Standard Bidding Document

MM-50 Procurement of 185,200 Nos Single Phase AMI Smart Energy Meters
(Goods)

International

Single Stage-Two Envelope

November 25, 2026

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REQUEST FOR BIDS

PROCUREMENT OF GOODS

1. The **Material Management (Peshawar Electric Supply Company (PESCO))** has reserved Funds for the procurement planned for FY **2026-27**. The **Material Management (Peshawar Electric Supply Company (PESCO))** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the "**MM-50 Procurement of 185,200 Nos Single Phase AMI Smart Energy Meters**" with the reference of **"P202947"**

2. The **Material Management (Peshawar Electric Supply Company (PESCO))** invites sealed Bids from eligible Bidders for procurement of goods described in the bidding documents on **EPADS v2.0**.

3. **Single Stage-Two Envelope** will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2026 and any Regulations, Regulatory Guides, Procurement Guidelines or Instructions issued by the Authority from time to time.

4. All Bids must be accompanied by a Bid Security amount described in Bid Security Section in Bidding Document in the form of **Call at Deposit, Bank Guarantee** or all bids must be accompanied by bid securing declaration in the format specified in the Bidding documents

5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **https://epads.gov.pk/opportunities/federal/procurements/202947** for all the interested bidders registered on **EPADS v2.0**. Bidders are required to get themselves registered on **EPADS v2.0** to participate in Bidding process.

6. The e-bids, prepared in accordance with the instructions in the e-Bidding Documents, must be submitted through **EPADS v2.0** on or before **Tuesday, December 15, 2026 10:00 AM**. E-bids will be opened using **EPADS v2.0** on the same day at **Tuesday, December 15, 2026 10:30 AM**. Manual submission of Bids shall not be entertained. Those vendors who have not yet

registered on the new version of **EPADS v2.0,** may register themselves on **https://vendors.epads.gov.pk/**. A tutorial to explain the registration process is available at **https://www.youtube.com/watch?v=MNW6T38v7tc**

In terms of Rule 65 of Public Procurement Rules, 2026 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and on Authority's website at (**www.ppra.gov.pk**).

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Instructions to Bidders

A. Introduction

1.Scope of Bids

1.1 The Procuring Agency (PA), as indicated in the **Bids Data Sheet (BDS)** invites Bids **through EPADS v2.0** for the provision of Goods as specified in the BDS and **in Section V – Evaluation Criteria, Specifications & Schedule of Requirements**. The name, identification, and number of items/deliverables are provided in the **BDS**. The successful Bidders will be expected to provide the goods within the specified period and timeline(s) as stated in the **BDS**.

2. Source of Funds

2.1 Source of funds is referred in Clause-2 I of Invitation for Bids.

3. Eligible Bidders

3.1 A Bidder may be natural person, company or firm or public or semi-public agency of Pakistan or any foreign country**,** or any combination of them with a formal existing agreement (on Judicial Papers) in the form of a joint venture, consortium, or association. In the case of a joint venture, consortium, or association, all members shall be jointly and severally liable for the execution of the Contract in accordance with the terms and conditions of the Contract. The joint venture, consortium, or association shall nominate a Lead Member as nominated in the BDS, who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture, consortium, or association during the Bidding process, and in case of award of contract, during the execution of the contract.

Verifiable copy of the agreement that forms a joint venture, consortium or association shall be required to be submitted as part of the Bid.

The appointment of Lead Member in the joint venture, consortium, or association shall be confirmed by submission of a valid Power of Attorney to the Procuring Agency.

Any bid submitted by the joint venture, consortium or association shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated (or post qualified if required) with respect to its contribution only, and the responsibilities of each party shall not be substantially altered without prior written approval of the Procuring Agency and in line with any

instructions issued by the Authority.

(The limit on the number of members of JV or Consortium or Association may be prescribed in BDS, in accordance with the guidelines issued by the PPRA).

3.2 The invitation for Bids is open to all prospective suppliers, manufacturers, or authorized agents / dealers subject to any provisions of incorporation or licensing by the respective national incorporating agency or statutory body established for that particular trade or business. Procuring agencies shall specify the registration/licensing requirements for the foreign bidders keeping in view the requirement of that business.

3.3 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this Bidding process, if they:

1. are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring Agency to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the Goods to be purchased under this Invitation for Bids.

2. have controlling shareholders in common; or

3. receive or have received any direct or indirect subsidy from any of them; or

4. have the same legal representative for purposes of this Bid; or

5. have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bids of another Bidder, or influence the decisions of the Procuring Agency regarding this Bidding process; or

6. Submit more than one Bid in this Bidding process.

3.4 A Bidder may be ineligible if –

1. he is declared bankrupt or, in the case of company or firm, insolvent;

2. payments in favor of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property;

3. the Bidder is convicted, by a final judgment, of any offence involving professional conduct;

4. the Bidder is blacklisted locally or by international organizations and hence debarred due to involvement in corrupt and fraudulent practices, or submission of false or misleading information or performance failure or involved in disrupting procurement process or due to breach of bid Securing Declaration.

3.5 As and when required, bidders shall provide to the Procuring Agency evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.

3.6 Bidders shall submit Bids relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract amounting to more than ten (10) percent of the Bid price is envisaged.

4. Eligible Goods and Related Services

4.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such goods and services. For purpose of this Bid, ineligible countries are the countries declared ineligible by the Federal Government.

5. One Bid per Bidder

5.1 A bidder shall submit only one Bid, in the same bidding process, either individually as a Bidder or as a member in a joint venture or any similar arrangement.

5.2 **The Bidder shall not engage a subcontractor for any portion of the contract if the value of such subcontracting exceeds thirty percent (30%) of the total contract amount.**

6. Cost of Bidding

6.1 Any cost incurred by the bidder relating to the preparation and submission of its Bid shall be borne by the bidder, and the Procuring Agency shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. Bidding Documents

7. Contents of Bidding Document

7.1 The Goods required, Bidding procedures, and terms and conditions of the contract are prescribed in the Bidding Documents. In addition to the Invitation for Bids, the Bidding documents which should be read in conjunction with any addenda issued in accordance with **ITB 10.1** include:

Section I -Invitation to Bids

Section II Instructions to Bidders (ITB)

Section III Bid Data Sheet (BDS)

Section IV Evaluation Criteria, Specifications, Schedule of Requirements

Section V Bid Forms

Section VI General Conditions of Contract (GCC)

Section VII Special Conditions of Contract (SCC)

Section VIII Contract Forms

Section IX Integrity Pact

Section X Declaration of Beneficial Ownership Information.

7.2 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding documents. Failure to furnish all the information required in the Bidding documents through EPADS v2.0 will be at the Bidder’s risk and may result in the rejection of its Bids.

8. Clarification of Bidding documents

8.1 A prospective Bidder requiring any clarification of the Bidding documents may notify the Procuring Agency through EPADS v2.0**.**

8.2 The Procuring Agency will within two (02) working days after receiving the request for clarification, respond to any request for clarification through EPADS v2.0 provided that such request is received not later than three (03) days, prior to the deadline for the submission of Bids as prescribed in **ITB 22**

8.3 The Procuring Agency's response will be forwarded to all identified Prospective Bidders through EPADS v2.0, including a description of the inquiry,

but without identifying its source.

8.4 Should the Procuring Agency deem it necessary to amend the Bidding document as a result of a clarification, it shall do so following the procedure under **ITB 9.**

8.5 If indicated **in the BDS**, the Bidder's designated representative is invited at the Bidder's cost to attend a pre-Bid meeting at the place, date and time mentioned **in the BDS**. During this pre-Bid meeting, prospective Bidders may request clarification of the schedule of requirement, the Evaluation Criteria or any other aspects of the Bidding document.

8.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be uploaded on EPADS v2.0. Any modification to the Bidding documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to ITB 9. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

9. Amendment of Bidding documents

9.1 Before the deadline for submission of Bids, the Procuring Agency for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder or Pre-Bid meeting may modify the Bidding documents by issuing addenda through EPADS v2.0.

9.2 The Procuring Agency shall promptly publish the addendum through EPADS v2.0.

Any addendum issued including the notice of any extension of the deadline shall also be communicated through EPADS v2.0 to all the bidders who have already submitted their bids. Such bidders shall have the right to withdraw their already submitted bid and re-submit the revised bid prior to the original or extended bid submission deadline.

9.3 To give prospective Bidders reasonable time in which to take an addendum/corrigendum into account in preparing their Bids, the Procuring Agency may, at its discretion, extend the deadline for the submission of Bids through EPADS v2.0:

Provided that the Procuring Agency shall extend the deadline for submission of Bids, if such an addendum is issued within last three (03) days of the Bids submission deadline.

C. Preparation of Bids

10. Language of Bid

10.1 The Bid prepared by the bidder, as well as all correspondence and documents relating to the Bids exchanged by the Bidder and the Procuring Agency shall be written in the English language unless otherwise specified in the BDS**.** Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English language unless otherwise specified in the **BDS**, in which case, for purposes of interpretation of the Bidder, the translation shall govern.

11. Documents and samples Constituting the Bid

11.1 The Bid prepared by the Bidder shall constitute the documents required in the **BDS**.

Details of sample(s) where applicable and requested in the BDS.

Documentary evidence established in accordance with ITB 13 that the Bidder is eligible and/or qualified for the subject bidding process;

Documentary evidence established in accordance with **ITB 03** that the Bidder has been authorized by the manufacturer to deliver the goods into Pakistan, where required and where the supplier is not the manufacturer of those goods;

Documentary evidence established in accordance with ITB 12 that the goods and related services to be supplied by the Bidder are eligible goods and services, and conform to the Bidding Documents;

Bid security or Bid Securing Declaration furnished in accordance with **ITB ---.**

12. Documents Establishing Eligibility of the Goods and Conformity to Bidding documents

12.1 To establish the conformity of the bidder to the Bidding document, the Bidder shall furnish as part of its Bids the documentary evidence that Goods

provided conform to the technical specifications and standards.

13. Documents Establishing Eligibility and Qualification of the Bidder

13.1 Pursuant to **ITB 10,** the Bidder shall furnish, as part of its Bid, all those documents establishing the Bidder's eligibility to participate in the Bidding process and/or its qualification to perform the contract if its Bid is accepted.

14. Form of Bid

14.1 The Bidder shall fill the Form of Bid furnished in the Bidding document. The Bid Form must be completed without any alterations to its format and no substitute shall be accepted.

15. Bid Prices

15.1 The Bid Prices quoted by the Bidder in the Form of Bid and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the Bidding documents.

15.2 **All items in the Schedule of Requirement must be listed and priced separately in the Price Schedule(s). If a Price Schedule shows items listed but not priced and neither explicitly denied, their prices shall be construed to be included in the prices of other items.**

15.3 In the event that any item(s) in the Price Schedule are not quoted, and such omission is determined by the Procuring Agency not to materially affect the responsiveness of the Bid, the Procuring Agency may, for the sole purpose of bid evaluation and comparison, assign a price to the unquoted item(s) in accordance with the following methodology:

(a) The assigned price shall be the average of the prices quoted for the same item(s) by all substantially responsive bidders; or

(b) In cases where no comparable quotations are available, the Procuring Agency shall apply the corresponding item price from its duly approved cost estimate for evaluation purposes.

The prices so assigned shall be utilized exclusively for bid evaluation and comparison, and shall not, under any circumstances, be incorporated into or form part of the Contract Price.

15.4 The Bid price to be quoted in the Form of Bid in accordance with **ITB 13.1** shall be the total price of the Bid.

15.5 The Bidder shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total Bid price of the Goods it proposes to provide under the contract.

15.6 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price will be treated as non-responsive and shall be rejected.

16. Bids Currencies

16.1 Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS in accordance with Rule 42 (2) of the Public Procurement Rules, 2026.

17. Bids Validity Period

17.1 Such extensions may be more than one time but the total period of such extension shall not exceed the original bid validity period.

