



# **Abuja Electricity Distribution Plc**

**Bid Documents for the Procurement**

**of**

**Additional Meter Asset Provider (MAPs)**

**Bidding Document No.: AEDC/005/08/2022**

**Date: August 2022**

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# Letter of Invitation for Bids

Date: August 15, 2022

Dear Interested Bidder,

## PROCUREMENT OF ADDITIONAL METER ASSET PROVIDER (MAP) TO PROVIDE METERING SERVICES TO THE ABUJA ELECTRICITY DISTRIBUTION PLC

**BID REFERENCE NO.: AEDC/005/08/2022**

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1. Abuja Electricity Distribution Company (AEDC) established in 1997 is a company registered under the laws of the Federal Republic of Nigeria based on the privatization of the power distribution in Nigeria. AEDC is required to maintain power quality in line with prevailing Nigeria regulations as set by the Nigeria Electrical Regulatory Commission (NERC) in their customer's service standards of Performance, together with internationally accepted standards (IEC 60050).
2. Pursuant to the Meter Asset Provider (MAP) Regulations 2018 issued by the Nigerian Electricity Regulatory Commission and our desire to close the existing metering gap. We are pleased to invite you to submit proposals for supply, installation, financing, replacement and maintenance of end-user electric meters within our franchise area. Further details on the required services are provided in the enclosed Request for Sealed Bids (**RFSB**) document.
3. Bidding will be conducted through a two-part procurement process comprising technical and commercial bid evaluation. Only bidders that have obtained NERC '**No Objection**' are eligible to participate in the bidding process
4. Interested eligible bidders may obtain further information from [aedcprocurement@abujaelectricity.com](mailto:aedcprocurement@abujaelectricity.com) from **August 15<sup>th</sup>, 2022 to August 24<sup>th</sup> 2022**.
5. Bids must be delivered to the address below on or before **August 29<sup>th</sup> 2022 at 10am**.

Procurement Committee,  
Abuja Electricity Distribution Plc  
No. 1 Ziguinchor Street  
Wuse, Zone 4 Abuja

6. Electronic bidding will not be permitted. Late bids will be rejected. Bids will be publicly opened in the presence of the bidders' designated representatives and anyone who chooses to attend at the address stated above on **August 29th, 2022 at 10.15am**.
7. All bids must be accompanied by a 'Bid Security' of **₦10,000,000.00 (Ten Million Naira Only)**

Signed  
Procurement Committee

## Structure of Bidding Document

The bidding document is divided into the following parts:

<b>Section 1</b>	<b>Instruction to Bidders</b> This section contains information that will aid bidders in preparing and submitting responsive bid.
<b>Section 2</b>	<b>Scope of Work</b> This section describes the required services to be performed by the successful bid (Meter Asset Provider)
<b>Section 3</b>	<b>Evaluation Criteria</b> This section contains information about the evaluation criteria that will be used in assessing bids
<b>Section 4</b>	<b>Specifications and Standard</b> This section contains the kind of meters required to be supplied and their minimum technical specifications as specified in the Metering Code
<b>Section 5</b>	<b>Bidding Forms</b> To be filled and returned by the bidder: <ul style="list-style-type: none"><li>a. Technical Specifications of Meter offered by the bidder</li><li>b. Bidders' Technical Capability</li><li>c. Gantt Chart depicting Bidder's Work Plan</li><li>d. Price Schedule</li></ul>

# SECTION 1

## Instruction to Bidders

### Instruction to Bidders

#### Availability of Tender Document

We are inviting bidders who have obtained NERC “No Objection” to participate in this procurement process for the purpose of inclusion into AEDC MAP Database.

#### Calendar of Events

Action	Date
Bid document/RFSP issued to bidders	August 15th, 2022
Request for clarification	August 15 <sup>th</sup> 2022 to August 24th, 2022.
Response/ Addendum from AED Plc	August 25th, 2022
Bid Submission	August 29 <sup>th</sup> , 2022 at 10am.
Bid Opening	August 29th, 2022 at 10.15am

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

#### Bid Submission

Bidders are requested to submit their offer in line with this Tender document. Abuja Electricity Distribution Plc shall respond to the clarification raised by various bidders by email and copied to all participating bidders.

If all envelopes are not sealed and marked as required. AED Plc will assume no responsibility for the misplacement or premature opening of the bid.

