SUMMARY OF COMMERCIAL TERMS AND CONDITIONS

Sl. No.	TERMS	AS PER BYPL	CONFIRMATION OF BIDDES/BIDDER's TERMS
1.	Validity of prices	120 days from the date of offer submission	
2.	Price basis	a) Firm, FOR Delhi stores/ sites/ offices basis. Prices shall be inclusive of all taxes, freight upto Delhi stores/ site. b) Unloading at stores/ site shall be in vendor's scope c) Transit insurance in buyer's scope	
3.	Payment terms	The Payment terms shall be as per NIT Clause No. 12	
4.	Quantity Variation	The purchaser reserves the rights to vary the quantity by (±) 30% of the tender quantity.	
5.	Delivery schedule	Submission of GTP/ Drawing within 7 days from the date of LOI/ Purchase order. Submission of Commencement Sample & Integration with Existing HES with Two Months Supply, Installation of DT Smart Meters & Its Integration with HES shall be completed within Eight (08) Month from the date of award of LOA/Contract. Quantity to be supplied in each month as per the delivery schedule mentioned in Purchase Order of BYPL.	
6.	Defect Liability period	The defect liability period shall be Sixty (60) months after the date of successful commissioning of Goods or Sixty six (66) months from the date of last date of material receipt at stores/site.	
7.	Penalty for delay	1% of the basic (ex-works) PO value per week of delay or part thereof, subject to maximum of (Ten) 10% of the total basic (ex-works) PO value of undelivered units.	
8.	Performance Bank Guarantee	Performance Bank Guarantee shall be for Ten (10%) percent of the total contract value and shall be valid for a period of 66 months from the date of last dispatch or 60 months from the date of commissioning, whichever is earlier plus 3 months towards claim period.	
9.	Reverse Auction Event	In a bid to make our entire procurement process more fair and transparent, BYPL intends to use the reverse auctions through SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as techno commercial qualified based on the tender requirements shall be eligible to participate in the reverse auction event.	

VOLUME – II:

TECHNICAL SPECIFICATION (TS)

SUPPLY, INSTALLATION OF DT SMART METERS & ITS INTEGRATION WITH HES AT BYPL

NIT No. CMC/BY/24-25/RS/SkS/APT/57

Technical Specification of DT Smart Meter

1. Scope of Supply

This specification covers the design, manufacture, assembly, inspection, testing and delivery of supply of Accuracy Class 0.5S (Active & Reactive), 3 x 240 V and 5-10 A static smart energy meter for DT with plug in communication module (Cellular (4G)), single SIM having capability of multi carrier profile and accessories required for successful operation of the meter.

A. Design, manufacture, testing at manufacturer works before dispatch, packing, delivery and submission of all documentation.

B. Any accessories / hardware required for installation and operation for the meter.

2. Codes & standards

Materials, equipment and methods used in the manufacturing of above mentioned equipment shall conform to the latest edition of following

S No.	Standard Number	Title
2.1	Indian Electricity Act	IE Act 2003
2.2	CEA Metering Regulations	With latest amendments
2.3	CBIP Manual (Pub no.-325)	Standardization of AC Static Electrical Energy Meters
2.4	IS- 16444 (Part 2)	AC Static Transformer Operated Watt-hour And Var-hour Smart Meters, Class 0.2 S, 0.5 S And 1.0 S Part 2 Specification Transformer Operated Smart Meters
2.5	IS- 14697	ac Static Transformer Operated Watt-hour and Var-hour Meters, Class 0.2 S and 0.5 S
2.6	IS-15959 (Part 1)	Data Exchange for Electricity Meter - Reading Tariff and Load Control - Companion Specification
2.7	IS-15959 (Part 2)	Data Exchange for Electricity Meter - Reading Tariff and Load Control (Part 2)- Companion Specification for smart meter
2.8	IS-15959 (Part 3)	Data Exchange For Electricity Meter Reading, Tariff And Load Control- Companion Specification Part 3 Smart Meter (Transformer Operated Kwh And KVARh Class 0.2 S, 0.5 S And 1.0 S
2.9	IS- 11448	Application guide for AC Electricity meters
2.10	IEC- 62052-11	Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 11: Metering equipment
2.11	IEC- 62053-21	Electricity metering equipment (A.C) - Particular requirements - Part 21: Static meters for active energy (classes 1 and 2)
2.12	IEC- 62053-52	Electricity metering equipment (AC) - Particular requirements - Part 52: Symbols
2.13	IEC 62053-61	Electricity metering equipment (A.C.) - Particular requirements - Part 61: Power consumption and voltage requirements
2.14	IEC 62058-11	Electricity metering equipment (AC) - Acceptance inspection - Part 11: General acceptance inspection methods
2.15	IEC 62058-31	Electricity metering equipment (AC) - Acceptance inspection - Part 31: Particular requirements for static meters for active energy (classes 0,2 S, 0,5 S, 1 and 2)
2.16	IEC 60736	Testing Equipment for electrical Energy meter
2.17	IS/IEC/TR 62051:Part 1:2004	Electricity Metering — Data Exchange For Meter Reading, Tariff And Load control — Glossary Of Terms Part 1 Terms Related To Data Exchange With metering Equipment Using DLMS/ COSEM
2.18	IEC 62056-1-0:2014	Smart metering standardization framework

2.19	IEC 62056-3-1:2013	Use of local area networks on twisted pair with carrier signalling
2.20	IEC 62056-4-7:2014	DLMS/COSEM transport layer for IP networks
2.21	IEC 62056-5-3:2017	DLMS/COSEM application layer
2.22	IEC 62056-6-1:2017	Object Identification System (OBIS)
2.23	IEC 62056-6-2:2017	COSEM interface classes
2.24	IEC 62056-6-9:2016	Mapping between the Common Information Model message profiles (IEC 61968-9) and DLMS/COSEM (IEC 62056) data models and protocols
2.25	IEC 62056-7-3:2017	Wired and wireless M-Bus communication profiles for local and neighbourhood networks
2.26	IEC 62056-7-5:2016	Local data transmission profiles for Local Networks (LN)
2.27	IEC 62056-7-6:2013	The 3-layer, connection-oriented HDLC based communication profile
2.28	IEC TS 62056-8-20:2016	Mesh communication profile for neighbourhood networks
2.29	IEC TS 62056-9-1:2016	Communication profile using web-services to access a DLMS/COSEM server via a COSEM Access Service (CAS)
2.30	IEC 62056-9-7:2013	Communication profile for TCP-UDP/IP networks
2.31	IEC 62056-21:2002	Direct local data exchange
2.32	DLMS- White Book	Glossary of DLMS/COSEM terms
2.33	DLMS- Blue Book	COSEM meter object model and the object identification system
2.34	DLMS- Green Book	Architecture and protocols to transport the model
2.35	DLMS- Yellow Book	Conformance testing process

Order of precedence between different standards shall be as follow:

i	Indian Standards Issued By BIS
ii	IEC standard
iii	Other standards like CBIP, DLMS etc.
iv	GTP of BYPL

3. Service Conditions

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

4. Distribution System Data

4.1	Supply	3 Phase AC, 4 wire
4.2	Voltage	415 V ± 6%
4.3	Frequency	50 Hz ± 5%
4.4	System Neutral	Solidly Earthed

5. Electrical and Accuracy Requirement

5.1	Meter Type	a. 3- ø, 4 wire static Transformer Operated Smart Meter
5.2	Connection	Current Transformer Operated
5.3	Rated Voltage	240V (phase to neutral) with variation of +30% & -40%. However meter should withstand the maximum system voltage.
5.4	Rated Current	Ib -5A and Imax- 10 A
5.5	Power factor range	Zero lag – Unity – Zero lead
5.6	Starting current	0.1 % of base current
5.7	Rated Frequency	50Hz +/- 5%
5.8	Accuracy Class	0.5s (IS14697 applies for accuracy requirements)
5.9	Power Consumption	As per IS 16444 (Part 2) Meter with lowest power consumption shall be preferred.