17.2 Bids shall remain valid for the period specified in the **BDS** after the Bid submission deadline prescribed by the Procuring Agency. A Bid valid for a shorter period shall be rejected by the Procuring Agency as non-responsive**.** The period of Bid validity will be determined from the complementary Bid securing instrument, i.e. the expiry period of Bid Security or Bids Securing Declaration as the case may be.

The procuring agency shall ordinarily be under an obligation to process and evaluate the bid and to issue letter of award within the stipulated bid validity period.

17.3 Under exceptional circumstances, prior to the expiration of the initial Bid validity period, the Procuring Agency may request the Bidders' consent to an extension of the period of validity of their Bids through EPADS v2.0,. The Bid Security provided under **ITB 17** shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid security or causing to be executed its Bid Securing Declaration. A Bidder agreeing to the request will not be required nor permitted to modify its Bid, but will be required to extend the validity of its Bid Security or Bid Securing Declaration for the period of the extension.

18. Bid Security or Bid Securing Declaration

18.1 The Bidder shall furnish as part of its Bid, a Bid Security in accordance with Rule 36 of the Public Procurement Rules, 2026.

18.2 The original Bid Security shall be enclosed within the sealed envelope and to be submitted physically before closing time for submission of bids. Whereas, scanned copy of bid security shall be uploaded electronically through EPADS v2.0 before closing hours for submission of bids.

18.3 The Bidder who failed to submit the original Bids security before the submission deadline shall be disqualified straightaway.

18.4 The Bid Security or Bid Securing Declaration is required to protect the Procuring Agency against the risk of Bidder’s conduct which would warrant the security’s forfeiture, pursuant to **ITB 18.7.**

18.5 The Bid Security shall be denominated in the local currency or in another freely convertible currency, and it shall be in the form specified in the BDS which shall be in any of the following:

a) a bank guarantee, a bank draft, an irrevocable letter of credit issued by a Scheduled bank in the form provided in the Bidding Documents or another form acceptable to the Procuring Agency;

b) a cashier’s or certified cheque; or

c) another security if indicated in the BDS.

The Bid Security shall be valid for twenty-eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period for Bid Validity is extended. In either case, the form must include the complete name of the Bidder.

18.6 The Bid Security shall be payable promptly upon written demand by the Procuring Agency in case any of the conditions listed in **ITB 18.7** are invoked.

18.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the procuring agency pursuant to **ITB 17.** The Procuring Agency shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security documents, after whichever of the following that occurs earliest:

a. the expiry of the Bid Security;

b. the entry into force of a procurement contract and the provision of a Performance Guarantee, for the performance of the contract if such a guarantee, is required by the Bid documents;

c. the rejection by the Procuring Agency of all Bids;

d. cancellation of procurement proceedings.

e. the withdrawal of the Bid prior to the deadline for the submission of Bids, unless the Bid document stipulates that no such withdrawal is permitted.

18.8 The successful Bidder's Bid Security will be discharged upon the Bidder signing the contract**,** or furnishing the Performance Guarantee.

18.9 The Bid Security may be forfeited or the Bid Securing Declaration executed:

a. if a Bidder:

b. withdraws its Bid during the period of Bid Validity as specified by the Procuring Agency, and referred by the Bidder on the Form of Bids except as provided for in **ITB 16.2**; or

c. does not accept the correction of errors**;** or

d. in the case of a successful Bidder, if the Bidder fails:

e. to sign the contract; or

f. to furnish Performance Guarantee**.**

19. Withdrawal, Substitution, and Modification of Bid

19.1 Before Bid submission deadline, any Bidder may withdraw, substitute, or modify its Bid after it has been submitted through EPADS v2.0.

20. Format and Signing of Bid

20.1 The Bidder shall prepare and submit Bids with due diligence after carefully reading all the terms and condition before bid submission deadline through EPADS v2.0.

D. Submission of Bids

21. Submission of Bids through EPADS v2.0 before bid submission deadline.

21.1 The Technical and Financial Bids, shall be submitted electronically through EPADS, before bid submission deadline. The bid submission option shall be automatically disabled once the deadline is over.

22. Deadline for Submission of Bids

22.1 Bids shall be received by the Procuring Agency through EPADS v2.0 before bid submission deadline.

22.2 The Procuring Agency may, under exceptional circumstances, extend the deadline for the submission of Bids, after recording reasons in writing and in an equal opportunity manner.

In such case, all rights and obligations of the Procuring Agency and the Bidders that were previously governed by the original deadline shall thereafter be subject to the revised deadline.

E. Opening and Evaluation of Bids

23. Opening of Bids

23.1 The respective Bid Evaluation Committee of the Procuring Agency shall open all Bids through the EPADS v2.0, on the date and time specified in the Bid Data Sheet (BDS).

23.2 The respective Bid Evaluation Committee **shall generate minutes through EPADS v2.0 containing brief details of bid opening process.** The record of the Bid opening shall include, as a minimum: the name of the Bidder, the Bid price if applicable, and the presence or absence of a Bid Security or Bid Securing Declaration.

23.3 The procuring agency shall live broadcast the opening of bids on national media or on their website or digital channels, if the volume of procurement exceeds five hundred million rupees in case of goods and services and one thousand million rupees in case of works.

23.4 In case the date of opening of bid has been declared as public holiday or the procuring agency fails to open bid due to any EPADS v2.0 related issues, the submission and opening of bids shall be shifted to the next working day at the same time.

23.5 In case of Single Stage One Envelope Procedure, the Bidders names, the Bid prices, the total amount of each Bid and, the presence or absence of Bid Security, Bid Securing Declaration and such other details as the Procuring Agency may consider appropriate, will be announced by the Bid respective Evaluation Committee.

23.6 No bid will be rejected at the time of bid openning except for bids whose original bid security has not been provided to the procuring agency before bid submission deadline.

24. Clarification of Bids

24.1 To assist in the examination, evaluation and comparison of Bids of the Bidders, the respective Bid Evaluation Committee may, ask any Bidder for a clarification of its Bid including breakdown of prices.

24.2 The request for clarification and the response shall be sought through EPADS v2.0 before **three days prior to the deadline for submission of bids.** No change in the prices or substance of the Bids shall be sought, offered, or permitted.

24.3 The alteration or modification in the bids which in any way affect the following parameters will be considered as a change in the substance of a Bid:

1. evaluation & qualification criteria;
2. required scope of work or specifications;
3. all securities requirements;
4. tax requirements;
5. terms and conditions of Bidding documents.
6. change in the ranking of the Bidder

24.4 From the time of bid(s) opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bids it should do so through **EPADS v2.0**.

25. Preliminary Examination of Bids

25.1 Prior to the detailed evaluation of Bids, the respective Bid Evaluation Committee will determine whether each Bid:

1. meets the eligibility criteria defined in **ITB 3**;

2. has been prepared as per the format and contents defined by the Procuring Agency in the Bidding documents;

3. is accompanied by the required securities; and

4. is substantially responsive to the requirements of the Bidding documents.

25.2 The respective Bid Evaluation Committee's determination of a Bid's responsiveness will be based on the contents of the Bid itself.

25.3 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one that: -

1. affects in any substantial way the scope, quality, or performance of the Goods;

2. limits in any substantial way, inconsistent with the Bidding documents, the Procuring Agency's rights or the Bidders obligations under the Contract; or

3. if rectified, would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

25.4 If a Bid is not substantially responsive, it will be rejected by the respective Bid Evaluation Committee and may not subsequently be evaluated for complete technical responsiveness.

26. Examination of Terms and Conditions; Technical Evaluation

26.1 The respective Bid Evaluation Committee shall examine the Bids to confirm that all terms and conditions specified in the **GCC** and the **SCC** have been accepted by the Bidder without any material deviation or reservation.

26.2 The respective Bid Evaluation Committee shall evaluate the technical aspects of the Bids submitted, to confirm that all requirements specified in Schedule of Requirements and Technical Specifications of the Bidding documents have been met without material deviation or reservation.

26.3 If after the examination of the terms and conditions and the technical evaluation, the respective Bid Evaluation Committee determines that the Bid is not substantially responsive in accordance with **ITB,** it shall reject the Bid.

27. Correction of Errors

27.1 Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

1. if there is a discrepancy between unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the respective Evaluation Committee there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;

2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and

3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

27.2 The amount stated in the Bid will be adjusted by the respective Bid Evaluation Committee in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bids Securing Declaration may be executed.

28. Conversion to Single Currency

28.1 For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency in accordance with Rule 42(2) of Public Procurement Rules,2026.

29. Evaluation of Bids

29.1 The Bids, quotations, or proposals shall be evaluated by the respective evaluation committees as per evaluation criteria prescribed in the Bidding Documents in accordance with Rule 11, 12 and 13 of the Public Procurement Rules, 2026.

29.2 While evaluating the bids, the procuring agency shall consider the following:

i. Bids will be evaluated on lump sum bid basis or items wise or Lot wise (contracts), as specified in the BDS; and the Bid Price;

ii. correction of arithmetic errors in accordance with ITB 27;

30. Domestic Preference

30.1 The respective Bid Evaluation Committee shall evaluate and compare bids, allow for preference to domestic bidders, while competing with the international bidders in accordance with the policies of the Federal Government.

The percentage of preference, to be accorded shall be clearly mentioned in the bidding documents under the bid evaluation criteria.

31. Determination of Successful Bid

31.1 **Selection technique will be adopted for determining the Successful Bid in accordance with the criteria referred in the BDS or prescribed in the separate section titled as Evaluation Criteria.**

31.2 **Least Cost Based Selection (LCBS)**
After meeting the requirements of eligibility, qualification and substantial responsiveness, the bid in compliance with all the mandatory (technical) specifications/requirements and/or requisite quality threshold (if any), and having lowest evaluated cost (or financial proposal) shall be considered Successful Bid.

31.3 **Quality and Cost Based Selection (QCBS)**
In such combination, there shall be some specific weightage of both the technical features and financial aspects of the proposal. The financial marks shall be awarded on the basis of inverse proportion calculations. The successful bid shall be declared, on the basis of combined evaluation.

31.4 **Quality Based Selection (QBS)**
After meeting the requirements of eligibility, qualification and substantial responsiveness the bid in compliance with all the mandatory (technical) specifications/requirements and attaining highest marks in the Technical Evaluation considering all other qualitative and/or quantitative parameters (or point rated criteria) for technical proposal(s) such as working methodology, implementation plan, resource allocation, additional functionalities, risk

management approach, knowledge transfer techniques, post implementation methodology etc. shall be treated as highest ranked bid. Later on, the financial proposal of highest ranked bidder shall be opened, however, in case of failure to proceed further with such a bidder, the procuring agency may resort to second highest bidder and so on.

31.5 The Procuring Agency may adopt the Quality & Cost Based Selection Technique due to the following two reasons:

1. Where the Procuring Agency knows about the main features, usage and output of the products; however not clear about the complete features, technical specifications and functionalities of the goods to be procured and requires the bidders to submit their proposals defining those features, specifications and functionalities; or

2. Where the Procuring Agency, in addition to the mandatory requirements and mandatory technical specifications, requires parameters specified in Evaluation Criteria to be evaluated while determining the quality of the goods.

31.6 In such cases, the Procuring Agency may allocate certain weightage to these factors as a part of Evaluation Criteria, and may determine the ranking of the bidders on the basis of combined evaluation in accordance with provisions of Rule 2(1)(xxviii) of the Public Procurement Rules, 2026.

32. Abnormally Low Financial Bids

32.1 An abnormally low bid is a bid that, in light of the Procuring Agency's cost estimate, market conditions, or other received bids, appears to be unrealistically low and may not be sustainable for successfull contract execution.

32.2 **Where the Bid price is considered to be abnormally low, the Procuring Agency shall perform price analysis either during determination of Successful Bids or as a part of the post-qualification process.**

32.3 The Procuring Agency may reject an Abnormally low financial bid in accordance with Rule 43 of the Public Procurement Rules, 2026.