Proposals shall be submitted in three (3) parts;

- **First envelope** shall be marked on the outside as “Bid Security” and contain **Bid Security of N10,000,000.00 in the form of an irrevocable bank guarantee or LC valid for 210 days** from the due date of the bid submission in favor of Abuja Electricity Distribution Plc (AED Plc) in the formant mentioned in General Condition of Contract.
- **Second envelope** shall be marked on the outside as “Technical Bid” and shall contain the following documents dully filled, signed and stamped:
  1. Documentary evidence in support of qualifying criteria
  2. Technical literature/Type test report etc. (where applicable)
  3. Qualified manpower available
  4. Testing facilities (where applicable)
  5. Duly signed AED Plc’s conflict of interest form
  6. Acceptance to Commercial Terms and Conditions viz Delivery schedule/period, payment terms etc.
  7. Quality Assurance Plan/Inspection Test Plan for supply items (if applicable)
  8. The bidder shall duly fill the compliance sheet as part of the response **(Ref P 25 – 29)**
  9. Signed copy of Technical Compliance Sheet with duly filled column (As in 1. Above)
  10. All other documents required as per RFP
  11. Product brochures, white papers, case studies etc.

The technical bid shall be properly marked and is to be submitted in hard copy as outlined above.

- **Third envelope** shall be marked on the outside as ‘Price bid” and shall contain only the price details. **Bidders are required to accept the NERC approved Meter Cost .**

All these three envelopes shall be sealed individually and placed in a fourth sealed envelope which shall be clearly marked as below:

## **BID SECURITY, TECHNICAL & PRICE BIDS**

### **“Bidding for Meter Asset Provider – AEDC/005/08/2022”**

The bid prepared by the bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and AED Plc, 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.

Bid shall be submitted in person. Bids submitted electronically (email) will be rejected.

### **Cost of Bidding**

The Bidder shall bear all costs associated with the preparation and submission of its bid, and AED Plc shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

### **Contact Information**

All the bidders are requested to send their queries/request for clarification (if any) against this tender through e-mail within the stipulated timelines. The consolidated reply to all the queries received shall be

sent to all bidders by mail by the stipulated timelines as detailed in the calendar of events. All the queries shall be addressed to [aedcprocurement@abujaelectricity.com](mailto:aedcprocurement@abujaelectricity.com)

## **Bid Prices**

Bidders are required to accept the NERC approved Meter Cost.

## **Period of Validity of Bids**

Bids shall remain valid for **270 days** from the due date of submission of the bid.

Notwithstanding clause above. AED Plc may solicit the Bidder's consent for an extension of the Bid Validity. The request and response thereto shall be made in writing.

## **Alternative Bids**

Bidders shall submit Bids, which comply with the bidding documents. Alternative bids will not be considered. The attention of Bidders is drawn to the provisions regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the bidding documents.

## **Modifications and Withdrawal of Bids**

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

## **Bid Security**

The bidder shall furnish, as part of its bid, a Bid Security amounting as specified in the tender. The Bid Security is required to protect AED Plc against the risk of bidder's conduct, which may warrant forfeiture. Bids must include a Bid Security of N10,000,000.00 in the form of an irrevocable bank guarantee or LC

The Bid Security shall be forfeited in the event that:

1. The bidder withdraws its bid during the period of specified bid validity; or
2. The successful bidder does not
  - a. Accept the contract award
  - b. Furnish the required performance guarantee

## **Type Tests (where applicable)**

The type tests specified in AED Plc specifications should have been carried out within the last 2 years prior to the date of opening of technical bids and test reports are to be submitted along with the bids. If type tests carried out are not within the two years prior to the date of bidding, the bidder will arrange to carry out type tests specified, at his cost. The decision to accept/ reject such bids rest with AED Plc.