5.10	Meter constant	Imp/ unit (Bidder to specify meter constant)
5.11	Calibration	Meter shall be software calibrated at factory and modification in calibration shall not be possible at site by any means or external influence.
5.12	Test Output Device	Separate kWh & kVAh/kVArh Flashing LED visible from the front
5.13	Process Technology	Surface Mounting Technology or better
5.14	Insulation Level	Meter shall withstand an insulation test of 4 KV and impulse test at 8 KV
5.15	Influence of supply voltage	As per IS 14697
5.16	Short time over current	As per IS 14697
5.17	Immunity to phase and earth fault	As per IS 14697
5.18	Influence of Self Heating	As per IS 14697
5.19	Influence of Heating	As per IS 14697
5.20	Electromagnetic compatibility	a. Meter shall remain immune to electrostatic discharge (upto and including 35KV), electromagnetic HF field and fast transient burst. b. The meter shall be designed in such a way that conducted or radiated electromagnetic disturbances as well as electrostatic discharge do not influence the meter. c. Meter shall be type tested for electromagnetic compatibility. d. Meter shall comply requirement of IS 14697
5.21	Limits of error due to influence quantities	Meter shall work within guaranteed accuracy as per IS 14697/ IEC 62053-21/ CBIP325 (most stringent standard to be followed) under and after influence of following :- a. Current Variation b. Ambient Temperature variation c. Voltage variation d. Frequency variation e. 10% third harmonic in current f. Reversed phase sequence g. Voltage unbalance h. Harmonic components in current and voltage circuit i. DC and even harmonics in AC current circuit j. Odd harmonics in AC current circuit. k. Sub harmonics in AC current circuit l. Continuous (DC) "stray" magnetic induction of 67mT+/-5%. m. Continuous (DC) "abnormal" magnetic induction of 0.27T+/-5%. n. Alternating (AC) "stray' magnetic induction of 0.5mT+/-5% o. Alternating (AC) "abnormal' magnetic induction of 10mT. p. External magnetic field 0.5 T q. Electromagnetic HF fields r. Radio frequency interference s. DC immunity test Note: BYPL reserves the right to formulate any other test method to check magnetic immunity/ logging of meter. Meter with logging provision will be preferred.
5.22	Other features	Mid night data: The meter should record midnight Cumulative kWh & kVAh, kVARh lag and kVARh lead reading for last min 45 days load survey data. Total Harmonic Distortion: Meter to record harmonic components in both current and voltage circuits. And should be available in on demand display. Meter to record events and send alert in case

		harmonic component in both V&I if it exceeds threshold limits (configurable).
5.23	Display Sequence for the parameters	i. Default Display (Auto Mode) ii. LCD test iii. Meter serial no. iv. Date v. Real time vi. Cumulative kWh vii. Cumulative Export Active Energy* viii. Net Active energy* ix. Cumulative kvarh Q1/Lag x. Cumulative kvarh Q2/Lead xi. Cumulative kvarh Q3* xii. Cumulative kvarh Q4* xiii. Cumulative kVAh xiv. Cumulative Apparent Energy (active export)* xv. Net Apparent energy* xvi. Instantaneous load in kW, kVArh & kVA xvii. TOD MD for kWh and kVAh xviii. Phase wise voltage and current (R, Y, B phases) xix. Power factor xx. Neutral current xxi. TOD Total Active Forward Energy Register(Reg 1) xxii. TOD Total Active Forward Energy Register(Reg 2) xxiii. TOD Total Active Forward Energy Register(Reg 3) xxiv. TOD Total Active Forward Energy Register(Reg 4) xxv. TOD Total Active Forward Energy Register(Reg 5) xxvi. TOD Total Active Forward Energy Register(Reg 6) xxvii. TOD Total Active Forward Energy Register(Reg 7) xxviii. TOD Total Active Forward Energy Register(Reg 8) xxix. TOD Apparent Forward Energy Register(Reg 1) xxx. TOD Apparent Forward Energy Register(Reg 2) xxxi. TOD Apparent Forward Energy Register(Reg 3) xxxii. TOD Apparent Forward Energy Register(Reg 4) xxxiii. TOD Apparent Forward Energy Register(Reg 5) xxxiv. TOD Apparent Forward Energy Register(Reg 6) xxxv. TOD Apparent Forward Energy Register(Reg 7) xxxvi. TOD Apparent Forward Energy Register(Reg 8) xxxvii. Temperature xxxviii. Total tamper count xxxix. Status of communication module xl. Mode (Net/Forward) xli. Signal strength in RSSI i. Error code Display (On demand) After using pushbutton the following parameters should be displayed. i. LCD test ii. Meter serial no. iii. Date iv. Real Time v. Cumulative kWh vi. Cumulative Export Active Energy*

		vii.	Net Active energy*
		viii.	Cumulative kvarh Q1/Lag
		ix.	Cumulative kvarh Q2/Lead
		x.	Cumulative kvarh Q3*
		xi.	Cumulative kvarh Q4*
		xii.	Cumulative kVAh
		xiii.	Cumulative Export Apparent Energy*
		xiv.	Net Apparent energy*
		xv.	Current MD in kW
		xvi.	Current MD in kVA
		xvii.	MD in kVAR
		xviii.	TOD MD for kW and kVA
		xix.	TOD MD occurrence for kW and kVA
		xx.	Instantaneous Power factor
		xxi.	Instantaneous voltage R phase
		xxii.	Instantaneous voltage Y phase
		xxiii.	Instantaneous voltage B phase
		xxiv.	Instantaneous current R phase
		xxv.	Instantaneous current Y phase
		xxvi.	Instantaneous current B phase
		xxvii.	Last month billing Date
		xxviii.	Last month billing kWh reading
		xxix.	Last month billing kVARh reading
		xxx.	Last month billing kVAh reading
		xxxi.	Last month billing Maximum Demand in kW
		xxxii.	Last month billing Maximum Demand in kW occurrence Date
		xxxiii.	Last month billing Maximum Demand in kW occurrence Time
		xxxiv.	Last month billing Maximum Demand in kVA
		xxxv.	Last month billing Maximum Demand in kVA occurrence Date
		xxxvi.	Last month billing Maximum Demand in kVA occurrence Time
		xxxvii.	THD for both Voltage and Current
		xxxviii.	Total Active Energy, Apparent Energy
		xxxix.	Fundamental Reactive Lag and Fundamental Reactive Lead Energy
		xl.	High Resolution value (kWh, KVAh)
		xli.	High resolution Export Active Energy (kWh , KVAh)*
		xlii.	Neutral Current
		xliii.	Temperature
		xliv.	Battery status
		xlv.	PT/CT status
		xlvi.	Self diagnostic flag
		xlvii.	Connection check (Phase sequence)
		xlviii.	Cumulative Tamper count
		xlii.	Cumulative Power off hours
		xliii.	Signal strength in RSSI
		xlix.	Error code
		l.	Phase association (ok/ Not ok)

* When meter is configured in net metering mode then only these parameters should appear otherwise these display parameters should be disable and shall not appear on display

		Note: 1. The meter display should return to Default Display mode (mentioned above) if the 'push button' is not operated for more than 6 seconds. Provision for scroll lock by pressing for 15 sec and sent to normal after 5 minutes. 2. Sequence of display parameter and parameter subject to change and to be finalized before supply.