32.4 In order to identify the Abnormally Low Bids (ALB) following approaches can be considered to minimize the scope of subjectivity:

1. Comparing the Bid price with the cost estimate;

2. Comparing the Bid price with the Bid(s) offered by other Bidders submitting substantially responsive Bids; and

3. Comparing the Bids price with prices paid in similar contracts in the recent past either government- or development partner-funded.

32.5 The respective Bid Evaluation Committee will determine to its satisfaction whether the Bidder that is selected as having submitted the successful bid is qualified to perform the contract satisfactorily.

32.6 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Procuring Agency deems necessary and appropriate. Factors not included in these Bidding documents shall not be used in the evaluation of the Bidders' qualifications.

32.7 Respective Bid Evaluation Committee may seek "Certificate for Independent Price Determination" from the Bidder and the results of reference checks may be used in determining an award of contract.

Explanation: The Certificate shall be furnished by the Bidder. The Bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.

32.8 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's Bid, in which event the respective Bid Evaluation Committee will proceed to the next ranked Bidder to make a similar determination of that Bidder's capabilities to perform satisfactorily.

F. Award of Contract

33. Criteria of Award

33.1 The Procuring Agency will award the Contract to the Bidder whose Bids has been determined to be substantially responsive to the Bidding documents and who has been declared as Successful Bidder.

34. Negotiations

34.1 In accordance with Rule 52A of Public Procurement Rules, 2026, without changing the cost and scope of work or services, the procuring agency may

negotiate with the successful bidder (with a view to streamline the work or task execution, at the time of contract finalization) on methodology, work plan, staffing and special conditions of the contract.

There shall be no limitation on the successful bidder offering voluntary reduction in bid price without affecting the quality or scope of the procurement.

35. Procuring Agency's Right to reject all bids

35.1 The Procuring Agency reserves the right to reject all bids or proposals at any time prior to the issuance of the Letter of Award, without incurring any liability, in accordance with Rule 45 of the Public Procurement Rules, 2026.

36. Cancellation of Procurement

36.1 The procuring agency reserves the right to cancel the procurement proceedings in accordance with Rule 46 of the Public Procurement Rules, 2026.

37. Procuring Agency’s Right to Vary Quantities at the Time of Award

37.1 The Procuring Agency reserves the right at the time of contract award to increase or decrease the **quantity of** Goods originally specified in these Bidding documents provided this does not exceed **by** 15%, without any change in unit price or other terms and conditions of the Bids and Bidding documents.

38. Notification of Award

38.1 Prior to the award of contract, the procuring agency shall announce and publish the result of bid evaluation on EPADS v2.0 in accordance with Rule 48 of the Public Procurement Rules, 2026.

The Bidder whose Bids has been accepted will be notified of the award by the Procuring Agency prior to expiration of the Bids/Bid Validity period. The Letter of Award will state the sum that the Procuring Agency will pay the successful Bidder in consideration for the delivery of Goods as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

38.2 The Letter of award will constitute the formation of the Contract, subject to the Bidder furnishing the Performance Guarantee and signing of the contract.

39. Signing of Contract

39.1 Promptly after issuance of Letter of award, Procuring Agency shall send the successful Bidder the draft Contract, incorporating all terms and conditions as agreed by the parties to the contract.

39.2 Immediately after the Redressal of grievance by the GRC (if any), and **after fulfillment of all conditions precedent** of the Contract Form, the successful Bidder and the Procuring Agency shall sign the Contract.

40. Corrupt & Fraudulent Practices

40.1 Procuring Agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid engaging in any corrupt and fraudulent practices.

F. Grievance Redressal & Complaint Review Mechanism

41. Constitution of Grievance Redressal Committee

41.1 The Grievance Redressal Committee shall address the grievance, if any submitted by any party, including the bidder, in accordance with Rule 65 of the Public Procurement Rules, 2026 read with Redressal of Grievances Regulations, 2021.

In case if any party or the bidder is not satisfied with the decision of the GRC or if it fails to decide within ten days, the bidder or the party may file an appeal before the Appellate Committee of the Authority in accordance with Rule 65(7) of the Public Procurement Rules, 2026 to be read with Redressal of Grievances Regulations, 2021.

G. Mechanism of Blacklisting

42. Mechanism of Blacklisting

42.1 The Procuring Agency shall initiate blacklisting proceedings against any bidder, supplier, or contractor in accordance with the Rule 25 of the Public Procurement Rules, 2026.

42.2 The blacklisted/debarred bidder may file the review petition before the Authority in accordance with Rule 25 (6) of the Public Procurement Rules, 2026 to be read with Procedure of filing and disposal of Review Petitions Regulations, 2021.

43. Contract Management

43.1 For each procurement, the Procuring Agency shall designate a Contract Manager, who shall be duly responsible for the efficient management and administration of the contract in strict compliance with the provisions set forth under Rules 58, 59, and 60 of the Public Procurement Rules, 2026.

44. Inspection of goods and evaluation of services.

44.1 The Inspection Committee or the Firm shall have the right to conduct inspections of the goods in accordance with Rule 61 of the Public Procurement Rules, 2026.

45. Socio-economic development.

45.1 In accordance with Rule 63 of the Public Procurement Rules, 2026, preference may be granted to small and medium enterprises and marginalized groups in accordance with the policies notified by the Federal Government.

46. Environmental objectives

46.1 As per Rule 64 of the Public Procurement Rules, 2026, the procuring agency may seek to procure goods with a reduced environmental impact throughout their life cycle when compared to goods services with the same primary function that may otherwise be procured.

Bid Data Sheet

Bids Data Sheet (BDS)

The following specific data for the procurement of Goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

BDS Clause Number
ITB Number
Amendments of, and Supplements to, Clauses in the Instruction to Bidders

A. Introduction

BDS Clause Number 1
ITB Number 1.1

Name of Procuring Agency: **Material Management (Peshawar Electric Supply Company (PESCO))**

The subject of procurement is: **MM-50 Procurement of 185,200 Nos Single Phase AMI Smart Energy Meters**

Period for Provision of Goods:

Extension Period (if applicable):

Expected commencement date: **Thursday, December 31, 2026**

BDS Clause Number 2
ITB Number 2.1

Source of funds [Enter source of funds]

Financial year for the operations of the Procuring Agency: **2026-27**

Name and identification number of the Contract: **P202947**

Identification Number:

BDS Clause Number 3
ITB Clause Number 3.1

Eligible Bidder [Enter eligibility of bidder]

JV/Consortium or Association Allowed: **Yes**
Number of JV/Consortium Members: **2**
see section of eligibility criteria.

B. Bidding Documents

BDS Clause Number 4

ITB Clause Number 4.1

Eligible goods and related services [Enter requirements for eligible goods and related services, if any]

ITB Number 8.1

The Bidders may seek clarifications through **EPADS v2.0** : Clarification Date: Saturday, December 12, 2026

ITB Number 8.2

The Bidders may seek clarifications through **EPADS v2.0** : Clarification Date: Saturday, December 12, 2026

ITB Number 8.3

The Bidders may seek clarifications through **EPADS v2.0** : Clarification Date: Saturday, December 12, 2026

ITB Number 8.5

Pre-bid meeting will be/will not be held [Tick the appropriate] If yes write down the time, and date of the pre-Bid meeting:
[The meeting should take place not later than one weeks before the deadline for Bid submission.]

C. Preparation of Bids

BDS Clause Number 5
ITB Number 10.1

The Language of all correspondences and documents related to the Bids shall be in: **English**

List of documents required along with the bid: No

BDS Clause Number 6
ITB Number 11.1

Documents required / not required with bid submission [enter list of documents] Samples required / not required with the bid [Enter the names and number of samples]

Items/Lots and their related documents:

See section items and Lots

BDS Clause Number 7
ITB Number 12.1

Items / Lots Specifications:

see section of items specifications.

BDS Clause Number 8
ITB Number 15.6

The price shall be **Fixed**.

BDS Clause Number 9
ITB Number 16.1

Currency of the Bids shall be : **PKR**

BDS Clause Number 10
ITB Number 17.1

The Bids/Bid Validity period shall be: **120 Days**

BDS Clause Number 11
ITB Number 18.1

The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in **BDS 6**

Instrument of Bid Security shall be in the Name of : **Chief Executive Officer PESCO**

The Bid Security shall be in the form of: **Call at Deposit, Bank Guarantee**

ITB Number 18.2

The address for submission of original bid security is [Insert the address for bid security submission]

D. Submission of Bids

BDS Clause Number 12
ITB Number 20.1

Bid shall be submitted online on EPADS v2.0 whereas hard copy of the bid security should be submitted to the following;

Room # 313, PESCO HQ, Peshawar City, Peshawar (District), Peshawar Division (Division), Khyber Pakhtunkhwa (KP) (Province). before bid submission deadline.

Bids that are not submitted on EPADS v2.0 shall be disqualified.

The deadline for Bids submission is: **Tuesday, December 15, 2026 10:00 AM**

Day *:* ***Tuesday***

Date: ***Tuesday, December 15, 2026***

Time *:* ***10:30 AM***

E. Opening and Evaluation of Bids

BDS Clause Number 13
ITB Number 23.1

The Bids opening shall take place on **EPADS v2.0**.

Day *:* ***Tuesday***

Date: ***Tuesday, December 15, 2026***

Time *:* ***10:30 AM***

ITB Number 29.2

The procuring agency shall consider the following:
lump sum bid basis; or
items wise; or
Lot wise (contracts),

ITB Number 30.1

BDS Clause Number 14
ITB Number 31.1

Domestic Preference [applicable / not applicable]

ITB Number 31.2

Selection technique adopted will be:
The Procuring Agency shall use any of the following evaluation techniques for determination of successful bid.

Least Cost Base Selection (LCBS)
Quality and Cost Based Selection (QCBS)
Quality Based Selection (QBS)
[Insert the Evaluation Technique]

Selection technique adopted will be: **Least Cost Based Selection (LCBS)**
see Evaluation Criteria

F. Review of Procurement Decisions

BDS Clause Number 15
ITB Number 41.1

Grievence against this procurement shall be submitted online on EPADS v2.0.

Arbitrator shall be appointed by mutual consent of the both parties.

ITB Number 42.2

The Address of PPRA Grievance Redressal Appellate Committee to submit a copy of grievance:

Grievance Redressal Appellate Committee,
Public Procurement Regulatory Authority
1st Floor, G-5/2, Islamabad, Pakistan
Tel: +92-51-9202254

Eligibility Criteria

All Active Taxpayers shall be eligible to participate in the procurement process, unless expressly excluded or otherwise restricted under the Eligibility Criteria specified by the Procuring Agency.