## **Mandatory document required along with the Bid**

- I. Bid Price

- II. Duly signed copy of Tender as an acceptance to all terms and conditions as mentioned in this Tender.
- III. Duly signed AED Plc's conflict of interest form (**Annexure 2**)
- IV. Audited Financial Statement of the bidders/consortium
- V. Evidence of past relevant experience of the bidder or its employees along with supporting documents
- VI. Type Test details along with a sample of each item as specified in Annexure – Additional documents to be provided by NEMSA certification
- VII. Meter specification details as per attached sheet
- VIII. Proper authorization letter (Power of Attorney) to sign tender on behalf of the bidder shall accompany the bid.
- IX. Evidence of ability to source a minimum of 30 percent of proposed meters to be contracted from local meter manufacturers.
- X. Other Necessary supporting documents:
  - Certificate of incorporation and memorandum and articles of association
  - Tax clearance certificate for past 3 years
  - Certified audited financial statements for 3 consecutive years prior to the year in which the application is made
  - Detailed resumes of Applicant's board of directors, management and technical staff
  - Ten-year business plan
  - Details of the Applicant's relevant previous experience (with evidence)
  - VAT Registration Certificate
  - NSITF
  - PENCOR
  - Copies of academic and professional qualifications of key staff
  - Proof of warehousing facilities for metering systems
  - Proof of ability to secure funds for the procurement of metering systems

## **Eligible Bidders**

**A bidder must have applied and obtained a "No objection" from the Nigerian Electricity Regulatory Commission to participate in the procurement process for the engagement of Meter Asset Providers under the MAP Regulations 2018.** A bidder may be a firm that is a private entity, a government-owned entity or any combination of such entities in the form of a Joint Venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a Joint Venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution.

A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

- I. Directly or indirectly controls, is controlled by or is under common control with another Bidder;  
or



- II. Receives or has received any direct or indirect subsidy from another Bidder; or
- III. Has the same legal representative as another Bidder; or
- IV. Has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of AED Plc regarding the bidding process; or
- V. Participate in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
- VI. Any of its affiliates has been hired (or is proposed to be hired) by AED Plc for the Contract implementation; or
- VII. Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the services specified in this bidding document that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or in under common control with that firm; or
- VIII. Has a close business or family relationship with a Director, Owner, Agent or staff of AED Plc who:
  - a. are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or
  - b. would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to AED Plc throughout the procurement process and execution of the contract.

## **Deviation from Tender**

Bidders shall submit a signed and stamped copy of this Tender as a token of acceptance of all the terms and conditions of this Tender. There shall be no deviation to the Tender document supplied.

## **Right of Acceptance / Rejection**

The bid is liable to be rejected:

- I. In the absence of any of the documents listed in Mandatory document requirement section above
- II. Where the Tender is received after due date and time
- III. Where the Tender is not received as per terms and conditions of tender.

## **Supplier Confidentiality**

AED Plc and the bidder shall act confidentially and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the bidder may furnish to its subcontractor such documents, data, and other information it receives from AED Plc to the extent required for the subcontractor to perform its work under the contract, in which event the Bidder shall obtain from such subcontractors an undertaking of confidentiality similar to that imposed on the bidder.

AED Plc shall not use such documents, data, and other information received from the bidder for any purposes unrelated to the contract. Similarly, the bidder shall not use such documents, data, and other information received from AED Plc for the purpose other than the performance of the Contract.

The obligation of a party however, shall not apply to information that:

- a. AED Plc or Bidder needs to share with other institutions participating in the financing of the Contract;
- b. Now or hereafter enters the public domain through no fault of that party;
- c. Can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

## **Performance Bond**

The successful bidder is required to provide a Performance Bond covering 2.5% of the total contract value or in a format acceptable to AED Plc.

## **Payment and Securitization Arrangements**

Payment and securitization arrangements shall be in accordance with the provisions of the MAP Regulations 2018. The successful Bidders total monthly metering charge covering the metering services as specified in the Price Schedule shall be reflected on the bills of electricity customers served by the Distribution Company (AED Plc).

Metering Service Charge payments made by customers shall be ring fenced and paid to the MAP by the Distribution Company.

## **Ethics and anti-corruption**

The Distribution Company is required to abide by the laws of the Federal Republic of Nigeria and Regulations issued by the Nigerian Electricity Regulatory Commission. The Bidder shall also ensure adherence to all ethical norms and in no form either directly or indirectly be involved in unethical practice.

As a minimum, both AED Plc and the Bidder shall comply with all relevant regulations issued by NERC and Anti-Corruption Laws and Guidelines as contained in the Corrupt Practices and Other Related Offences Act 2000, Economic and Financial Crimes Commission Act 2002, Advanced Fee Fraud and Other Related Offences Act 2006, Money Laundering Prohibition Act 2004 and other anti-corruption regulations under the Laws of the Federation of Nigeria.

To ensure compliance at all times, Bidders and staff, agents and subcontractors shall permit the Distribution Company (AED Plc) to have access to and inspect all accounts, records and other documents relating to every stage of this procurement process.