6. Construction

6.1.	Meter	
6.1.1.	Base Body	Material - Opaque and UV stabilized polycarbonate of grade LEXAN 143/ 943 or Equivalent with V0 inflammability level.
6.1.2.	Top Cover	a. Material: Transparent/Opaque and UV stabilized polycarbonate of grade LEXAN 143/ 943 or Equivalent with V0 inflammability level. b. Top cover and base should be Ultrasonically/Chemically welded. c. Top cover should be designed so as the internal components should not be visible.
6.1.3.	Terminal Block	a. Material - Flame retardant glass filled polycarbonate of grade 500 R or equivalent. b. Terminal block shall form Integral part of the meter base c. Terminal block shall be capable of passing the tests as per ISO-75 for a temperature of 135C and pressure of 1.8MPa. The terminals shall be designed so as to ensure adequate and durable contact such that there is no risk of loosening or undue heating.
6.1.4.	Terminal cover	a. Material - UV stabilized transparent/Opaque polycarbonate cover of grade LEXAN 143A/943AA or equivalent. b. Provision of sealing at two points through sealing screw. c. The sealing screws shall be held captive in the terminal cover. d. The terminal cover shall be extended type with baffle wall above the cable entry base wall so that access to the terminals is not possible (even with thin metallic wire) without breaking the seal. Terminal cover should have provision for cable entry from bottom. e. Diagram of external connections should be embossed on terminal cover. Sticker is not acceptable. f. Mechanism shall be provided to record an event with occurrence and restoration in case of meter enclosure/ terminal cover is opened.
6.1.5.	Terminals	a. Terminals shall be suitable for 6 Sqmm copper wire. b. Two no's grub screws per terminal shall be provided c. Material of terminals, screws and washers should be brass or tinned copper. Terminals shall be tested for continuous current of 150 % Imax. d. Terminals shall be clearly marked for phase / neutral / outgoing etc. e. Clearances and creepage shall be as per IS 14697.
6.1.6.	Meter cover	a. Polycarbonate meter cover to be provided in the meter. b. Mechanism shall be provided to record an event with occurrence and restoration in case of meter cover is opened.
6.1.7.	Ingress Protection	IP 51 or better, but without suction in the meter.
6.1.8.	Output device	Meter should have flashing LED visible from the front to represent energy recording. Resolution shall be such that satisfactory accuracy test can be conducted at the lowest load in less than 5 minutes and starting current test in less than 10 minutes.
6.1.9.	RTC	a. The meter shall have internal real time crystal clock to set date and time. b. Drift in time of this clock shall not be more than ±5minutes/ year at a

		reference temperature of 27°C. c. HES will sync RTC at least once a day (configurable).
6.1.10.	Battery	a. Lithium ion battery with guaranteed shelf life of 10 year. In case battery removal or total discharge same should not affect the working & memory of the meter. b. Meter should have two separate battery. c. One for RTC and one for back up d. Incase battery voltage reduced below threshold value then need to generate alert
6.1.11.	Memory	Non volatile memory independent of battery backup, memory should be retained up to 10 year without any auxiliary power.
6.1.12.	Self Diagnostic feature	Meter shall have self diagnostic for the following a. Date and RTC. b. Battery. c. Non volatile memory. d. Display e. Status of Communication card
6.1.13.	Optical port	Meter shall have an optical port with a metal ring to hold magnet of probe. Optical port shall comply with hardware specifications provided in IEC-62056-21.
6.1.14.	Communication	a. Meter should have the provision for 01 no's modular and pluggable communication module compatible with Cellular (4G), single SIM having capability of multi carrier profile b. Meter shall have mechanism to log communication module removal and insert as an event in its memory with date and time stamp. c. Meter shall have separate indications on display/ for remote and local communication. d. Communication module shall held in a casing which can be directly plugged in the meter. Sealing screw shall be provided. e. Communication module shall be configurable for IPV6 with backward compatibility with IPV4
6.1.15.	First breath and last gasp	a. In Last Gasp endpoint shall send the power outage and power restoration notification with Time Stamp. In case of power failure meter communication module shall not draw power from the backup battery. b. For the purpose of sending the Last Gasp, communication module shall have proper power backup (like a super capacitor).
6.1.16.	Meter Sealing Arrangement	a. Sealing should be in accordance with IS and CEA metering regulations with latest amendments. b. Sealing arrangement shall be such that sealed parts shall not be opened without breaking the seal or sealed part itself. There should be clear evidence of the breaking in case sealed parts shall be opened without breaking the seal. c. Approval shall be taken from purchaser for location of seals and number of seals. d. Record of all seals shall be forwarded to purchaser with each lot. e. Meter Body : 1 plastic seal and Hologram seal as per BYPL specs & 1 seal of meter manufacturer f. Meter Terminal cover : 2 Plastic seal as per BYPL specs g. Meter Box : 2 plastic seal as per BYPL Specifications h. Record of all seals shall be forwarded to purchaser with each lot.
6.1.16.1.	Seal record	Record of all seals shall be forwarded to purchaser with each lot.
6.1.17.	Insulation	A meter shall withstand an insulation test of 4 KV and impulse test at 8 KV

6.1.18.	Name Plate and marking	Refer clause no. 10.0 of this specification.
6.1.19.	Resistance against heat and fire	The terminal block and Meter case shall have safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them as per IS 14697 and IS:16444 Part 2.
6.1.20.	Guarantee	a. 10.5 Years from the date of dispatch or 10 Year from date of commissioning, whichever is earlier b. The meters which are found defective/inoperative within the guarantee period shall be replaced as per meter service level agreement.

6.2.	Meter Box	a. Meter box shall be of SMC sheet material having grade S3S complying to IS 13410 having improved thermal, chemical, electrical, mechanical, low shrink and flame retardant properties with thickness minimum 3 mm.
		b. All part of the meter box shall be flame retardant with flammability level FV0 as per IS 11731 Part 2.
		c. Suitable Double compression gland plate of brass shall be provided for incoming and outgoing cable entry at the bottom of the Box.
		d. Transparent window shall be provided for reading display of meter.
		e. Box shall be outdoor type dust and vermin proof, having ingress protection of IP55 as per IS 60529.
		f. Meter shall have at-least 02 no stainless steel concealed hinges.
		g. Box shall be suitable to mount on wall and pole both. Suitable stainless steel mounting hardware shall be provided with box.
		h. Meter shall be factory fitted in box.
		i. Name Plate on Meter- Laser printed name plate with following details shall be provided on meter box: i. Serial no of item ii. BYPL Po no and Date iii. Manufacturing month and year iv. Name of manufacture v. Danger sign vi. Any other detail required at the time of approval.
		j. BYPL Logo- BYPL logo shall be provided at the front of meter box.

7. Functional Requirement

7.1	Meter category	Smart meter comply with D4 category of IS 15959 (Part 3).
7.2	Mode of metering	It should be possible to configure meters in following modes of metering: a. Forwarded Only: In this mode any export active energy shall be treated as import energy and shall be recorded in forward only register. Apparent energy calculation in this mode shall be as per

		clause no. 7.3.
		b. Bidirectional: Both Import and export energy recording shall be applicable in this mode of metering and relevant registers shall be updated.
		c. Any change in metering mode shall be logged in events with date and time stamp.
		d. Default mode of metering shall be forwarded only until specified in tender requirement otherwise.
7.3	kVAh Calculation	Lag+lead
7.4	MD calculation	Block / sliding window with default demand integration period of 1800 s configurable to 900 s as per requirement. Meter should be configurable for block/ sliding window at the time of manufacturing. This change should not be possible in the field. Extended register shall be used for MD recording.
7.5	TOU Metering	a. Meter shall be capable of doing TOD metering in minimum 4 tariff rate registers programmable for minimum 8 time zones and 4 seasonal profiles.
		b. TOU metering shall be implemented by the activity colander method of IS 15959 Part 1 clause 9/ DLMS UA-1000-1
		c. Special Day table shall be defined as per IEC/ DLMS UA-1000-1
		d. Default TOU programming shall be as per latest DERC guidelines. Prior approval shall also be taken from BYPL for the same.
		e. Tariff rate registers shall be as follow
		R1: Rate register for Peak
		R2: Rate register for Normal
		R3: Rate Register for Off Peak
7.6	Instantaneous Parameters	All the parameters mentioned in table '14' of IS 15959 (Part 3) along with following additional parameters shall be supported by meter.
		a. Neutral Current (I_N)
		b. % TDH in R phase Voltage
		c. % THD in Y Phase Voltage
		d. % THD in B Phase Voltage
		e. % THD in R phase Current
		f. % THD in Y Phase Current
		g. % THD in B Phase Current
		h. Temperature
		i. Signal Strength in RSSI
		j. Voltage angles
		Method of Measurement for harmonic parameters at sl no. 'b' to 'g' shall confirm to the IEEE 519, 2014.
7.6.1	Association Rights	As per Clause 17.1 of IS 15959 (Part 3).
7.7	Billing data	a. Billing parameters shall be generated at the end of each billing cycle and stored in memory as per provisions provided in clause no. 20 of IS 15959 (Part 3).
		b. 12 no's billing cycle parameters shall be remain in meter memory along with current cycle parameters and shall be available for reading as well as profile and or 'by entry' for selective access.
		c. All the parameters mentioned in table '17' of IS 15959 (Part 3) shall be supported by meter.
		d. Cumulative power interruption count in all monthly history data
		e. Monthly Power off duration in all history data.
7.7.1	Association Rights	As per clause 20 of IS 15959 (Part 3).
7.7.2	Selective access	Support for selective access shall be provided for billing parameters as per clause no 11.3 of IS 15959 (part 1).
7.7.3	Billing period reset/	00:00 Hrs of Ist of every month