Required Registration
None

Eligibility Criteria	Document
The Bidder shall upload valid NTN and GSTN certificates and proof that it is on the FBR Active Taxpayer List on the bid submission date. A foreign Bidder in a JV may submit these documents for its Pakistani JV partner, with an affidavit that it will get registered with FBR (NTN/GSTN) before the contract is signed. A foreign Bidder bidding on its own shall submit an undertaking that it will get registered with FBR (NTN/GSTN) before the contract is signed.	Yes
The bidder must upload a valid prototype approval, issued by the Design & Standards Department of WAPDA, NTDC or PPMC, for the offered item. A bidder that does not hold a prototype approval at the time of bid submission must instead upload an undertaking to provide a valid prototype approval from the Design & Standards Department of PPMC within the delivery schedule, without affecting the delivery.	Yes
Where the Bidder is not the Manufacturer, the Bidder shall upload an original Manufacturer’s Authorization Letter confirming that it is authorized to quote, supply, and provide after-sales support/warranty for the offered product. Where the Bidder is itself the Manufacturer of the offered AMI Smart Energy Meters, it shall instead upload a declaration on its letterhead stating that it is the Manufacturer and that the Manufacturer’s Authorization Letter is therefore not applicable.	Yes

The Bidder/Manufacturer shall furnish evidence of having supplied AMR Meters (Single Phase or Three Phase) to public/private power utilities (National / International) during the last five (5) years, with contract copies and satisfactory performance certificates from end-users	Yes
The goods offered shall originate from an eligible source country; goods originating from a country subject to prohibition or sanction shall not be eligible, and the Bidder shall furnish a Certificate of Origin	Yes
Prices shall be quoted on a DDP (Delivered Duty Paid, Incoterms 2020) basis in Pakistani Rupees, inclusive of all costs required to deliver the Goods unloaded and stacked at the specified consignee stores. The quoted price shall include all taxes, duties, freight, insurance, transportation, inspection, testing, documentation, warranty, after-sales support, and any other charges or contingencies necessary for complete contract execution.	No
The Bidder shall upload a clause-by-clause compliance statement confirming that it meets every requirement of the Technical Specifications. Any deviation from the Technical Specifications shall render the bid non-responsive.	Yes
All payments under the contract shall be made in Pakistani Rupees only, into the Supplier's bank account with a scheduled bank in Pakistan. No payment shall be made in any foreign currency, and no letter of credit shall be opened.	No
The Bidder (and Manufacturer, if different) shall submit a undertaking on letterhead certifying it is not blacklisted or debarred by any government, autonomous body, or international/multilateral agency, in Pakistan or abroad, as on the bid submission date.	Yes
Minimum average annual turnover during the last three (03) audited financial years shall be at least PKR 1000 million. Turnover in foreign currency shall be converted into PKR at the State Bank of Pakistan interbank rate prevailing 28 days prior to the bid submission date. For JV: Combined turnover of all members is acceptable.	Yes

Evaluation Criteria

Eligibile bidder(s) with substantially responsive bid(s) offering **Least Cost Based Selection (LCBS)** shall be consider for the award of contract(s).

Least Cost Based Selection (LCBS)

Weightage

Technical Evaluation %
100

Technical Marks	100
Passing Marks	**60**
Years of Experience in the Supply of AMR / AMI Meters (Any type) (Upload Specific AMR/AMI Contracts / POs / Completion/performance Certificates)	
Years of experience in supply of AMR or AMI meters (Quantitative)(Doc Required) Up to 08 Years and Above **(35)** Up to 07 Years **(30)** Up to 06 Years **(25)** Up to 05 Years **(20)** Up to 04 Years **(15)** Up to 03 Years **(10)** Up to 02 Years **(5)**	35

Aggregated Contract Value (AMR / AMI Meters) during last 10 Years [Purchase Orders / Contracts + corresponding Completion Certificates / Goods Receipt Note (GRNs) / Inspection Certificates (ICs) / Performance Certificates clearly showing value, quantity and date. Foreign currency converted at State Bank of Pakistan Interbank rate on date of contract referring] (Quantitative)(Doc Required) PKR 2,500 million or above **(35)** PKR 2,000 million or above but less than PKR 2,500 million **(25)** PKR 1,500 million or above but less than PKR 2,000 million **(15)** PKR 1,000 million or above but less than PKR 1,500 million **(10)**	35
Financial Soundness [Audited Financial Statements of last three (03) financial years (with Auditor’s Report). For JV: Combined turnover of all members is acceptable.]	
Average Annual Turnover (Last three audited financial years) [Foreign currency converted at State Bank of Pakistan Interbank rate will be 28 days prior to submission of Bids.] (Quantitative)(Doc Required) PKR 3,000 million or above **(25)** PKR 2,500 million to below PKR 3,00 million **(20)** PKR 2,000 million to below PKR 2,500 million **(15)** PKR 1,500 million to below PKR 2,000 million **(10)** PKR 1,000 million to below PKR 1,500 million **(5)**	25
After-sales service setup / regional presence in Pakistan [Lease/ownership of service office, service facility details with address, list of service points in PESCO region/ manufacturer's authorization for after-sales service (foreign bidders)/ after-sales support certificate(s) from clients] (Quantitative)(Doc Required) Service office/centre in PESCO’s jurisdiction (Khyber Pakhtunkhwa) **(5)** Service office/centre elsewhere in Pakistan only **(3)**	5

Items/Lots

Items Without Lots :

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization	Warranty
Single Phase AMI Smart Energy Meters	Remote automatic meter reading system	**Address:** Regional Store PESCO Nowshera, Field Store PESCO, Peshawar, Bannu & Chakdara **Schedule:** 105-150 Days for good manufactured outside Pakistan and 30-150 Days for good manufactured inside Pakistan. Early / Full Delivery will be appreciated [Detail Given in Annexture] **Quantity:** 185200/Qty	185200/Qty	46300000 PKR	Manufacturer Authorization form	24 Months

Related Services of Goods:

No

Items/Lot Specification

Items Without Lots :

Item: Single Phase AMI Smart Energy Meters

UNSPSC: Remote automatic meter reading system

Specifications / Requirementsss:

Single Phase, 2-Wire, 240 V, 10-40 A, 50 Hz AMI Smart Energy Meters of Accuracy Class 1.0 (kWh), with built-in programmable features, remote disconnect/reconnect relay, and a PTA-compliant 4G communication module (backward compatible with 2G) for the remote metering system, along with MDC Software/Driver/HES, as per NTDC/WAPDA Specifications DDS-110:2012, DDS-98:2011 and DDS-65:2003 (all amended to date) and Supply, Installation and Configuration, of the MDC software/ Hardware to meet the performance requirements listed in Item quantities in the Schedule of Prices. [Please refer to the Annexures for the Specifications, Inspection, Testing and Special Terms & Conditions]

Price Schedule

For Individual Items

#	Item Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		

PUBLIC PROCUREMENT REGULATORY AUTHORITY
(PPRA)
EPADS

General Conditions of Contract

A. General

1. Definitions

1.1 Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

a. “Applicable Law” means the laws and any other instruments having the force of law in the Government’s Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;

b. The “Arbitrator” is the person appointed with mutual consent of both the parties, to resolve contractual disputes as provided for in the General Conditions of the Contract GCC Clause 35 hereunder.

c. “Authority” means Public Procurement Regulatory Authority.

d. The “Commencement Date” is the date when the Supplier shall commence execution of the contract as specified in the SCC.

e. “Completion date” means the date of completion of the Contract by the Bidder as certified by the Procuring Agency.

f. “Procuring Agency” means:-

a. any Ministry, Division, Department or any Office of the Government;

b. any authority, corporation, body or organization established by or under a Law or which is owned or controlled by the Government;.

g. “The Contract” means an agreement enforceable by law;

h. “The Contract Price” means the price payable to the Bidder under the Contract for the full and proper performance of its contractual obligations;

i. “Ancillary Services” means those services ancillary to the provision of Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Bidder covered under the Contract;

j. “GCC” means the General Conditions of Contract contained in this section;

k. “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;

l. **“**Day” means calendar day unless indicated otherwise.

m. “Defective Goods” are those goods which are below standards, requirements or specifications stated by the Contract.

n. “Delivery” means the transfer of the goods from the supplier equipment, machinery, and /or other materials which the Supplier is required to supply to the Procuring Agency under Contract.

o. “Effective Date” means the date on which this Contract comes into force and effect.

p. “Force Majeure” means an unforeseeable event which is beyond reasonable control of either Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party, is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of a Party, and which makes a Party’s performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances. and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood, epidemics, or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the Party invoking Force Majeure to prevent), confiscation or any other action by Government agencies.

q. The Bidder” means the individual or corporate body whose Bids to provide the Goods has been accepted by the Procuring Agency;

r. “The Project Site,” where applicable, means the place or places named in Bids Data Sheet and technical Specifications;

s. “Government” means the Government of Pakistan;

t. “Subcontractor” means any entity to which the Bidder subcontracts any part of the Goods.

u. The “Services” means the work to be performed by the Bidder pursuant to this Contract and as prescribed in the Specifications and Schedule of Activities included in the Bidder’s Bids;

v. “Party” means the Procuring Agency or the Bidder, as the case may be, and “Parties” means both of them;

w. “Foreign Currency” means any currency other than the currency of the country of the Procuring Agency;

x. “Completion Date” means the date of completion of the contract by the Bidder as certified by the Procuring Agency;

y. “In Writing” means communicated in written form with proof of receipt;

z. “Local Currency” means the currency of Pakistan;

a. “Origin” means the place where the Goods were mined, grown, or produced or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new produce results that is substantially different in basic characteristics or in purpose or utility from its components.

b. “Specification” means the Specification of the Goods and performance of incidental services in accordance with the relevant standards included in the Contract and any modification or addition made or approved by the Procuring Agency.

c. “Procuring Agency” means: -
any Ministry, Division, Department or any Office of the Federal Government;
any authority, corporation, body or organization established by or under a Federal Law or which is owned or controlled by the Federal Government;

2. Application and Interpretation

2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

2.2 In interpreting these Conditions of Contract headings and marginal notes are used for convenience only and shall not affect their interpretations unless specifically stated; references to singular include the plural and vice versa; and masculine include the feminine. Words have their ordinary meaning under the language of the Contract unless specifically defined.

3. Applicable Law

3.1 The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

4. Governing Language

4.1 The Contract as well as all correspondence and documents relating to the Contract exchanged between the Bidder and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5. Notices

5.1 Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the **SCC**.

6. Standard

6.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, the American Standards (such as ACI, IEEE, ASME, etc.) or the Pakistani standards such as PSQCA Such standards shall be the latest issued by the concerned institution.

7. Delivery/Location

7.1 The Goods shall be delivered to such locations as the Procuring Agency may approve and as specified in SCC.

8. Authorized Representatives / Authority of Member in charge

8.1 Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Bidder may be taken or executed by the officials specified in the **SCC**.

B. Commencement, Completion, Modification, and Termination of Contract

8. Effectiveness of Contract

8.1 This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the SCC.

9. Commencement of the Contract

9.1 The Bidder shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

10. Program

10.1 Before commencement of the Contract, the Bidder shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

11. Starting Date/Expiration Date

11.1 The Bidder shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the **SCC.**

11.2 Unless terminated earlier pursuant to Clause **GCC 16** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.

12. Entire Agreement

12.1 This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

13. Modification

13.1 Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any Bids for modification or variation made by the other Party.

13.2 In cases of any modifications or variations, the prior written consent of the Procuring Agency is required.

14. Force Majeure

14.1 Definition

For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party and which makes a Party's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

14.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

14.3 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure. However, such period shall not exceed sixty (60) days.

14.4 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Bidder shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

15. Termination

15.1 By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Bidder in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

a. If the Bidder fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;

b. If the Bidder becomes (or, if the Bidder consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;

c. If the Bidder fails to comply with any final decision reached as a result of arbitration proceedings;

d. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

e. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

15.2 By the Bidder

The Bidder may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

a. If the Procuring Agency fails to pay any money due to the Bidder pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Bidder that such payment is overdue.

b. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.

c. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration.

d. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Bidder's notice specifying such breach.

C. Obligations of the Bidder

16. General

16.1 Standard of Performance

1. The Bidder shall deliver the product and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Bidder shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties.

16.2 Law Applicable to Goods

The Bidder shall deliver the goods in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

17. Conflict of Interests

17.1 Bidder Not to Benefit from Commissions and Discounts.

The remuneration of the Bidder shall constitute the Bidder's sole remuneration in connection with this Contract or the Services, and the Bidder shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Bidder shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

17.2 Bidder and Affiliates Not to be Otherwise Interested in Project

The Bidder agree that, during the term of this Contract and after its termination, the Bidder and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Goods for any project resulting from or closely related to the Services.

17.3 Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

a. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;

b. during the term of this Contract, neither the Bidder nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;

18. Confidentiality

18.1 Except with the prior written consent of the Procuring Agency, the Bidder and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the contract.