# SECTION 2

## Scope of Work

### Scope of work

The scope of work shall include the provisions of metering services comprising:

- Meter Financing
- Procurement
- Supply Installation
- Maintenance
- Replacement; and
- Technology backend systems and related infrastructure

The Bidder shall comply with the provisions of the Meter Asset Provider Regulations 2018, the Metering Code, the Guidelines for Certification of Metering Service Provider and Related Matters and other relevant Regulations.

### **Meter Financing**

The bidder shall provide financing cost of the meters and meter accessories to be deployed for the duration of contract, which shall not be less than 10 years in line with the provisions of the MAP Regulations.

### **Meter Procurement**

The bidder shall procure meters that meet the minimum specifications contained in this Bidding Document and the Metering Code. The Bidder shall also provide necessary warehousing and storage facilities as well as logistics required to store and deploy meters while ensuring integrity and functionality of the meters at all times.

### **Meter Installation**

The Successful Bidder is responsible for the installation, sealing and enclosures of meters including carrying out routine checks for meter security and integrity.

The Bidder is responsible for the cost of meter supply, transportation, storage and all costs necessary to ensure efficient and effective installation including initial meter tests and meter sealing.

The Bidder shall deploy, as minimum, technology and back-office systems that are capable of maintaining and retrieving records of financial, inventory, customer data and monitoring usage of deployed infrastructure on an on-line real time basis.

All technology systems deployed by MAPS shall be capable of interfacing into the vending platforms of AED Plc. Bidders are required to submit along with their bids evidence of applicable certifications.

### **Meter Maintenance**

The Successful Bidder shall be responsible for ongoing maintenance of the meters over its useful life. Such maintenance service will include:

- a. Periodic checks to ensure continuous functionality and accuracy;
- b. Monitoring of meter tampering and bypass; and
- c. Replacement/repairs of faulty meters or faulty meter parts.

### **Meter Replacement**

In line with the Meter Asset Provider Regulations 2018, the MAP shall repair or replace faulty meters **within two (2) working days** of being notified of such faults. Where a MAP fails to repair or replace a meter within two (2) working days of a report by the customer or AED Plc, the customer shall not be liable for the payment of metering service charge for the billing period unless such delays were as a result of inaccessibility to the customer's premises.

### **Insurance and Disaster Recovery**

In line with the MAP Regulations 2018, the successful Bidder shall:

- Insure the meter assets and secure all metering equipment deployed;
- Ensure frequent back up of relevant data to ensure integrity of the metering system;
- Provide warranty/replace defective meters at it's (MAP) own cost within the warranty period of 10 years.

# SECTION 3

## Qualification and Evaluation Criteria

### Qualification and evaluation criteria

#### Qualification Criteria

- I. The annual turnover of the bidder (or any member of its consortium) for the last three financial years should not be less than 3 billion. **Annual Turnover of ₦1Bn or Cumulative ₦3Bn (3years).**
- II. The bidder should have license/ legal/ statutory clearances for the offered services from relevant Nigerian agencies or their foreign equivalents where applicable.
- III. The Bidder shall demonstrate ability to deploy as minimum, technology and back-office systems that are capable of maintaining and retrieving records of financial, inventory, customer data and monitoring usage of meter infrastructure.
- IV. All technology systems deployed by MAPs shall be capable of interfacing into the vending platforms of AED Plc.
- V. Bidder shall show evidence of its capacity to source a minimum of 30% of their contracted metering volumes from local meter manufacturing companies in Nigeria.
- VI. Bidders are required to accept the NERC approved Meter Cost and Financing Rate for purpose of amortization
- VII. Bids must have a minimum validity period of 270 days
- VIII. Bids must include a Bid Security of N10,000,000.00 in the form of an irrevocable bank guarantee or LC
- IX. Bidders must commit to provide a performance bond issued by a reputable bank in the format specified in the bid document
- X. Bidders shall demonstrate proof of concept to ensure meter compatibility
- XI. Implementation delays shall be penalized on a quarterly basis at the rate of 10% of the cost of each meter not deployed as per the deployment plan. The MAP's performance bond shall be drawn every quarter based on the failure of the MAP to meet its deployment targets

## **Evaluation criteria**

The bids will be checked for responsiveness ensuring whether the mandatory documents listed are submitted.