	MD reset	
7.7.4	Billing period reset mechanism	As per clause 10 of IS 15959 (Part 2 & 3)
7.7.5	Billing period counter	Cumulative billing period counter since installation and available billing periods shall be provided as per clause 11.2 of IS 15959 (Part 1).
7.8	Load survey Data	a. Load survey parameters shall be measured and recorded at the end of each profile capture period for last 45 Power ON days for 30min IP. b. All the parameters mentioned in table '15' of IS 15959 (Part 3) along with following additional parameters shall be supported by meter: % THD in R phase Voltage % THD in Y Phase Voltage % THD in B Phase Voltage % THD in R phase Current % THD in Y Phase Current % THD in B Phase Current Phase wise Voltage and Current (Line, Active, Reactive) with instant and average value. All three phase active, reactive (lag and lead) and apparent power and energy. Power-off time integration period Neutral Current Average Signal Strength
7.8.1	Profile capture period	Default 900 s programmable to 300 s and 1800s
7.8.2	Selective Access	Support for selective access shall be provided for billing parameters as per clause no 11.3 of IS 15959 (part 1).
7.8.3`	Association Rights	As per clause no.18 of IS 15959 (Part 3)
7.9	Daily load profile	Daily load profile parameters shall be measured and recorded at each midnight i.e. 00:00 hrs for last 45 Power ON days. All the parameters mentioned in table '3' of IS 15959 (Part 3) shall be supported by meter as Daily load profile parameters.
7.9.1	Association Rights	As per clause no. 13 of IS 15959 (Part 3)
7.10	General Purpose Parameters	Following parameters shall be provided in Non Volatile memory (NVM) of the meter as per clause 16 of IS 15959 (Part 3).
7.10.1	Name Plate Detail	As per Table '25' of IS 15959 (Part 3).
7.10.2	Association Rights	As per clause no. 26.1 of IS 15959 (Part 3)
7.10.3	Programmable parameters	These parameters can be programmed remotely by HES and locally by HHU via proper access writes. Every transaction shall be logged in non volatile memory of the meter with date and time stamp. Programming of any of the parameters shall increment the 'Cumulative programmable count' value. All the parameters mentioned in table '26' of IS 15959 (Part 3) shall be supported by meters with following additional parameters as mentioned in specification
7.10.4	Association rights	As per Clause no. 26.2 of IS 15959 (Part 3).
7.11	Push Services	a. Smart meter is able to automatically notify data, event, and messages to a destination client system in an unsolicited manner (without a request from a client) as per clause no 6 of IS 15959 (Part 2). b. Randomization: Data from different endpoints shall be pushed intelligently on the network in order to avoid excessive traffic on the network for example in case all the endpoints will push load survey data simultaneously, then it may result in network choking or inefficient performance. Therefore with the help of intelligent techniques such field scenarios shall be handled effectively.

		c. It shall also be possible to configure push services for all profiles i.e instantaneous, billing, load survey, daily energy and events. Bidder should explain its capability to configure push services. However following push services shall be available by default.
		   i. Load survey profile data at after every 4 hours configurable to any predefined interval.
		   ii. Mid night data at 00:00 hrs of every day.
		   iii. Billing profile data on occurrence of billing.

7.11.1	Periodic push (Smart meter to HES)	a. Meter shall be able to push instantaneous parameters to HES at predefined intervals. Parameters required for push shall be intimated during detailed engineering in the vent of order. b. Other attributes as per IS 15959 (Part 3) i.e. Send Destination, Communication window, Randomization time interval, number of retries and repeat delay shall be decided in the event of manufacturing.

7.11.2	Event Push (Smart meter to HES)	a. Meter is able to report HES, the status change of any of the identified events mapped in to event status word (ESW) of size 128 bits by pushing following objects to HES.
		   i. Device ID
		   ii. Push Setup ID
		   iii. Real time clock- Date and Time
		   iv. Event Status Word 1 (ESW 1).
		b. Each of the bits in ESW shall reflect the current state of the event and are mapped against each of the identified events.
		c. An event status word filter (ESWF) of 128 bit shall also be provided to configure events for event push. Events which are supported in meter shall only be configured for event push. Bit value 1 in ESWF shall indicate that the event is supported and value 0 indicates that event is not supported for event push. Position of the event bit in ESWF shall be same as in ESW.

7.11.3	Event status Bit mapping	As Per IS 15959 (Part 3)
7.12	Firmware upgrade	a. Smart meter shall support remote firmware upgrade feature for meter firmware without loss of any data and metrology for a part or complete firmware of meter. b. Firmware upgrade shall use the Image transfer classes and mechanisms specified in IEC62056-6-2 and IEC62056-5-3. c. Broad cast facility shall be supported in HES for simultaneously upgrading the firmware of a group of meters installed in field. d. Firmware upgrade feature shall be provided with proper security. The design shall take into account field scenarios such as power failure during F/W upgrade. e. Once the firmware is upgraded successfully, meter shall send an acknowledgment to HES. It shall also log it as an event in its memory with date and time stamping. f. Meter shall support capability to self register the meter with new firmware. g. The execution time of the change of the firmware within the meter should be below 1 minute h. Meter shall support auto resume firmware upgrade in case file transfer stops due to any reason like power supply failure. There shall not be any corruption in data during transfer of firmware. i. In case of wrong firmware file, meter shall be able to identify the same and suspend FOTA activity

		j. Meter shall support NIC FOTA through HES k. NIC firmware file size should be less than meter firmware file
7.13	Support for broadcast message	Meter shall support connection less messaging services of DLMS to support broadcast messages for a group of meters for following actions: a. Gap reconciliations. b. Firmware upgrade. c. On demand readings d. Updating of Programmable parameters
7.14	Security	a. Advanced security outlined in clause 7.1.2 of IS 15959 (Part 1) shall be provided. b. Reading and writing data into meter memory via optical and remote communication port shall be through DLMS security keys only. c. Bidder shall ensure to safeguard high security keys used for configuring parameters into meter. d. Once the meter memory is locked during manufacturing process, only parameters mentioned in IS 15959 shall be configurable even in factory. It should not be possible to configure any other parameters. e. Please note that there shall be no other mechanism/ method to interface with meter through optical and remote communication port except mentioned in IS 15959, even for manufacturer. f. It should not be possible to change data stored in meter memory even after accessing meter memory physically. In case of any change in memory data, a flag/alert shall be generated. Flag/Alert shall be indicated over display and in remote communication also
7.15	Encryption for data communication	As per clause 7.1 of IS 15959 (Part 2)
7.151	Encryption/ Authentication for data transport	As per clause 7.2 of IS 15959 (Part 2)
7.15.2	Key requirement and handling	As per clause 7.3 of IS 15959 (Part 2)
7.15.3	NIC Security	a. Proper security at end points as well as network level shall be present to prevent unauthorized hacking of the end points or the network itself. b. The meter password is required to open a session between NIC and meter and is required to gain clearance from the meter to perform requested operation. c. If clearance not gains, the meter locks out local communication for 1 minute. The meter maintain counter for monitoring of unsuccessful attempts of performing meter operations and alerts to HES. The counter is incremented each time a password clearance operation fails. d. Up to 3 no's unsuccessful attempts are allowed, after which the port is locked out until authenticated from system administrator.
7.15.4	IP communication profile support	Meter shall support TCP-UDP/ IP communication profile for smart meter to HES. Please refer clause 8 of IS 15959 (Part 3). Communication module shall be configurable for IPV6 with backward compatibility with IPV4
7.16	Event and tamper detection	Meter shall detect and log any exceptional/ fraud/ tamper conditions in its memory as an event. In addition to this all transactions and control shall also be recorded as an event in meter memory. Each event type shall be identified by an event ID.
7.17	Association Rights	Each event shall be available to download as per following association rights. a. Public Client: No access