19. Insurance to be Taken Out by the Bidder

19.1 The Bidder(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, loss or damage, and for the coverage, as shall be specified in the SCC; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing

that such insurance has been taken out and maintained and that the current premiums have been paid.

20. Bidder's Actions Requiring Procuring Agency's Prior Approval

20.1 The Bidder shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

(a) appointing such members of the Personnel not provided by the Bidder;

(b) changing the Program of activities; and

(c) any other action that may be specified in the SCC.

21. Reporting Obligations

21.1 The Bidder shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

22. Liquidated Damages

22.1 If the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in **SCC** of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the performance security (or guarantee) specified in **SCC**. Once the said maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to **GCC Clause 16.**

22.2 Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Bidder by adjusting the next payment certificate. The Bidder shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in SCC.

22.3 Lack of performance penalty

If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Bidder. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the SCC.

23. Performance Guarantee

23.1 The Performance Security (or Guarantee) shall be provided to the Procuring Agency no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form acceptable to the Procuring Agency as specified in SCC, and denominated in the types and proportions of the currencies in which the Contract Price is payable as specified in the SCC.

23.2 Within Seven (07) days from the issuance of acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape of ------- at the discretion of the PA in the amount **specified in SCC.** In case the amount of Bids security is equal or greater than

23.3 The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

23.4 The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in SCC.

23.5 The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC.**

23.6 The bid security of the successful bidder shall not be substituted with the Performance Guarantee.

24. Fraud and Corruption

24.1 The Procuring Agency requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

25. Sustainable Procurement

25.1 The Bidder shall conform to the sustainable procurement contractual provisions, if and as specified in the SCC.

D. Bidder's Personnel

26. Description of Personnel

26.1 The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Bidder's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

27. Removal and/or Replacement of Personnel

27.1 Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Bidder, it becomes necessary to replace any of the Key Personnel, the Bidder shall provide as a replacement a person of equivalent or better qualifications.

27.2 If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Bidder shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

27.3 The Bidder shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

28. Assistance and Exemptions

28.1 The Procuring Agency shall use its best efforts to ensure that the Government shall provide the Bidder such assistance and exemptions as specified in the SCC.

29. Change in the Applicable Law

29.1 If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the related Services rendered by the Bidder, then the remuneration and reimbursable expenses otherwise payable to the Bidder under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

30. Services and Facilities

30.1 The Procuring Agency shall make available to the Bidder and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described , at the times and in the manner specified in the SCC or terms of reference.

30.2 In case that such services, facilities and property shall not be made available to the Bidder, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Bidder for the performance of the Services, (ii) the manner in which the Bidder shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Bidder as a result thereof.

F. Payments to the Bidder

31. Contract Price

31.1 The price payable shall be in Pakistani Rupees unless otherwise specified in the SCC. Prices charged by the Supplier for Goods delivered under the Contract shall not vary from the prices quoted by the Supplier in its Bid.

32. Terms and Conditions of Payment

32.1 Payments will be made to the Bidder according to the payment schedule stated in the SCC and as per actual invoice submitted by the Bidder.

32.2 Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Bidder of a bank guarantee for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Bidder have submitted an invoice to the Procuring Agency specifying the amount due.

33. Currency of Payment

33.1 Any payment under this Contract shall be made in the currency(ies) specified in the SCC.

G. Quality Control

34. Identifying Defects

34.1 The principle and modalities of Inspection of the Goods by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Bidder’s performance and notify him of any Defects that are found. Such checking shall not affect the Bidder’s responsibilities. The Procuring Agency may instruct the Bidder to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

35. Correction of Defects, and

Lack of Performance Penalty

35.1 The Procuring Agency shall give notice to the Bidder of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

35.2 Every time notice a Defect is given, the Bidder shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

35.3 If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the Bidder will pay this amount, and a Penalty for Lack of Performance.

36. Taxes and Duties

36.1 A Supplier shall be entirely responsible for all taxes, duties, fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.

H. Settlement of Disputes

37. Alternate Dispute Resolution

37.1 Upon the commencement of the Procurement Contract, any disputes arising between the contracting parties shall be resolved in accordance with Rule 66 of the Public Procurement Rules, 2026.

37.2 The procuring agency may refer the matter to the Chief Justice Islamabad High Court or Managing Director PPRA or the Secretary Ministry of Law & Justice for appointment of Arbitrator.

37.3 The fee for the Arbitrator shall be specified in Pak Rupees as determined by the appointing authority which shall be borne and shared equally by the contracting parties.

38. Change Orders

The Procuring Agency may at any time, by a written order given to the Supplier, make changes within the general scope of the Contract in any one or more of the following:

a)Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring Agency;
b)The method of shipment or packing;
c)The place of delivery; and/or
d)The Services to be provided by the Supplier.

39. Contract Amendenments

39.1 Subject to GCC Clause 32, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

40. Sub-Contracts

40.1 The Supplier shall consult the Procuring Agency in the event of subcontracting under this contract if not already specified in the Bid. Subcontracting shall not alter the Supplier's obligations.

Special Conditions of Contract

SECTION VIII. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

Number of GC Clause

Amendments of, and Supplements to, Clauses in the General Conditions of Contract

Number of GC Clause 1

Definitions

The Procuring Agency is: **Material Management (Peshawar Electric Supply Company (PESCO)), Assistant Room # 313, PESCO HQ, Peshawar City, Peshawar (District), Peshawar Division (Division), Khyber Pakhtunkhwa (KP) (Province).**

The Supplier is:

The title of the subject procurement is: **MM-50 Procurement of 185,200 Nos Single Phase AMI Smart Energy Meters**

Number of GC Clause 3

Applicable/Governing Law:

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

Number of GC Clause 4

Language:

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English.**

Number of GC Clause 5

Notices:

The addresses for the notices are:

The Authority:

Material Management (Peshawar Electric Supply Company (PESCO)), Assistant
Room # 313, PESCO HQ, Peshawar City, Peshawar (District), Peshawar Division (Division), Khyber Pakhtunkhwa (KP) (Province).
+92-919-211-994
dm.mm@pesco.com.pk

Contractor/ Bidder:

[Name, address and telephone number].

The Contractor/ Bidder's Representative(s)

[Name, address, telephone number and e-mail address]

Number of GC Clause 7.1

The Authorized Representatives are:

For the Procuring Agency:

Material Management (Peshawar Electric Supply Company (PESCO)), Assistant
Room # 313, PESCO HQ, Peshawar City, Peshawar (District), Peshawar Division (Division), Khyber Pakhtunkhwa (KP) (Province).
+92-919-211-994
dm.mm@pesco.com.pk

For the Bidder:

Name: ……

Designation: ……..

Address: ……..

Number of GC Clause 8

Effectiveness of the contract

Number of GC Clause 9

Commencement of Contract:

Number of GC Clause 11.2

Expiration of Contract:

Number of GC Clause 15

Termination

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Goods till the time of alternate arrangements.

Number of GC Clause 17

Conflict of Interest:

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing goods or services due to a conflict of a nature described in Clause GCC 17**.**

Number of GC Clause 22

Liquidated Damages

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.07%** to **10.00%** of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

Number of GC Clause 23

Performance Guarantee:

Instrument of Performance Guarantee shall be in the Name of : **Chief Executive Officer PESCO**

The amount of performance guarantee shall be **5.00%** of the contract price in acceptable form of **Call at Deposit, Bank Guarantee**

Number of GC Clause 32

Payment terms:

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

Number of GC Clause 33

Currency of Payment:

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

Number of GC Clause 34

Identifying Defects:

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

Inspections & Tests Requirements

The goods shall undergo inspection and testing at the Manufacturer’s premises before dispatch by three (03) inspectors: one authorized representative of Peshawar Electric Supply Company (PESCO) and (02) authorized representative of the Power Planning & Monitoring Company (PPMC) / incompliance with Rule 61 of PPRA Rules 2026

Inspection and testing shall follow the Technical Specifications and the applicable standards in this bidding document. The Supplier shall provide all testing equipment, instruments, labour and facilities free of cost.

For goods manufactured outside Pakistan, the Supplier shall submit the inspection call for at least the first 60,000 Nos. of the contracted quantity within forty-five (45) calendar days, and for the remaining 125,200 Nos. within ninety (90) calendar days, from the date of issuance of the P.O. A quantity greater than 60,000 Nos. may be offered in the first call, with the excess adjusted against the remaining quantity. Earlier inspection calls are encouraged.

For goods manufactured in Pakistan, the Supplier shall submit a separate inspection call for each consignment at least fifteen (15) calendar days before that consignment's due delivery date.

The inspection call shall give the lot and consignment number, the quantity offered, the place of inspection, the proposed inspection dates, and a copy of the Manufacturer's internal routine test reports.

If the inspection call is submitted late, the delay shall be attributed to the Supplier. The Supplier shall not be entitled to any extension in the delivery period.

The delivery date shall be taken as the date of delivery of the stores to the designated PESCO consignee store, subject to all of the following conditions:

(a) the Supplier/Manufacturer offers the material for inspection at least fifteen (15) days before the due delivery date for goods manufactured in Pakistan, and at least sixty (60) days before the due delivery date for goods manufactured outside Pakistan;

(b) the offer is not rejected as a fake call, i.e. material not ready for inspection, or because the material does not conform to the specifications; and

(c) the goods accepted for supply are delivered to the designated consignee store within fifteen (15) days from the date of issuance of the Inspection Certificate for goods manufactured in Pakistan, or within sixty (60) days from the date of issuance of the Inspection Certificate for goods manufactured outside Pakistan

If any of the above conditions is not met, the date of the Goods Received Note (GRN) at the consignee store shall be taken as the Delivery Date, and liquidated damages shall be calculated accordingly.

For foreign inspection, the Supplier shall bear the entire cost, including but not limited to visa processing fees and related formalities, return economy-class air tickets, hotel accommodation of reasonable standard, local transportation between the hotel, the factory and the airport, and a travelling/daily allowance of USD 150 (One Hundred Fifty US Dollars) per day, per inspector, for the entire duration of the visit including travel days.

For inspection in Pakistan, the Purchaser shall bear the cost of the inspectors' travel, daily allowance and stay for the first inspection of each consignment. The Supplier shall bear the cost of all routine and acceptance tests, and the entire cost of any re-inspection.

All inspection and testing costs payable by the Supplier shall be deemed included in the quoted bid price. No separate claim shall be entertained.

The Inspection Certificate issued by the authorized PESCO/PPMC representative permits dispatch only. It shall not relieve the Supplier of its warranty obligations or of liability for latent defects, and it shall not stop the Purchaser from rejecting goods found defective or non-conforming on receipt at the stores.

Any test that cannot be performed at the Manufacturer's premises shall be performed at an independent accredited laboratory approved by the Purchaser, at the Supplier's cost.

Delivery & Documents

Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;

Original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;

Copies of the packing list identifying contents of each package;

Insurance Certificate;

Manufacturer's or Supplier's Valid Warranty Certificate;

Inspection Certificate issued by the Nominated Inspection Agency (if any), and the Supplier's Factory Inspection Report;

Certificate of Origin.

The above documents would be required even if the equipment has already been imported and is available with the supplier ex-stock

Number of GC Clause 37

Following is the guidance for Dispute Resolution

(a) For Contracts to be entered with foreign Contractor/ Service Provider:

All disputes arising in connection with the present Contract shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with said Rules.

(b) For Contracts to be entered with nationals of Pakistan:

i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard.

ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties.

iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration in accordance with GCC clause 38.

iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer's fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute.
v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies due to the Bidder.

Rules of procedure for arbitration proceedings:

Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall

prevail in referring the case to the Arbitrator.

Place of Arbitration and Award:

The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad. The award of the arbitrator shall be final and shall be binding on the parties.

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

Bid Securing Declaration

Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.:***P202947***

Alternative No.: **[insert identification No if this is a Bid for an alternative]**

To: **Material Management (Peshawar Electric Supply Company (PESCO)), Assistant Room # 313, PESCO HQ, Peshawar City, Peshawar (District), Peshawar Division (Division), Khyber Pakhtunkhwa (KP) (Province).**

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid Securing Declaration.