Responsive bids will thereafter be evaluated technically to ensure compliance to tender terms and conditions using the following criteria:

<b>Evaluation Checklist</b>		
<b>1. Completeness of documentation review</b>		
Signed Bid Proposal	<b>Pass / Fail</b>	
Power of Attorney	<b>Pass / Fail</b>	
Acceptance of the specified meter costs and monthly meter service charges	<b>Pass / Fail</b>	
Minimum Bid Validity Period	<b>Pass / Fail</b>	
Bid Security Amount, Type and Validity Period	<b>Pass / Fail</b>	
<b>2. Technical Adequacy</b>		
Compliance with Required Specifications of Meters	<b>Pass / Fail</b>	
30% Minimum Local Content Requirement	<b>Pass / Fail</b>	
Proof of Concept	<b>Pass / Fail</b>	
<b>3. Bidders Credibility &amp; Experience (70 Points)</b>		
	<b>%</b>	
Bidders' Metering Experience and Meter Installation Capabilities	30	
Annual Turnover of ₦1Bn or Cumulative ₦3Bn (3years)	20	
Qualifications and Competence (Key Personnel)	20	
<i>Sub total</i>	<b>70</b>	
<b>4. Sourcing and Availability (30 Points)</b>		
Manufacturing/Sourcing and Supply Capabilities	10	
Technical Work Plan	10	
Local Presence (Infrastructure)	10	
<i>Sub total</i>	<b>30</b>	

<b>Total</b>	<b>100</b>	
<p>■ <i>Only Bidders that meet ALL the requirements under 1 and 2 above shall proceed to the next evaluation stage</i></p>		
<p>■ <i>Bidders must have a minimum of 75% score to be prequalified for AEDC MAP Database</i></p>		

**Note:**

- For metering experience each year attracts 3 marks
- For Key Personal. Provide a list of Project Management Team comprising of Three Meter Engineers and a Project Manage with Engineering background.

## **Bid Opening & Evaluation Process**

### **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 Distribution Company’s processing of Bids or award decisions may result in the rejection of the Bidder’s Bid.

### **Technical Bid Opening**

Bids will be opened on **August 29th, 2022 at 10:15am** in the conference room of the Distribution Company’s corporate office in the presence of accredited representatives of Bidders who may choose to be present at the time of tender opening. Technical bid must not contain any cost information whatsoever and shall be submitted within due date.

First, the envelope marked “Bid Security” will be opened. Bids without Bid Security of required amount in prescribed form, shall be rejected.

Next, the technical bid of the Bidders who have furnished the requisite Bid Security will be opened, one by one.

### **Preliminary Examination of Bids/ Responsiveness**

AED Plc 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. AED Plc may ask for submission of original documents in order to verify the documents submitted in support of qualification criteria.

Prior to the detailed evaluation, AED Plc will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability/local content requirement and acceptable quality of the goods offered. A substantial responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation.

Bid determined as not substantially responsive will be rejected by AED Plc and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

### **Technical Clarifications**

After scrutiny of qualifying criteria and technical bid, clarifications may be sought from the bidders for any deviations with respect to AED Plc's specifications and attempt will be made to bring all bids on a common footing. After all technical issues are clarified, the date of price bid opening will be intimated to the technically accepted bidders.

### **Clarification of Bids**

To assist in the examination, evaluation and comparison of Bids, AED Plc 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.

### **Profiling into AEDC MAP Database**

Successful bidder will be profiled into AEDC Meter Asset Provider (MAP) Database

# SECTION 4

## Minimum Specifications

### **Specification and standards**

The minimum meter specifications shall be as contained in Annexure 1.

# SECTION 5

## Bidding Forms

### Bidder's Technical Capability

S/N	Nature of Experience	Quantity	Contract Value	Dates and Duration
1	Meter Financing Capability and Experience			
2	Meter Supply Experience			
3	Meter Installation Experience			
4	Meter Operations Experience (Replacement/Maintenance)			

Please provide verifiable evidence/document for all experience claimed.