		b. Meter Reader: Read only c. Utility Settings: Read only Push Services: Read Only for identified events as per ESWF
7.18	Compartments of events	Meter shall be able to log events in following compartments a. Voltage Related Events b. Current Related Events c. Power Related Events d. Others Events e. Non Roll Over Events f. Transaction related events g. Control Events
7.18.1	Compartments of events Parameter Snapshot	a. Occurrence and Restoration of Voltage Related, current related, power related and other events shall be logged in meter memory as per IS 15959 (Part 3). Please refer Appendix 5A for description of events, Event ID, Logics of events and threshold values of events. b. Threshold values shall be factory programmable. c. Selective access shall be provided as per clause 11.3 of IS 15959 (Part 1). d. For each of the events a certain list of parameters shall be captured as per clause 'a' e. For each occurrence event captured, the cumulative tamper count shall be incremented. f. Meter shall capture all the parameters mentioned in table '24' of IS 15959 (part 3) when event occurrence and restoration is logged
7.18.2	Event Logging	The meter shall log minimum 200 tamper events (ensuring at least 20 events for each tamper).
7.18.3	Tamper Indication	Appropriate Indications/Icons for all tampers should appear on the meter display either continuously or in auto display mode.
7.18.4	Phasor Representation	Meter shall support parameters required to develop phasors of current and voltage at HES.
7.19	Harmonic Energies	All the energies measured and recorded with and without harmonics.
7.20	Additional feature (Mandatory)	a) Meter should measure Voltage between Earth and Neutral and for the same have an additional terminal which can be connected to earth potential. The VNE can be part of inst parameter group. b) When ever meter experiences a sudden change in load i.e. sudden reduction by 30%, it should log last 10 such events.
7.21	Digital Output (DO), Digital Input (DI) , Analog Input (AI)	a) Meter should have 2 no. of Digital Output (DO) ports to remotely connect/ disconnect the load via suitable mechanism. b) Meter should have 2 no. of Digital Input (DI) and 2 no. of AI ports for measurement of various sensor parameters like ambient temperature, oil temperature, oil level etc.

8. Meter Display

8.1	LCD Type	STN Liquid crystal with backlit
8.2	Viewing angle	a. Minimum 120 Degree. b. The display visibility should be sufficient to read the Meter mounted at height of 0.5 m as well as at the height of 2 m.
8.3	Size of LCD	Minimum 10X6mm PIN Type
8.4	LCD Digits	Total 10 digits
8.5	LCD language	English
8.6	Display modes	a. Auto Mode b. Manual Mode c. Sub active mode

		Display list shall be finalized during detailed engineering in the event of order.
8.7	Display indications	Appropriate indications/flags for all tampers and self diagnostic features should be provided.

9. Data and communication protocol/ HES/Integrations/ Software

9.1	Data Exchange protocol	a. Meter should comply Indian companion of data exchange and tariff control specification IS 15959 (Part 2). b. In case of additional requirement from IS 15959 (part 2), they shall be as per DLMS standards/ IEC DLMS protocols suite (62056). c. Bidder shall explain in detail the additional parameters/ services/ methods used in meters from IS 15959 (part 2) and its reference to DLMS books/ IEC. d. Prior to manufacturing of meters bidder shall provide a detailed specification explaining all parameters/ services/ methods used in meter in addition to IS 15959 (Part 3).
9.2	Integration with HES	a. Bidder shall work with BYPL IT team/ BYPL designated system integrator to integrate its meter with BYPL HES system. b. Bidder shall prepare detailed documents as mentioned in above clause and submit it for BYPL approval and integration with HES.
9.3	Base computer software	Licensed Software with the following features should be supplied for free to download meter through optical port.
9.3.1	Operating System	BCS should be compatible for latest Windows operating system.
9.3.2	Security	System shall be password protected where user can login only if login ID is provided by administrator. BCS shall have rights management system so that access rights can be provided as per requirement to maintain security.
9.3.3	Database	BCS shall maintain master database according to desired area, location, and region etc.
9.3.4	Reporting	a. BCS shall have option of user defined report generation in format of Excel, Word and CSV, XML, PDF etc. b. BCS shall have capability to export data in ASCII, CSV and XML format at desired location so that the same could be integrated with our billing data for processing. c. All the data available in the meter shall be convertible to user defined ASCII, CSV and XML file format.
9.3.5	Data transfer rate	BCS and communication ports should support data transfer rate of 9600 bps (minimum).
9.4	Hand Held Unit Software	a. The manufacturer has to provide Mobile App for downloading all the data stored in meter memory through optical port. b. Mobile App should have option for selection of parameters to be downloaded from meter c. Meter data consisting of all parameters and complete load survey for all parameters shall be read by HHU (Mobile App) and data transferred to HES in minimum possible time (not more than 5 minutes). d. Mobile App should have option to initiate configuration and firmware upgrade actions locally for non-communicated meters as per the schedule initiated from back end applications (HES). e. Mobile App should ensure the meter security keys are stored in encrypted form and not accessible to users.
9.5	Training	Manufacture shall impart training to BYPL personnel for usage of software

10. Name Plate

10.1	Meter Serial number shall be of 10 digits. Serial number shall be printed in black colour. Embossing is not acceptable. Paper stickers are not allowed for name plate. Meter should have clearly visible, indelible and distinctly marked name plate in accordance with IS 16444 (Part 2) All markings and details shall be printed by laser only.
10.2	Size of the digit shall be minimum 5 X 3mm. Details shall be printed by laser printing preferably.
10.3	Bar code shall be printed below the serial number
10.4	BIS registration mark (ISI mark)
10.5	'BYPL' insignia shall be printed above LCD display.
10.6	BYPL PO No. & date and Property of BYPL
10.7	Manufacturers name and country of origin
10.8	Model type / number of meter
10.9	Month and Year of manufacturing
10.10	Reference voltage / current rating
10.11	The number of phases and the number of wires for which the meter is suitable. Graphical symbol as per IS 12032 can be used.
10.12	Meter constant Impulse/kWh Impulse/kVAh/kVArh
10.13	Class index of meter
10.14	Reference frequency
10.15	Warranty period
10.16	Name plate of NIC a. Serial no of NIC along/ IMEI no/MAC address with bar code b. Name of purchaser's c. Communication technology with carrier frequency d. Manufacturing year and month. e. Warranty period.
10.17	"DT Meter" should be BOLDLY marked on name plate. Design of Name plate will be approved by BYPL.
10.18	Name plate shall have QR code having meter information like meter s.no., month and year of manufacturing, type of meter, OEM, Rating etc