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;

2. Disagreement to arithmetical correction made to the Bid price; or

3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.

Signed: [insert signature of person whose name and capacity are shown] In the capacity of
[insert legal capacity of person signing the Bid Securing Declaration]

Name: [insert complete name of person signing the Bid Securing Declaration]

Duly authorized to sign the Bid for and on behalf of: [insert complete name of Bidder]

Dated on day of , [insert date of signing]
Corporate Seal (where appropriate)

Contract Form

SECTION IX: CONTRACT FORMS

THIS AGREEMENT made the _____ day of _____ 20_____ between **Material Management (Peshawar Electric Supply Company (PESCO)), Assistant Room # 313, PESCO HQ, Peshawar City, Peshawar (District), Peshawar Division (Division), Khyber Pakhtunkhwa (KP) (Province).**

(hereinafter called "the Procuring Agency") of the one part and *[name of Bidder]* of *[city and country of Bidder]* (hereinafter called "the Bidder") of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **MM-50 Procurement of 185,200 Nos Single Phase AMI Smart Energy Meters (*P202947*)** and has accepted a Bids by the Bidder for the provision of Goods in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency's Letter of Acceptance; and
8. [*add here: any other documents*]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the

provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Contract to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by _____the _____ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

……

Signed, sealed, delivered by _____the _____ (for the Procuring Agency)

Witness to the signatures of the Bidder: ……

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

Integrity Pact

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BYTHE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract Number: Contract Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Performance Guarantee Form

Performance Guarantee Form

To: **Material Management (Peshawar Electric Supply Company (PESCO)), Assistant Room # 313, PESCO HQ, Peshawar City, Peshawar (District), Peshawar Division (Division), Khyber Pakhtunkhwa (KP) (Province).**

WHEREAS *[name of Bidder]* (hereinafter called "the Bidder") has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Goods*(*hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

Signature and seal of the Guarantors

_____

[name of bank or financial institution]

_____

[address]

_____

[date}

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

Annexure

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

Bidder Information Form

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Bidder Information Form** (page number: 75)

Bidder JV member Form

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Bidder JV member Form** (page number: 76)

Bidder's Experience Form

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Bidder's Experience Form** (page number: 77)

Price Schedule Form

Financial Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Price Schedule Form** (page number: 78)

Form of Technical Proposal

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Form of Technical Proposal** (page number: 80)

Form of Financial Proposal

Financial Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Form of Financial Proposal** (page number: 82)

Bid Security Form

Information (Read-Only)

See Form Under Additional Forms and Documents: **Bid Security Form** (page number: 84)

Declaration of Beneficial Ownership Form

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Declaration of Beneficial Ownership Form** (page number: 86)

DDS 65 2003

Information (Read-Only)

See Form Under Additional Forms and Documents: **DDS 65 2003** (page number: 88)

DDS 98 2011

Information (Read-Only)

See Form Under Additional Forms and Documents: **DDS 98 2011** (page number: 131)

DDS 110 2012

Information (Read-Only)

See Form Under Additional Forms and Documents: **DDS 110 2012** (page number: 143)

Delivery Terms and Conditions

Information (Read-Only)

See Form Under Additional Forms and Documents: **Delivery Terms and Conditions** (page number: 169)

INSPECTION, TESTING, SPECIAL TERMS & CONDITIONS

Information (Read-Only)

See Form Under Additional Forms and Documents: **INSPECTION, TESTING, SPECIAL TERMS & CONDITIONS** (page number: 171)

Procurement Forms

PUBLIC PROCUREMENT REGULATORY AUTHORITY
(PPRA)
EPADS

PUBLIC PROCUREMENT REGULATORY AUTHORITY
(PPRA)
EPADS

Additional Forms and Documents

FORM 1: BIDDER INFORMATION FORM

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: _____.

Tender No.: _____.

Page_____of_____pages

1. Bidder's Name *[**M/s.** _____]*
2. In case of JV, legal name of each member: *[_____ _____]*
3. Bidder's actual or intended country of registration: *[_____]*
4. Bidder's year of registration: *[_____]*
5. Bidder's Address in country of registration: *[_____ _____]*
6. Bidder's Authorized Representative Information Name: *[_____]* Address: *[_____]* Telephone/Fax numbers: *[_____]* Email Address: *[_____]*
7. Attached are copies of original documents of *[check the box(es) of the attached original documents]* ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above. ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 3.4. ☐ Establishing that the Bidder is not under the supervision of the Procuring Agency

Stamp & Signature of Bidder

FORM 2: BIDDER'S JV MEMBERS INFORMATION FORM (*If applicable*)

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture].

Date: _____.

Tender No.: _____.

Page_____of_____pages

1. Bidder's Name: *[_____]*
2. Bidder's JV Member's name: *[_____]*
3. Bidder's JV Member's country of registration: [_____*]*
4. Bidder's JV Member's year of registration: *[_____]*
5. Bidder's JV Member's legal address in country of registration: *[_____ _____]*
6. Bidder's JV Member's authorized representative information Name: *[_____]* Address: *[_____]* Telephone/Fax numbers: *[_____]* Email Address: *[_____]*
7. Attached are copies of original documents of *[check the box(es) of the attached original documents]* ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4.

Stamp & Signature of Bidder

FORM 5: BIDDER'S EXPERIENCE FORM

Date: _____.

Tender No.: _____.

Sr. No.	*Client Name, Address, Phone No. & Email.*	*Item*	*Quantity*	*Amount (PKR) (W/O GST)*	*Year*	*Copies of Agreement / P.O*

Note:

The above information must be provided by each member of JV / Consortium. (if applicable)

Stamp & Signature of Bidder

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

FORM 4: PRICE SCHEDULE FORM

Delivered Duty Paid (DDP, Incoterms 2020) – Prices in Pakistani Rupees (PKR) only

Date: _____ Tender No.: _____ Bidder's Name: _____ Page _____ of _____

Bidder Category (tick): ☐ A – Pakistani OEM ☐ B – International manufacturer ☐ C – Foreign manufacturer through Authorized Pakistani Partner
Manufacturer: _____ Country of origin: _____

1	2	3	4	5	6	7	8
Lot	Description of Goods	Quantity and physical unit	Manufacturer and country of origin	Unit price on **DDP** basis (excluding GST) in **PKR**	Total price on **DDP** basis (excluding GST) in **PKR** (3 × 5)	GST (As applicable) **in PKR** (6 × rate)	Total **DDP** price including GST in **PKR** (6 + 7)
Lot 1	Single Phase AMI Smart Energy Meters [2-Wire, 240 V, 10-40 A, 50 Hz AMI Smart Energy Meters of Accuracy Class 1.0 (kWh), with built-in programmable features, remote disconnect/reconnect relay, and a PTA-compliant 4G communication module (backward compatible with 2G) for the remote metering system, along with MDC Software/Driver/HES, as per NTDC/WAPDA Specifications DDS-110:2012, DDS-98:2011 and DDS-65:2003 (all amended to date) and Supply, Installation and Configuration, of the MDC software/ Hardware to meet the performance requirements listed in Item quantities in the Schedule of Prices]	185,200 Nos					

Total DDP price including GST, in words (PKR): _____ only

Important Note: Bidders are advised to enter the total DDP price including GST in the price field on E-PADS.

Instructions

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(1) The prices quoted are on a **DDP (Delivered Duty Paid, Incoterms 2020)** basis at the PESCO consignee stores, and are **inclusive of all costs, duties, taxes, transportation, insurance and delivery charges**, including ex-works price, packing, international freight and insurance, customs duties, regulatory and additional duties, all taxes and withholdings, port and clearing charges, inland transport, unloading and stacking, prototype development, type and acceptance testing, joint inspection facilities, warranty (including any extended warranty) and after-sales support.

(2) All prices, and all payments under the contract, are in **Pakistani Rupees (PKR) only**. Prices quoted in any other currency shall be rejected. Prices are **firm and fixed**; no adjustment shall be admissible for any change in exchange rate, freight, insurance, duties, taxes or the cost of materials after bid submission.

(3) Column 7 (GST) is shown so that the tax content of the price is transparent. The **Total DDP price including GST (column 8)** is the price payable by the Purchaser and is the price evaluated. No additional payment shall be made for any duty, tax or charge not shown here.

(4) Where the Goods are imported, the Bidder (or its Authorized Pakistani Partner) is the importer of record and shall pay all import duties and taxes and complete customs clearance at its own cost. Payment shall be made to the Bidder's account with a scheduled bank in Pakistan.

We confirm that the above prices are on a DDP basis, inclusive of all costs, duties, taxes, transportation, insurance and delivery charges, are quoted in PKR only, and shall remain valid for 120 days from the bid opening date.

Name _____

Duly authorized to sign the Bid for and on behalf of _____

In the Capacity of _____

Stamp & Signature of Bidder _____

Dated on _____

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LETTER OF BID – TECHNICAL PROPOSAL

Date: _____.

Tender No.: _____.

Name of Project: _____.

To: ***Manager Material Management PESCO.***

We, the undersigned Bidder, hereby submit our Bid, in two parts, namely:

(a) the Technical Proposal, and
(b) the Financial Proposal.

In submitting our Bid, we make the following declarations:

(a) **No reservations:** We have examined and have no reservations to the bidding document, including addenda issued in accordance with Instructions to Bidders (ITB 9);
(b) **Eligibility**: We meet the eligibility requirements and have no conflict of interest in accordance with ITB 3;
(c) **Bid/Proposal-Securing Declaration**: We have not been suspended nor declared ineligible by the Procuring Agency based on execution of a Bid Securing Declaration or Proposal Securing Declaration in the Procuring Agency's country in accordance with ITB 4;
(d) **Conformity:** We offer to supply in conformity with the bidding document and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods: [*insert a brief description of the Goods and Related Services*_____];
(e) **Bid Validity Period**: Our Bid shall be valid for the period specified in BDS 17.1 (as amended, if applicable) from the date fixed for the Bid submission deadline specified in BDS 23.1 (as amended, if applicable), and it shall remain binding upon us, and may be accepted at any time before the expiration of that period;
(f) **Performance Security**: If our Bid is accepted, we commit to obtain a performance security in accordance with the bidding document;
(g) **One Bid per Bidder**: We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other bid(s) as a Joint Venture member or as a subcontractor, and meet the requirements, other than Alternative Bids submitted in accordance with ITB 19;
(h) **Suspension and Debarment**: We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Procuring Agency. Further, we are not ineligible under Pakistan laws;
(i) **State-owned enterprise or institution**: [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of];*

(j) **Binding Contract**: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

(k) **Not Bound to Accept**: We understand that you are not bound to accept the Most Advantageous Bid or any other Bid that you may receive; and

(l) **Fraud and Corruption**: We hereby certify that we have taken steps to ensure that no person acting for us, or on our behalf, engages in any type of Fraud and Corruption.

Name of the Bidder: [_____]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: [_____]

Title of the person signing the Bid: [_____]

Signature of the person named above: [_____]

Date signed [_____/_____/20_____]

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

LETTER OF BID - FINANCIAL PROPOSAL

Date: _____.

Tender No.: _____.

Name of Project: _____.

To: ***Manager Material Management PESCO.***

We, the undersigned Bidder, hereby submit the second part of our Bid, the Financial Proposal

In submitting our Financial Proposal, we make the following additional declarations:

(a) **Bid Validity Period**: Our Bid shall be valid for the period specified in BDS 17.1 (as amended, if applicable) from the date fixed for the bid submission deadline specified in BDS 23.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) **Total Price:** The total price of our Bid, excluding any discounts offered in item (c) below is:

In case of only one lot, the total price of the Bid is [*PKR.* _____ *in words:* _____];

In case of multiple lots, the total price of each lot is [*PKR.* _____ *in words:* _____];

In case of multiple lots, total price of all lots (sum of all lots) [*PKR.* _____ *in words:* _____];

(c) **Discounts:** The discounts offered and the methodology for their application are:

(i) The discounts offered are: [*Specify in detail each discount offered*_____]

(ii) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*_____];

(d) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity*].