## **Price Schedule**

(Insert table with NERC approved price structure for single phase and 3 phase meter)

**Bidders are required to accept the NERC approved Meter Cost**

## ANNEXTURE 1 – Minimum Meter Specifications

TECHNICAL SPECIFICATION FOR SMART 1-PHASE AND 3-PHASE METERS			
S/No.	ITEM	AEDC REQUIREMENT	AEDC Remarks
1	Nominal Voltage	- 1Ø-230V, 1-ph, 2-wire system,	Ok
		- 3Ø- 230/400V, 3-ph, 4-wire system (balanced and unbalanced load conditions)	Ok
2	Operating Voltage	-40% to +10% Nominal Voltage	Ok
		-40% to +10% Nominal Voltage	Ok
3	Current Rating	5(60)A	OK
		3 X5(60)A	OK
4	Frequency	50 ±5%Hz	Ok
5	Accuracy Class	Applicable IEC Standards as in Section 7.1.3 of the Nigerian Electricity Smart Metering Regulation 2015	Class 1
6	Encryption Algorithm for PPM	Standard Transfer Specification (STS)	Ok
7	Operating Temp.	from -40°C to 70°C	Ok
8	Storage Temp.	Up to 70°C	Ok
9	Relative Humidity	95% at 45°C non- condensing	Ok
10.	Maximum KWH credit stored	99,999.9 KWh(1Ø), 999,999.9KWh(3Ø)	Ok
11.	Credit transfer number	20 Digits encryption	Ok
12.	Protection	High resistance to short circuit	Ok
13.	Impulse withstand voltage	Preferably greater than 6 KV	Ok
14.	Insulation withstand voltage	2 KV per minute	Ok
15.	Name plate	a) Indelible Meter serial number shall not be more than twelve (12) digits and legibly printed	13 Digits
		b) Size of the digit of the Meter serial number shall be a minimum of 5mm x 3mm.	Ok
		c) Bar code shall be printed below the Meter serial number	Ok
		d) Manufacturer's name and Trademark.	Ok
		e) Place of manufacture.	Ok
		f) Year of manufacture.	Ok
		g) Reference Voltage, Current and frequency.	Ok
		h) Class index.	Ok
		i) Meter Constant.	Ok
		j) Owner/Utility's Identity.	Ok

16.	Front panel Indication/Display	Include but not limited to the following:	
		- Three level credit LED display	Ok
		o Green-when energy stored is full Yellow-when remaining credit will last for 3 days.	Ok
		o The red flashes when the remaining energy will last for 11/2 days.	Ok
		o Blue-Consumption rate indicator. LCD credit status display.	Ok
		- Credit transfer number accept/reject Tamper.	Ok
17.	Special Mode Display for Engineering / Management		
		Display up to 3 parameters according to programming to be specified:	
		a. Normal display – LCD	Ok
		i. Duplicate copy of token inserted	Ok
		ii. Credit Dispensing Unit identification number and KWh (or voucher serial number) inserted.	Ok
		iii. Electricity Dispenser (LED) full of units.	Ok
		iv. No power ON LED	Ok
		v. No credit on LED	Ok
		vi. Credit rejects or accepts.	Ok
		vii. Remaining Credit.	Ok
		viii. Instantaneous Power	Ok
		ix. Total KWh used in the past 24 hrs.	Ok
		x. Total KWh used in the past 30 days.	Ok
		xi. Total KWh used since the LED was installed.	Ok
		b. Display only available with valid codes.	
		c. Display only available within chosen programming or engineering mode.	Ok
		For the purpose of these specifications, items b) and c) above are treated as one. These shall be accessible only to utility staff.	Configuration software must and shall be provided, with Optical Port.
		a. Over current trip level.	Ok
		b. Green-Yellow Light emitting diode (LED) display change over level in KWh (high).	Ok
		c. Yellow-Red LED display change over level in KWh (low).	Ok
		d. Test on LED for tripping function.	Ok

		e. Display of LED number.	Ok
		f. Electronics faulty.	Ok
		g. Power failure counter (Number of times power supply failed or disconnected)-400 cycles and back to Zero.	Ok
		h. Enabling of disabled LED caused by tampering.	Ok
		i. Number of days/hour into the current 30 days when there was power and total KWh used during the period.	Ok
		Other	6 months' Historical kWh
		All PPM meters must be on AEDC SGC	Ok
		Base Date 2014, meters only. (NO 2003 Base date meters)	Ok
		Users interface unit. Wire or wireless	Ok
		BS Meter Standard type P N N P for 1Ø	NO DIN Rail
		IEC Standard 6256-21	Ok
		Split type Key pad with UIU	Ok
18.	EMC Compliance	Relevant section of IEC 61036.	Ok
19.	Burden	Preferably less than 2 VA per phase.	Ok
20.	Terminals	Extended cover type. Hole diameter shall be a minimum of 9mm.	Ok
21.	Casing/Cover Material	Fire retardant-bakelite or polycarbonate	Ok
22.	Sealing	Provision must be adequate to prevent tampering.	Ok
23.	Power Factor Range	-1 to +1	Ok
24.	Data Storage	Non-Volatile EPROM	Ok
25.	Switching	Latching contactor.	Ok
26.	EMC Susceptibility	According to IEC 61036, 61268. Not adversely affected by external magnetic fields.	Ok
27.	Life Span	Minimum 10 years	Ok