11. Component Specification

11.1	Current Transformers	The Meters should be with the current transformers as measuring elements.	To meet accuracy requirement
11.2	Measurement or computing chips	The Measurement or computing chips used in the Meter should be with the Surface mount type along with the ASICs.	Analog Devices, Cyrus Logic, Atmel, Phillips, SAMES ,NEC,TEXAS
11.3	Memory chips	The memory chips should not be affected by the external parameters like sparking, high voltage spikes or electrostatic discharges.	Atmel, National Semiconductors, Texas Instruments, Phillips, ST, Hitachi, Compiled
11.4	Display modules	a. The display modules should be well protected from the external UV radiations. b. The construction of the modules should be such that the displayed quantity should not disturbed with the life of display (PIN Type).	Hongkong: Genda Singapore: Bonafied technologies Korea: Advantek China: Success Japan: Hitachi, Sony

		c. It should be STN type industrial grade with extended temperature range min 70 ºC.	
11.5	Optical port	The mechanical construction of the port should facilitate the data transfer. Communication shall not disturbed by external light.	USA: National Semiconductors, HP Holland/ Korea: Phillips Japan: Hitachi, Ligitek
11.6	Power Supply	The power supply should be with the capabilities as per the relevant standards. The power supply unit of the meter should not be affected in case the maximum voltage of the system appears to the terminals due to faults or due to wrong connections.	SMPS Type
11.7	Electronic components	The active & passive components should be of the surface mount type & are to be handled & soldered by the state of art assembly processes. The PTH components should be positioned such a way that the leads of components should not be under stress and not touching the internal wires.	USA: National Semiconductors, Atmel, Phillips, Texas Instruments. Japan: Hitachi, Oki, AVX or Ricoh Korea: Samsung
		LED	Everlight, Agillent
11.8	Mechanical parts	a) The internal electrical components should be of electrolytic copper & should be protected from corrosion, rust etc. b) The other mechanical components should be protected from rust, corrosion etc. by suitable plating/painting methods.	
11.9	Battery	Lithium with guaranteed life of 15 years	Texcell, SAFT, Varta, Tedirun, Sanyo
11.10	RTC & Micro controller	The accuracy of RTC shall be as per relevant IEC / IS standards	USA: Philips, Dallas Atmel, Motorola, Microchip, TEXAS, Japan: NEC, Oki
11.11	P.C.B.	Glass Epoxy, fire resistance grade FR4, with minimum thickness 1.6 mm	(BBT test is must)
11.12	Note	a. The components used by manufacturer shall have "Minimum Life" more than the 10 years. b. Incase vendor want to use other make components; same shall be approved by BYPL before use. c. Even for existing supplier – fresh approval is needed for all deviations. d. Manufacturer should have complete tracking of material used in meter. BYPL reserve the right to carry out audit of inventory/ manufacturing process at manufacturer's works and sub vendor's work.	

12. Quality Assurance, Inspection and Testing

12.1	Vendor's Quality Plan (QP)	To be submitted for Purchaser's approval.
12.2	Sampling Method	Sampling Method for quality checks shall be as per relevant IS/ IEC/ CBIP guidelines and Purchaser's prior approval shall be taken for the same.
12.3	Inspection Hold- Points	To be mutually identified, agreed and approved in Quality Plan.
12.4	Type Tests	a. The meter shall be of type tested quality including all tests specified in this specification which are beyond IS / IEC or CBIP. b. Type test conducted from CPRI/ ERDA/ or any other lab specified by BIS/ CEA for smart meter testing will be treated as valid. c. Type test certificate should be submitted along with offer for scrutiny. d. Any other component supplied in addition to meter shall also be type tested as per IS /IEC if applicable. e. Complete type test as per IS 16444 (Part 2) shall be carried out on sample selected from BYPL lot.
12.5	Routine tests	All test marked "R" as per table 20 of IS 14697.

12.6	Acceptance Tests	a. All tests marked "A" as per IS 14697.
		b. Smart meter functional tests as per IS 16444 (Part 2).
		c. Test for data exchange protocol as per IS 16444 (part 2).
		d. Test for Smart meter communicability as per clause no. 10.6 of IS 16444 (Part 2).
		e. All the routine and acceptance tests shall be carried out as per relevant standards.
		f. Following tests in addition to IS shall be conducted during lot inspection.
		   I) Dimensional and drawing verification.
		   II) Display parameters/ sequence.
		   III) Data Downloading from CMRI and PC.
		   IV) Tamper/ fraud detection/logging features as per approved documents. Tamper conditions will be simulated at varying load up to Imax. Accuracy will also be checked during tamper simulation.
		   V) Burn in chamber test.
		   VI) Component verifications.
		g. Purchaser reserves the right to formulate any other test method to verify guaranteed parameters of Meter.

12.7	ESD and Magnetic Interference test	ESD and magnetic interference test will be conducted at Sameer lab, Chennai or CPRI.
12.8	Inspection	a. Purchaser reserves the right to inspect /witness all tests on the meters at Seller's works at any time, prior to dispatch, to verify compliance with the specification/ standards. b. Manufacturer should have all the facilities/ equipments to conduct all the acceptance tests as per clause 14.3 relevant standards and tampers logics as per approved GTP. All the equipments including tamper logs kits/ jigs should be calibrated. c. In-process and / or final inspection call intimation shall be given in advance to purchaser.

12.8	General Requirements	a. The internal potential links should be in closed position or link less meters will be preferred and there shall not be any external link.
		b. Deliverable with Meters.
		   i. Hard copies for Routine test certificates with each meter till alternate is provided by vendor and approved BYPL.
		   ii. Terminal cover should be fixed on the meter before dispatch.

		iii. Report of seal & initial reading record. (soft copy as per BYPL format) c. Box number, meter serial number, type, rating should be mentioned on cases / cartons. d. Meters shall be suitably packed with environmental friendly material in order to avoid damage or disturbance during transit or handling and to prevent in grace of moisture and dust. Also refer CEA Metering Regulation 2006. e. In case battery removal/ total discharge same should not affect the working & memory of the meter. f. The bidder shall maintain a web site where routine test results of all meter supplied against these tender will be maintained and will be accessible to buyer/ buyer representative. g. The supplier shall give 15 day advanced intimation to enable BYPL to depute representative for lot inspection. h. Vendor shall ensure that patch required for HHU shall be provided within 4 weeks. Vendor shall also ensure to deliver solution to meet DERC mandate within mutually agreed timeline. i. Delivery of software for reading through HHU before meter delivery is required. j. For any false events recorded in meter, vendor shall depute their representative for field visit within one week and provide the root cause analysis in 4 weeks time.

13. Packing, Marking, Shipping, Handling and Storage

13.1	Packing	a. Each meter must be packed, together with its terminal cover, in a separate environmental friendly cardboard box, which can be opened and re-closed without needing adhesives. b. Up to 4 to 5 three-phase meters must be packed together with their terminal covers in a group cardboard box, which can be opened and re-closed without needing adhesives. c. The box shall prevent, as much as possible, penetration of dust during long storage periods. The box must be designed for multiple use and be robust, with wall thickness of at least 4 mm. d. Maximum weight of a group meter box shall not be more than 25 Kg. e. The packaging will protect the meters against shock and vibration, preventing damage due to the road conditions during transport and distribution in the field. The electrical and mechanical properties shall not be affected by these disturbances. f. For shipping the boxed meters will be close packed by stockpiles of suitable quantities on pallets. The meters numbers sequence (without partition) shall be kept in each pallet. A pallet will be protected against moisture by a polyethylene hood, covered with a cardboard cover (hood), and fixed onto the pallet by parallel polypropylene bands, using protection angle bars at the corners. The hood shall be marked – on the front (wide side), on the narrow side and on the top as per clause 13.3. g. Visual indications (stickers) shall be attached to the cardboard hood of several pallets in each container/ transport truck, to warn of possible rough handling during shipment, transport and storage.
13.2	Packing for accessories	Robust wooden non returnable packing case with all the above

	and spares	protection & identification Label.
13.3	Marking	On each group box and pallet, following details are required both on front (wide side) and top: a. BYPL logo. b. Meter serial number range along with bar code. c. Unique number of box/ pallet. d. Purchaser's name e. PO number (along with SAP item code, if any) & date with bar code f. Equipment Tag no. (if any) g. Destination h. Manufacturer / Supplier's name i. Address of Manufacturer / Supplier / its agent j. Type , rating and other description of equipment k. Country of origin l. Month & year of Manufacturing m. Case measurements n. Gross and net weights in kilograms o. All necessary slinging and stacking instructions
13.4	Test reports	Routine test report to be provided with each meter
13.5	Shipping	The seller shall be responsible for all transit damage due to improper packing.
13.6	Handling and Storage	Manufacturer instruction shall be followed. Detail handling & storage instruction sheet /manual to be furnished before commencement of supply.