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

(e) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed.

Name of the Bidder: [_____]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: [_____]

Title of the person signing the Bid: [_____]

Signature of the person named above: [_____]

Date signed [_____/_____/20_____.]

FORM 8: BID SECURITY FORM (Bank Guarantee)

(Original Bid Security Instrument MUST be submitted in the office of Manager (MM) PESCO before the online submission deadline of the bid, otherwise respective bid shall not be opened)

[insert Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: Chief Executive Officer PESCO

Tender No._____

Amount (PKR): _____ (in words _____)

Issue Date: _____.

Expiry Date: _____.

BID SECURITY No.: _____.

We have been informed that ***[insert name of the Bidder]*** (hereinafter called "the Bidder") has submitted to you its bid dated ***[insert date]*** (hereinafter called "the Bid") for the execution of ***[insert name of contract]*** under Notice for Invitation of Tender No***. [insert NIT number]***

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we ***[insert name of Bank]*** hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ***[insert amount in figures] [insert amount in words]*** upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

(a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or

(b) having been notified of the acceptance of its Bid by the *Purchaser* during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.

(c) does not accept the corrections of errors in accordance with ITB.

This guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; and (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy your notification to the Bidder of the name of the successful Bidder; or (ii) **twenty eight (28) days** after the expiration of the Bidder's bid.

Consequently, we must receive any demand for payment under this guarantee at the office on or before that date.

Name _____

In the capacity of _____

Duly authorized to sign the Bid Security for and on behalf of _____

Signed _____

Date _____

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

DECLARATION OF BENEFICIAL OWNERSHIP FORM

(AS PER PPRA REGULATION No.1(1)/PPRA Scctt./PPRA/2022 DATED. 02.06.2022)
(FOR CONTRACT WORTH Rs. 50 MILLION AND ABOVE)

Declaration of Ultimate Beneficial Owners Information for Public Procurement Contracts.

1. Name: _____
2. Father's Name / Spouse's Name: _____
3. CNIC / NICOP / Passport No.: _____
4. Nationality: _____
5. Residential Address: _____
6. Email Address: _____
7. Date on which shareholding control or interest acquired in the business: _____
8. In case of indirect shareholding control or interest being exercised through intermediary companies, entries or other legal persons or legal arrangements in the chain of ownership or control following additional particulars to be provided:

1	2	3	4	5	6	7	8	9	10
Name	Legal form (company)/ limited liability partnership / association of persons / Single Member company / partnership firm / trust any other individual body corporate (to be specified)	Date of incorporation / registration	Name of registering authority	Business Address	Country	Email Address	Percentage of shareholding control or interest of BO in the legal person or legal arrangement	Percentage of shareholding control or interest of legal person or legal arrangement in the company	Identity of natural person who ultimately owns or controls the legal person or arrangement

9. Information about the Board of Directors (Details shall be provided regarding number of shares in the capital of the company as set opposite respective names).

Part-II The Gazette of Pakistan Extra

1	2	3	4	5	6	7	8
Name and Surname (in Block Letters)	CNIC No. (in case of foreigner passport No)	Father's / Husband's name in full	Current Nationality	Any other Nationality (ies)	Occupation	Residential address in full of the registered / principal office address for a subscriber other than natural person	Number of shares taken by cash subscriber (in figures and words)

10. Any other information incidental to or relevant to Beneficial owner(s)

Name and signature [_____] [_____]
(Person authorized to issue notice on behalf of the company)

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

PAKISTAN
WATER AND POWER
DEVELOPMENT AUTHORITY

SPECIFICATION NO. DD-S-65 :03

Static Single-Phase , 2-wire Energy Meter with Multi-Rate Tariff Optional (Class 1)

WAPDA

DISTRIBUTION & STANDARD DEPARTMENT, LAHORE.

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SPECIFICATION
DD-S-65:2003

STATIC SINGLE PHASE 2 WIRE ENERGY METERS with MULTI-RATE TARIFF OPTIONAL

0 FOREWORD

0.1 This Specification has been prepared by the Standard, Directorate of Distribution Engg. Department of WAPDA.

0.2 This Specification is intended for the purpose of technical specification only for the procurement of material and does not include provisions of contract, unless otherwise provided in the contract.

0.3 This Specification is subject to revision as and when required.

1.0 SCOPE

1.1 The Specification covers total static single phase 2 wire energy meters accuracy class 1.0 and insulating encased protective class II, capable of measuring kWh alongwith other quantities and built-in programmable features mentioned in this specification. The meter shall record and display all these quantities mentioned in the specification hereunder:

1.2 This Specification covers:

1) Static single phase 2 wire, 240V, 10(40) Amp 50 Hz, accuracy class 1.0 – energy meters.
2) As above with additional Multi-Rate Tariff function.

2. REFERENCE STANDARDS

The Reference Standards are listed and provided in Annex – I.

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3.0 DEFINITIONS

3.1 STATIC WATT-HOUR METER

Meter in which current and voltage act on solid state (electronic) elements to produce an output proportional to watt-hour.

3.2 MEASURING ELEMENT

Part of the meter which produces an output proportional to the energy.

3.3. TEST OUTPUT

Device which can be used for testing the meter.

3.4 OPERATION INDICATOR

Device which gives a visible signal of the operation of the meter.

3.5 MEMORY

Element which stores digital information.

3.6 NON-VOLATILE MEMORY

Memory which can retain information in the absence of power.

3.7 DISPLAY

Device which displays the content(s) of (a) memory (ies)

3.8 REGISTER

Electronic Device operating both memory and display which stores and displays information.

3.9 CURRENT CIRCUIT

Internal connection of the meter and part of the measuring element through which flows the current of the circuit which the meter is connected.

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3.10 VOLTAGE CIRCUIT

Internal connection of the meter part of the measuring element and power supply for the meter supplied with the voltage of the circuit to which the meter is connected.

3.11 AUXILIARY CIRCUIT

Elements (lamps, contacts, etc.) and connections of an auxiliary device within the meter case intended to be connected to an external device, for example clock, relay, impulse counter.

3.12 CONSTANT

Value expressing the relation between the energy registered by the meter and the corresponding value of the test output. If this value is a number of pulses, the constant should be either pulses per kilowatt-hour (imp/kWh) or watt hours per pulse (Wh/imp).

3.13 INDOOR METER

Meter which can only be used with additional protection against environmental influences (mounted in a house, in a cabinet)

3.14 OUTDOOR METER

Meter which can be used without additional protection in an exposed environment.

3.15 BASE

Back of the meter by which it is generally fixed and to which are attached the measuring element, the terminals or the terminal block, and the cover.

3.16 COVER

Enclosure on the front of the meter, made either wholly of transparent material or opaque material provided with window(s) through which the operation indicator (if fitted) and the display can be read.

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3.17 CASE

Comprises the base and the cover.

3.18 PROTECTIVE EARTH TERMINALS

Terminal connected to accessible conductive parts of the meter for safety purposes.

3.19 TERMINAL BLOCK

Support made of insulating material on which all or some of the terminals of the meter are grouped together.

3.20 TERMINAL COVER

Cover which covers the meter terminals and generally, the ends of the external wires or cables connected to the terminals.

3.21 CLEARANCE

Shortest distance measured in air between two conductive parts.

3.22 CREEP DISTANCE

Shortest distance measured over the surface of insulation between two conductive parts.

3.23 BASIC INSULATION

Insulation applied to live parts to provide basic protection against electric shock.

3.24 BASIC CURRENT (Ib)

Value of current in accordance with which the relevant performance of the meter is fixed.

3.25 MAXIMUM CURRENT (Imax)

Highest value of current at which the meter purports to meet the accuracy requirements of this standard.

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3.26 REFERENCE VOLTAGE (Un)

Value of the voltage in accordance with which the relevant performance of the meter is fixed.

3.27 REFERENCE FREQUENCY

Value of the frequency in accordance with the relevant performance of the meter is fixed.

3.28 PERCENTAGE ERROR

Percentage error is given by the following formula :

$$\text{Percentage error} = \frac{\text{Energy registered by the meter} - \text{True Energy}}{\text{True Energy}} \times 100$$

Since the true value cannot be determined, it is approximated by a value with a stated uncertainty that can be traced to standards agreed upon between manufacturer and user or to national standards.

3.29 REFERENCE CONDITIONS

Appropriate set of influence quantities and performance characteristics, with reference values, their tolerances and reference ranges, with respect to which the intrinsic error is specified.

3.30 ELECTROMAGNETIC DISTURBANCE

Conducted or radiated electromagnetic interference which may effect functionally or meteorologically the operation of the meter.

3.31 RATED OPERATING CONDITIONS

Set of specified measuring ranges for performance characteristics and specified operating ranges for influence quantities, within which the variations of operating errors of a meter are specified and determined.

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3.32 SPECIFIED OPERATING RANGE

Range of values of a Single influence quantity which forms a part of the rated operating conditions.

3.33 LIMIT RANGE OF OPERATION

Extreme conditions which an operating meter can withstand without damage and without degradation of its metrogical characteristics when it is subsequently operated under its rated operating conditions.

3.34 STORAGE AND TRANSPORT CONDITIONS

Extreme conditions which a non-operating meter can withstand without damage and without degradation of its meteoric

3.35 NORMAL WORKING POSITION

Position of the meter defined by the manufacturer for normal service.

3.36 THERMAL STABILITY

Thermal stability is considered to be reached when the change in error as a consequence of thermal effects during 20 min. is less than 0.1 times the maximum permissible error for the measurement under consideration.

4. PERFORMANCE STANDARDS

4.1	i.	Reference Temperature	23 Degree C
	ii.	Reference Frequency	50 Hz
	iii.	Reference voltages	240 V

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4.2 SERVICE CONDITIONS

4.2.1 Temperature Range

Specified Operating Range	-25 C to 60 C
Limit Range of Operation (extreme condition)	-25 C to 80 C
Limit Range for Storage and Transport	-25 C to 80 C

4.2.4 Relative humidity may range upto 95% non-condensing.

4.2.5 Altitude: Upto 1000 meter above sea level.

5. MECHANICAL REQUIREMENTS

5.1 GENERAL MECHANICAL REQUIREMENTS

Meters shall be designed and constructed for Outdoor use in such a way as to avoid introducing any danger in normal use and under normal conditions, so as to ensure especially:-

- Personal safety against electric shock.
- Personal safety against effects of excessive temperature.
- Protection against spread of fire.
- Protection against penetration of solid objects.
- Protection against Dust and Water.

All parts which are subject to corrosion under normal working conditions shall be protected effectively. Any protective coating shall not be liable to damage by ordinary handling nor damage due to exposure to air, under normal working conditions. Meters shall withstand solar radiation test.

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5.2 The electrical connections in the meter shall be resistant to tampering. These shall be made so as to prevent their opening from outside the meter base/cover accidentally or deliberately without breaking the seals.

5.3 CASE

5.3.1 The meter shall have a reasonably dust proof and moisture proof case which can be sealed in such a way that the internal parts of the meter are accessible only after breaking the seals. The meter shall comply with the dust proof and water proof requirements of IEC-60529 amended to date.

5.3.2 Meter Cover

The cover of meter shall either be made of clear or opaque shatter proof ultra violet stabilized polycarbonate material. In case of Clear polycarbonate material the electronics of the meter shall be protected with a shield inside the Meter Cover made of a suitable opaque material to protect the electronics from extreme environmental/especially solar radiation conditions.

5.3.3 Meter Base

The base of the meter shall be made of strong insulating material.