28	Meter type	1Ø 1-ph with: - Two Internal CTs (one for line and Neutral) for measurement of current - Two Pole internal Breakers to isolate the supply completely - Goes into tamper mode when current in neutral is more than that in Line by 1 amp in a minute.	OK
29	Measurement	1Ø 1-ph, 2-wire system, 3Ø 3-ph, 4 wire system and neutral current measurement	OK
30	Disconnection relay	Maximum switching voltage: 400V Ac Maximum switching current: 120A Maximum switching power: 48kVA for 3 Phase and 16 kVA for 1-phase.	OK
31	Battery	<ul style="list-style-type: none"> <li>• Internal lithium battery: Easily replaceable battery without breaking seal.</li> <li>• Option for external for backup</li> <li>• Option for additional Supercap (72 hours)</li> <li>• Backup time: 10 years.</li> </ul>	Easily replaceable battery without breaking seal.
32	Environmental	<ul style="list-style-type: none"> <li>• Specified operating range: -25°C to +65°C</li> <li>• Operating range limit: -40°C to +80°C</li> <li>• Storage range limit: -40°C to +85°C</li> <li>• Relative humidity: Up to 85% mean, 95% non-condensing for 30 days</li> <li>• Ingress protection: Transparent IP54 casing (Outdoor)</li> </ul>	OK
<b>Communication Specifications (Smart-features)</b>			
<b>Meter will record activity in the memory with time and LED glow</b>			
1	Communication interface	Optical as per IEC62056-21, supporting DLMS/COSEM protocol capable of transferring data	Ok
2	Remote Communication interface	Meter Shall be able to communicate with Head end system through Gateway/Modem. Two way communication between meter and HES or via DCU through RF, PLC, LoRA and GPRS. DCU shall support TCP/IP, G3 PLC, Radio Frequency, Fibre, 3G or 4G.	Ok
3	Midnight Energy Snapshot	Capable of recording and storing midnight snapshot of kWh, for minimum of 30 days and transferring same on demand and at predetermined interval.	Ok
4	Interval data recording	30 minutes with 3 voltages, current and power factors readings	OK
5	Billing History	Current month + minimum last 6 months billing data	OK



6	Event recording	Meter shall have facility to download using both optical port or via remote communication capability with date and time stamp. Following events to be recorded:	OK. VENDOR SHALL PROVIDE METER CONFIGURATION SOFTWARE, WITH UNLIMITED LICENCE
		As per tamper sheet	Ok
		a) Terminal Cover open (Tamper Led glow)	Ok
		b) Magnet Disturbance (Tamper Led glow)	Ok
		c) Phase Miss (R, Y, B)	Ok
		d) Current reverse (R, Y, B)	Ok
		e) Current Unbalance	Ok
		As per Event	Ok
		a) Power On/Off	Ok
		Status In Anomaly	Ok
		a) Over voltage (300.00Volts)	Ok
		b) Identification of neutral current more than line current	Ok
		c) Pre-programmed alarms for meter self-check	Ok
		d) Alarms trigger LEDs, enunciators, communications event	Ok
		e) Alarms are stored in event logs	Ok
7	Remote connection-disconnection	Relay for remote load connection or disconnection with date and time stamp. Visual indication (Relay on/off) to be provided on display unit.	Ok
8	Remote load control features	Feature to set threshold values to control load (over load Limit) of customers if demand is exceeded (Set by STS Token)	Ok
9	Other remote functions	<ul style="list-style-type: none"> <li>• Remote reading (Read by Modem)</li> <li>• Remote crediting (Set by STS Token with online transfer mechanism)</li> <li>• Acquire Meter profile/configuration data</li> <li>• Remote configuration of meters and DCUs.</li> <li>• Read meters according to pre-defined schedule or on-demand</li> <li>• Automatic re-reading of meters to acquire missed data</li> <li>• Remote disconnection/reconnection of energy supply</li> <li>• Upgrade meter firmware remotely</li> </ul>	Ok
10	Tariff Management	TOD billing and remote update to tariffs	OK