14. Deviations

14.1	Deviations	a. Deviations from this specification can· be acceptable, only where the Seller has listed in his quotation the requirements he cannot, or does not, wish to comply with and which deviations the Buyer has agreed to in writing, before any order is placed. b. In the absence of any list of deviations from the Seller, it will be assumed by the Buyer that the Seller complies with the Specification fully. c. Refer Annex C for deviation

15. Drawing Submission

Drawing submission shall be as per the matrix given below. All documents/ drawing shall be provided on A4 sheet in box file with separators for each section. Language of the documents shall be English only. Deficient/ improper document/ drawing submission may liable for rejection

SL	Detail of Document	Bid	Approval	Pre Dispatch
1	Guaranteed Technical particulars (GTP)	Required	Required	
2	Deviation Sheet, if any	Required	Required	
3	Tamper Sheet	Required	Required	
4	Display Parameters	Required	Required	
5	GA / cross sectional drawing of Meter showing all the views / sections	Required	Required	
6	Detail of network interface i.e. pin out, standard, voltage level etc and its integration requirement.	Required	Required	
7	Samples of each type and rating offered along with box (Highest rating offered) and communication.	2 no's	1 no's	

8	Any software and accessories required for installation/ operation of meter	Required	Required	
9	Manufacturer's quality assurance plan and certification for quality standards	Required		
10	Type Test reports of offered model/ type/ rating	Required		
11	BIS certificate	Required		
12	Complete product catalogue and user manual.	Required		
13	Customer Reference List	Required		
14	Recommended list of spare and accessories	Required		
15	Specification documents containing all parameters, Services, Methods in addition to companion specification of IS 15959 (part 2).		Required	
16	Program for production and testing (A)		Required	Required
17	Makes of components		Required	Required
18	Detailed installation and commissioning instructions		Required	Required
19	As Built Drawing		Required	Required
20	Operation and maintenance Instruction as well as trouble shooting charts/ manuals		Required	Required
21	Inspection and test reports, carried out in manufacturer's works			Required
22	Routine Test certificates			Required
23	Test certificates of all bought out items			Required
24	Meter Seal data			Required
25	Mapping of meter serial no to Communication card.			Required
26	Other documents: a. Completely filled-in Technical Parameters b. General arrangement drawing of the meter c. Rating plate d. Terminal Block dimensional drawing e. Mounting arrangement drawings f. Meter box drawing and dimensions g. Display parameter h. PIN configuration of Optical to RJ11 connector i. Manual and SOP/DWI for operation	Required	Required	

16. Delivery

16.1	Delivery	Dispatch of Material: Vendor shall dispatch the material, only after the Routine Tests/Final Acceptance Tests (FAT) of the material witnessed/waived by the Purchaser, and after receiving written Material Dispatch Clearance (MDC) from the Purchaser.

Annexure A- GUARANTEED TECHNICAL PARTICULARS

Bidder shall furnish the GTP format with all details against each clause of this specification.
Bidder shall not change the format of GTP or clause description.
Bidder to submit duly filled GTP in hard copy format with company seal.

Clause No.	Clause Description	Manufacturer's Reply
1		

2		
3		
4		
5		

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

Name of the bidder	
Address of the bidder	
Name of contact person	
Telephone number and email id	

Annexure B- RECOMMENDED ACCESSORIES / SPARES

SL	Description of spare part	Unit	Quantity
1		No	
2		No	
3			

Annexure C- Deviation Sheet

Clause No.	Clause Description	Deviation Details	Manufacturer's Reply
1			
2			
3			
4			
5			

Annexure D- TAMPER AND FRAUD DETECTION/ EVENTS

1. Voltage Related Events:			
Description of event	Logic Of Event	Logic Expression/ Threshold values (Configurable)	Persistence Time (Configurable)
R Phase Voltage Missing (Occurrence/ Restoration)			
Y Phase Voltage Missing (Occurrence/ Restoration)	Absence of potential on any phase should be logged. Restoration of normal supply shall also be recorded. The threshold value of voltage should be programmable at factory end	Occurrence: If Vpn<10% Vref and Ip>10% Ib Restoration: If Vpn>=10% Vref and Ip>10% Ib	Occurrence: 5 Min Restoration: 5 Min
B Phase Voltage Missing (Occurrence/ Restoration)			
Over Voltage	Meter should log high voltage event	Occurrence: If Vpn>10% Vref	Occurrence: 5

(occurrence/ restoration)	if voltage in any phase is above a threshold value.	Restoration: If Vpn<=10% Vref	Min Restoration: 5 Min
Low Voltage (occurrence/ Restoration)	Meter should log low voltage event if voltage in any phase is below a threshold value. Threshold value if factory programmable.	Occurrence: If Vpn<75% Vref Restoration: If Vpn<=75% Vref	Occurrence: 5 Min Restoration: 5 Min
Voltage Unbalance (Occurrence/ Restoration)	Meter should log voltage imbalance event when the difference between minimum and maximum phase voltage is more than a threshold value. Threshold value should be factory programmable.	Occurrence: If Vmax-Vmin>30% Vref Restoration: If Vmax-Vmin<=30% Vref	Occurrence: 5 Min Restoration: 5 Min
R Phase high Voltage Harmonics Y Phase high Voltage Harmonics B Phase high Voltage Harmonics	Meter should log occurrence of high voltage harmonic event when % THD in voltage of phase will be more than threshold value. Threshold value should be factory programmable.	Occurrence: If % THD in Vpn>5% of fundamental. Restoration: If % THD in Vpn<5% of fundamental.	Occurrence: 5 Min Restoration: 5 Min
2. Current Related Events:			
Current Reverse/ R Phase Current Reverse (occurrence/ Restoration) Y Phase Current Reverse (occurrence/ Restoration) B Phase Current Reverse (occurrence/ Restoration)	Meter should log the event of reversal of C.C polarity. Meter should register energy consumed correctly with any one, two or all three current coils reversed. This event shall not be valid in bidirectional mode of metering.	Occurrence: If Ip = -ve direction Restoration: If Ip=+ve direction	Occurrence : 5 Min Restoration : 5 Min
R Phase Current Open (Occurrence/ Restoration) Y Phase Current Open (Occurrence/ Restoration) B Phase Current Open (Occurrence/ Restoration)	Meter should log the event of current coil open. Threshold value of current should be programmable at factory end.	Occurrence :Vector Sum($I_R+I_Y+I_B+I_N$)>20% Ib and I<10% Ib Restoration : Vector Sum($I_R+I_Y+I_B+I_N$)< 20% Ib and I>5% Ib	Occurrence : 5 Min Restoration : 5 Min
Current Bypass (Occurrence/ Restoration	Meter should log the event of current coil shorting/bypass. Threshold value of current should be programmable at factory end and also configurable through HES.	Occurrence : Vector Sum($I_R+I_Y+I_B+I_N$)>20% Ib and I (any Phase) >5% Ib Restoration : Vector Sum($I_R+I_Y+I_B+I_N$)>5% Ib	Occurrence : 5 Min Restoration : 5 Min
Over current (occurrence/ restoration)	If the current in any phase exceeds the specified threshold current, meter should log over current event.	Occurrence: If Ip>Imax Restoration: If Ip<=Imax	Occurrence : 5 Min Restoration : 5 Min
R Phase high Current Harmonics R Phase high	Meter should log occurrence of high voltage harmonic event when % THD in voltage of phase will be more	Occurrence: If % THD in I_P>5% of fundamental. Restoration: If % THD in I_P<5%	Occurrence : 5 Min Restoration