11	Measured values	<ul style="list-style-type: none"> <li>• Import/Export/Absolute: Wh, VARh and VAh</li> <li>• Per quadrant Wh, VARh and VAh</li> <li>• Power: W, VAR, VA, Vrms, Irms</li> <li>• 3 Power factors, 3 currents, 3 voltages frequency, phase sequence</li> </ul>	OK
Backend Specifications			
S/No.	Meter Type	Requirement	AEDC
1	Single Phase PPM	Meter To DCU	GPRS for stand-alone: NO DCU meter
		DCU to HES	GPRS
2	Single Phase Post Paid	Meter to Hand Held Unit (HHU),	RF
		HHU to HES to AMI	GPRS
3	Three Phase PPM	Meter To DCU	GPRS for stand-alone: NO DCU meter
		DCU to HES	GPRS
4	Three Phase Post Paid	Meter to Hand Held Unit (HHU),	
		HHU to HES to AMI	GPRS
5	Whole Current	Meter to HES via GPRS (No DCU)	GPRS
6	HES Architecture	Servers deployed in a multi-tiered environment	Okay
		• communication server	Okay
		• Application server	Okay
		• Database server deployed in a multi-tiered environment	Okay
		• Meters and Data Concentrators should be connected to the HES via APNs	
		• HES application server must be web-based, with a W3C-compliant web browser supporting HTTP and HTTPS over TCPIP	Okay
		• HES system must expose open interfaces for data exchange with Disco's Meter Data Management System (MDMS)	Okay
		Working on both hardware options i.e. 1. Meter to HES directly through GPRS 2. Meter to DCU through PLC, and then DCU to HES system through GPRS	OPTION 1
7	Data Concentrator Unit	Number (average of 100Mtrs to 1DCU)	No DCU

## ANNEXTURE 2 – Conflict of Interest Form

### VENDOR’S CONFLICT OF INTEREST DECLARATION

For the purposes of this statement, the term “Conflict of Interest” means:

- a) in relation to the procurement process, the Vendor has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to:
  - (i) having, or having access to, confidential information of AED PLC in relation to this procurement that is not available to other Vendors,
  - (ii) communicating with any person with a view to influencing preferred treatment in the procurement process (including but not limited to the lobbying of decision makers involved in the procurement process), or
  - (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the procurement process; or
- b) in relation to the performance of its contractual obligations contemplated in the contract that is the subject of this procurement, the Vendor’s other commitments, relationships or financial interests:
  - (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement, or (ii) could, or could be seen to, compromise, impair or be incompatible with the effective performance of its contractual obligations.
- c) Herein indicate that none of my employee is related to a member of the management of AED Plc or affiliates any shareholder of its parent company or affiliates.

If the box below is left blank, the Vendor will be deemed to declare that:

- (a) there was no Conflict of Interest in preparing its proposal and/or quote; and
- (b) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the procurement.

Otherwise, if the statement below applies, check the box.

- The Vendor declares that there is an actual or potential Conflict of Interest relating to the preparation of its proposal and/or quote, and/or the Vendor foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the procurement.

If the Vendor declares an actual or potential Conflict of Interest by marking the box above, the Vendor must set out below details of the actual or potential Conflict of Interest:

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The following individuals, as employees, advisers, consultant, or in any other capacity

- (a) participated in the preparation of our proposal and/or quote; and
- (b) were employees of the AED PLC and have ceased that employment within twelve (12) months prior to

the date our proposal and/or quote is made:

Nos	Subject	Details
1	Name of Individual	
2	Job Grade	
3	Department	
4	Last Date of Employment with AED PLC	
5	Brief Description of Individual's Job Functions	
6	Brief Description of Nature of Individual's Participation in the Preparation of the Proposal and/or Quote	

(Repeat above for each identified individual)

The Vendor agrees that upon request, the Vendor shall provide to AED PLC any additional information from each individual identified above in the form prescribed.

\_\_\_\_\_  
Name of Vendor

\_\_\_\_\_  
Signature of Vendor's Representative

\_\_\_\_\_  
Name of Vendor's Representatives

\_\_\_\_\_  
Date

**This form MUST be completed (SIGNED) and included in the Technical Proposal submission envelope.**