Current Harmonics R Phase high Current Harmonics	than threshold value. Threshold value should be factory	of fundamental.	: 5 Min
3. Power Related Events:			
Power OFF (occurrence/ restoration)	Meter shall detect power OFF if all phase voltages are absent. This event shall be recorded at the time of each power OFF. At the same time power ON event shall be recorded.		
Abnormal Power Off (Occurrence/ restoration)	If meter micro detect power off whereas phase voltage is present than abnormal power will be recorded. Meter sall continue to record energy as per phase voltage and current.	Occurrence: If voltages at meter power supply<10% Vref and Vp>20% vref. Restoration:	NA
4. Other Events:			
Abnormal External Magnetic Influence (Occurrence/ Restoration)	a. Meter should either be immune or should log the events of attempt of tampering by external magnetic field as per relevant IS14697/ CBIP 325 with latest amendments. b. If the working of meter gets affected under the influence of external magnetic field, meter should record energy at Imax. Meter should not compute MD during this period. The meter shall record energy as per actual load once the magnetic field is removed.	As per IS 14697/ CBIP 325	As per IS 14697
Neutral Disturbance- HF, DC and Alternating (occurrence/ restoration)	Meter should log the event when AC/DC/ Pulsating voltage is injected in neutral circuit.	As per manufacturing standard.	Bidder shall define threshold values
Low Power Factor	Meter shall able to detect and log the low PF event if power factor of the load found in between 0.2 to 0.5 for a load above than a % threshold value for a threshold time value. Event shall restore if PF factor of load remain out of range 0.2 to 0.5 for a load above than % threshold value for		10% of I basic
Plug in Communication module removal (Occurrence/ Restoration)	Meter should log the removal of communication card. Meter should also log insertion of communication card.	By NC switch/ sensor	

Configuration change to "Forwarded" only" mode/ "Import and Export" mode	Meter should log the change in metering mode configuration.		
Overload (Occurrence/ Restoration)	Meter should able to log the status of overload in KW		
HV Spark (Occurrence/ restoration)/ Jammer	Meter with communication card should be immune or log the event in the case of application of ESD upto and including 35 KV.	Immediately	NA
High neutral Current	Meter should log event of high neutral current if measured neutral current should be more than predefined threshold value.	Occurrence: If I_N > 50% of average phase current Restoration: If I_N < 50% of average phase current	Occurrence : 5 Min Restoration : 5 Min
Distorted PF	Meter shall log the event if difference between displacement PF and actual PF is more than a predefined value		Occurrence : 5 Min Restoration : 5 Min
Time Based Event Stamp	Meter shall log voltage, current, PF and energy consumption on a predefined time	As per predefined time	NA
Temperature	If temperature is more than 60deg C. Meter has to log as an event and sent alert	-	-

5. Non Roll over events:

Event Description
Occurrence of cover open

6. Transaction Related Events:

Detail of Transaction
Real Time Clock- Date and Time
Demand Integration Period
Profile Capture Period
Single Action schedule for billing date
Activity calendar for time zones
New firmware activated
Load Limit (Kw) Set
Enable Load Limit Function
Disable load limit function
LLS secret (MR) change
HLS key (US) change
HLS key (FW) change
Global key change
ESWF change
MD reset

Note:
1. Event ID's shall be defined as per BYPL specification/ IS 15959 (part 2). Approval shall be taken from BYPL prior to manufacturing for Event ID's
2. Programming of threshold values should be possible from remote via proper authentications.
3. Logics of tampers can be changed/ upgraded via firmware up gradation from remote via proper authentication.

4. All the programming changes/ firmware up gradations shall be logged along-with date and time stamp in meter as well as on HES.

Technical Specification of Existing Head End System (HES)

A) Head End System:

Deployed HES is developed on open platform based on distributed architecture for scalability without degradation of the performance using additional hardware. The scalability shall ensure the ability to handle applicable workloads including the following:

a) 5/15/30 mins interval meter reads

b) other events and statuses coming from meters.

The deployed functions of HES (not exhaustive) are:

a) Smart Meter providesself-registration package.

b) The HES store meter profile status by meter type, hardware & software versions, device IDs, logged in / logged out details etc.

c) Acquisition of meter data on demand & at user selectable periodicity. On demand meter read may be for single meter (unicast) or for a group of meters (multicast).

d) Two-way communication with meter

e) Command for connect & disconnect (for consumer meters) of switches.

f) Audit trail and Event & Alarm Logging

g) Ability to redirect messages including configuration commands from the middleware in order to reach the desired meter

h) Maintain time sync with meter

i) Store raw data for defined duration before it is transferred to the middleware.

j) Handling of Control signals / event messages on priority

k) Setting of Smart Meter configurable parameters

l) Critical and non-critical event reporting functionality

m) Device management functionality to get periodic updates from devices on health check, hardware & firmware version, location mapping etc.

n) In case of malicious attack, HES provide a solution to shield/ protect the bulk traffic/ command from HES to Smart Meters.

o) HES have the ability to adopt pull mechanism to acquire meter data for scheduled reads and on demand reads. It should also support the push mode to capture all the data if required.

p) The data collection and computation for the purpose of SLA penalties are automated and visualized.

q) HES supports Key Management System (KMS)

A.1 Configuration

Deployed HES facilitate configuration of following parameters (not limited to):

a) Load profile capture period

b) Demand integration period

c) Setting of parameters for TOU billing

d) Prepaid / post-paid configuration

e) Net metering

f) Billing date / month-to-date for prepaid meters

g) Clock setting/time synchronizations

h) Load curtailment limit

i) Event setting for connect/disconnect

j) Number of auto reconnection attempt

k) Time interval between auto reconnection attempts

l) Lock out period for endpoint (meter) relay

m) Remote firmware update

n) Password setting

o) Push schedule

p) Setting threshold limits for monitored parameters

A.2 Communication

The following communication functions with network devices are supported:

a) HES supports WAN technology

b) HES encrypt data for secure communication

c) HES accept data according to IS 15959 part-2 /part 3 and latest amendments

d) HES automatically retry for missed data

e) Confirmation on successful execution of a command

f) HES ensure data integrity checks

A.3 Monitoring and Reporting Capability

HES have critical and non-critical reporting functionality. The critical & non-critical information generated from this reporting functionality made available to middleware at user configurable periodicity.

A.3.1 Critical Reporting

a) Event log for meters

b) Data not received from end points

c) Relay does not operate for connect / disconnect

d) Power Failure

A.3.2 Non-Critical Reporting

a) Retry attempts

b) Missed periodic reading

c) Failure to connect

B.1 Requirement for Meter Integrations

1. Required the Encryption Keys and Authentication Keys.
2. HLS and LLS Password.

SCOPE OF INSTALLATION WORK

1. Removal of existing (installed) DT meter along with all accessories (meter box, cables seals etc.) and their return to designated BYPL stores.
2. Installation of Smart DT Meters and associated works including control cable for CT and voltage connection, Network Interface Card, SIM Card, Meter Box, Saddles, cable conduits, cable tie, Sealing, nut, bolts, fasteners, insulation tape etc.
3. Supply of 5 meter length of 2.5 sqmm 12 core flexible armoured copper control cable for each DT for CT & Voltage connections.
4. Supply of accessories including flexible PVC cable conduits, cable tie, fasteners, insulation tape and all other accessories required for meter installation shall be in the scope of bidder.
5. Integration of Smart DT meters with BYPL HES to ensure complete data download.
6. Transportation of all materials required for meter installation from BYPL store to site and return of removed material including scrap to designated BYPL stores.
7. Reconciliation of Meters, Cables, Meter Seals, NIC Cards, SIM Cards & and all other related material within defined timelines.
8. Site Acceptance Test (SAT) to ensure compliance with tender specification including supply, installation & integration of smart meter.
9. Rectification of punch points / defects reported by BYPL.