5.3.4 Meter Security Box

The meter is to be supplied in a transparent Polycarbonate Meter Security box. Meter Security Box shall be designed incorporating the following requirements:

i) Thickness of Polycarbonate shall be 2 mm minimum
ii) Continuous Ultrasonic welding shall be provided at the points of contact between Upper and Lower parts and the Meter Cover. The Meter Cover maybe integrated with the Upper part of the Meter Security Box.
iii) The Terminal Strip once inserted cannot be pulled back.
iv) The Terminal Strip once fully inserted should be flush with side wall.
v) Terminal Strip in fully inserted position should cover the Terminal hole opening completely and it shall not be possible to pull it back for all practical purposes.

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vi) Provision should be made to avoid accidental insertion of Terminal Strip before installation.

vii) The Meter Box shall be supplied with Rag Bolts along with nut and washer.

5.4 TERMINALS – TERMINAL BLOCK

5.4.1 The terminals shall be grouped in a terminal block having adequate insulating properties and mechanical strength. The material (Bakelite or similar material) of which the terminal block is made shall be capable of passing the tests given in ISO Standard 75 for a temperature of 135 Deg. C and glow wire test of 960 Degree C.

5.4.2 Arrangements may be provided to prevent the exit of terminal block by force from outside without opening the meter cover.

5.4.3 The terminal shall be pressure plate type to permit the connection of both solid and stranded aluminum conductor of diameter 7 mm to a depth of at least 20 mm without being directly bitten by the screws used for fixing the conductors. The terminals in which screws bite directly into the conductor shall not be acceptable.

5.4.4 The moving parts of the terminals including screws shall be made of brass having minimum electrical conductivity of 65% of copper. The fixed part of terminal i.e. pressure plate shall be made of copper having a thickness of 2.4 mm and minimum electrical conductivity of 99.99 % of stranded copper.

5.4.5 The terminals shall be Tin or Nickel plated. In case of Tin plating the thickness shall be 20 microns on all parts except threaded portions on which it shall be min 10 microns. In case of Nickel plating the coating thickness shall be 10 microns on all parts except the threaded portion on which it shall be min 7 microns.

5.5 EARTHING CONNECTION ARRANGEMENT

As the base is of insulating material, the common ground of the main PCB shall be internally connected to the neutral point of the terminal block.

5.6 PROTECTION AGAINST HEAT, FIRE, PENETRATION OF DUST & WATER, SOLAR RADIATION.

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The complete meter i.e. case terminal block shall meet the requirements of clauses 5.7 & 5.8 of IEC 62052-11. For protection against penetration of dust & water the meter shall be IP54 compliant.

6. ELECTRICAL REQUIREMENTS

6.1 STANDARD RATINGS

Basic/max. Current	10/40 Amp
Reference Voltage	240 V
Reference Frequency	50 Hz
Accuracy Class	1.0
Meter Type	Static Single Phase 2 Wire 240V, 10(40) Amp 50 Hz, Accuracy Class 1.0 – Energy Meters.

6.2 OTHER ELECTRICAL REQUIREMENTS

Power Losses of voltage circuit at reference voltage	2.0 W & 10 VA
Power Losses of Current circuit at basic current	4 VA
Starting current	0.4% of Ib at unity P.F
Running with no load	From 0.8 to 1.15 of reference voltage but with no current. Meter shall not produce more than one pulse.
Initial Start Up	Within 3 sec., after application of rated voltage meter display shall start functioning.
Temperature rise of external surface	25 Degree C with ambient temp. of 40 Degree C.
Temperature rise	30 Degree C with ambient temp.

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of terminal	of 40 Degree C.

6.2.1 Dielectric strength

Power frequency withstand	4 KV for one minute
Impulse voltage withstand	8 KV : 1.2/50 micro sec & minimum 9 joules
Short time over current	: 30 times Imax with a relative tolerance of 0% to –10% for ½ cycle at rated frequency
Insulation resistance	More than 5 Mega Ohms
Creepage	20mm min
Clearance	8 mm min

6.3 VOLTAGE RANGE

Specified operating Range	From 0.9 to 1.1 of reference voltage
Extended operating range	From 0.60 to 1.15
Limit range of operation	From 0.0 to 1.9 of reference voltage

6.4 ACCURACY REQUIREMENT

6.4.1 Limits of error due to variation of the current.

When the meter is under reference conditions given in clause 8.5 of IEC 62053-21, the percentage errors shall not exceed the limits given in Table I .

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T A B L E – I
Percentage Error Limits

Value of Current	Power Factor	Percentage error Limits for meters
0.05 Ib ≤ < 0.1Ib	1	±1.5
0.1 Ib ≤ I ≤ Imax	1	±1.0
0.1 Ib ≤ I < 0.2 Ib	0.5 Lagging 0.8 Leading	±1.5 ±1.5
0.2 Ib ≤ I ≤ 1max	0.6 Lagging 0.8 Leading	±1.0 ±1.0
0.2 Ib ≤ I ≤ Ib	0.25 Lagging 0.5 Leading	±3.5 ±2.5

6.5 INFLUENCE OF OTHER QUANTITIES

6.5.1 Limits of error due to influence quantities:

The additional percentage error due to the change of influence quantities with respect to reference conditions, as given in clause 8.5 of IEC 62053-21 shall not exceed the limits given in Table-II.

T A B L E – II

Influence Quantities

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Influence quantity		Value of current (balanced unless) otherwise	Power Factor	Limits of Variation in % age error for meters
Ambient temperature variation	8)	0.1 Ib ≤ I ≤ Imax 0.2 Ib ≤ I ≤ Imax	1 0.5 Lagging	0.05 %/K 0.07 %/K
Voltage variation ± 10%	1) 7)	0.05 Ib ≤ I ≤ Imax 0.1 Ib ≤ I ≤ Imax	1 0.5 Lagging	0.7 1.0
Frequency variation ± 2%	7)	0.05 Ib ≤ I ≤ Imax 0.1 Ib ≤ I ≤ Imax	1 0.5 lagging	0.5 0.7
Harmonic components in the current and voltage circuits	4)	0.5 Imax	1	0.8
DC and even harmonics in the a.c. current circuit	3)	0.5 Imax	1	3.0
Odd harmonics in the a.c. current circuit	3)	0.5 Ib	1	3.0
Sub-harmonics in the a.c. current circuit	4)	0.5 Ib	1	3.0
Continuous magnetic induction of external origin	4)	Ib	1	2.0
Magnetic induction of external origin 0.5 mT	5)	Ib	1	2.0
Electromagnetic RF fields	-	Ib	1	2.0
Operation of accessories	6)	0.05 Ib	1	0.5
Conducted disturbances, induced by radio- frequency fields	-	Ib	1	2.0
Fast transient burst	-	Ib	1	4.0

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1) For the voltage ranges from –20 % to –10 % and + 10 % to + 15 % the limits of variation in percentage errors are three times the values given in this table.

   Below 0.8 Un the error of the meter may vary between + 10% and –100 %.

2) The distortion factor of the voltage shall be less than 1%. For test condition see 8.2.2 and 8.2.3.

3) This test does not apply to transformer-operated meters. The test conditions are specified in Clause A.1.

4) The test conditions are specified in 8.2.1 to 8.2.4.

5)

6) A magnetic induction of external origin of 0.5 mT produced by a current of the same frequency as that of the voltage applied to the meter and under the most unfavourable conditions or phase and direction shall not cause a variation in the percentage error of the meter exceeding the values shown in this table.

   The magnetic induction shall be obtained by placing the meter in the centre of a circular coil, 1 m in mean diameter of square section and of small redial thickness relative to the diameter and having 400 At.

7) Such an accessory, when enclosed in the meter case, is energized intermittently, for example the electromagnet of a multi-rate register.

   It is preferable that the connection to the auxiliary device(s) is marked to indicate the correct method of connection. If these connections are made by means of plugs and sockets, they should be irreversible.

   However, in the absence of those markings or irreversible connections, the variations of errors shall not exceed those indicated in this table if the meter is tested with the connections giving the most unfavourable condition.

8) The recommended test point for voltage variation and frequency variation is /b for direct connected meters.

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9) The mean temperature coefficient shall be determined for the whole operating range. The operating temperature range shall be divided into 20 K wide ranges. The mean temperature coefficient shall then be determined for these ranges by taking measurements 10 K above and 10 K below the middle of the range. During the test, the temperature shall be in no case outside the specified operating temperature range.

6.6 METER CONSTANT

The relation between the test output and the indication in the display shall comply with the marking on the name plate.

Output devices generally do not produce homogeneous pulse sequences. Therefore, the manufacturer shall state the necessary

number of pulses to ensure a measuring accuracy of atleast 1/10 of the class of the meter at the different test points.

7. METER CHARACTERISTICS

The meter shall generally comprise of the following characteristics as a minimum. A list of characteristics is appended below :

7.1 BASIC DATA RECORDING AND STORAGE

7.1.1 STATIC WATTHOUR METER

- Energy (kWh)
- Three months billing data kWh shall be available at all times.

7.1.2 MULTI RATE METER (WHEN APPLICABLE)

- Min. Four Multi Rate periods Energies (kWh).
- Min Two Seasons per year should be programmable
- Min 100 days per year holidays should be programmable
- At-least three months Billing Data kWh, shall be available at all times.

7.1.3 BACK-UP BATTERY (APPLICABLE IN CASE OF MULTI RATE METERS)

- The Back-up Battery shall be of Lithium-Ion type.

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- Low Battery indication shall be displayed when min. 25% battery life is left.
- Storage life of Battery shall be more than 15 years.
- Without any Power the Back-Up battery shall maintain the time, calendar and Multi-Rate program for a continuous period of at-least 12 months.
- The battery shall be connected using standard connectors, it shall not be welded, brazed or soldered and it shall be replaceable in the field.

7.2 SECURITY FEATURES, EVENT RECORDING, AND DIAGNOSTICS:

7.2.1 Security Features

- Every Meter shall have a unique serial No. in its memory which can be displayed/ reported.
- The No. of times programmed and the identification of the last programmer shall be reported/displayed.
- A programmable meter ID code shall be provided.
- At-least two levels of access/security codes shall be provided one for meter reading (only) by the authorized personnel and a second one for programming and reading.
- The meter shall be capable of recording energy accurately in case of change of phase with neutral wire.
- LED indication shall be provided for KWh.
- Reverse energy flow indication shall be provided on the meter through LCD/LED.
- Meter shall record energy consumption in the absence of neutral wire as long as phase wire is connected to the phase terminal or the neutral terminal of the meter. In this case the energy recording shall start when a minimum of 10% of basic current flows through the phase wire. In such case the energy recording shall be based on the current flowing through the meter with assumed voltage and power factor.
- The meter shall be protected against any external interference such as influence of Strong Electromagnet/Radar Magnet, CD drive, Mobile phones and shall comply to all relevant IEC/ANSI standards for functional performance and loss of data.
- Total No. of Power Outage.

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- At-least 20 total events shall be recorded in the meter at any one time before Roll Over they may comprise of the above or any additional features.

7.2.2 Diagnostics

The meter shall display cautions and diagnostics for the following conditions;

- Un-programmed Meter.
- Self check diagnostics for RAM/ROM, Processor, non-volatile memory failure and other essential hardware circuitry.

7.3 DISPLAY

- The Display shall be LCD type with at-least 5 whole digits for Energy consumption.

- Display scrolling time shall be programmable.
- Min. three programmable Display modes shall be available.
- First Display mode shall be the Normal or Automatic display mode. Second display mode shall be for Security / Diagnostics etc. The third Display mode shall be for Test Purposes. Activation of Display Mode shall either be with a secure Push Button or an equally secure alternate method.
- All Segment Check.
- Display Mode Indicator.
- Display Quantity Labels.
- Pulse Output for field testing of Meter shall be available optically.

7.4 METER PROGRAMMING, SOFTWARE, AND SECURITY

The following features shall be programmable in the meter as a minimum along-with other features that may be provided:

.

- The meter shall have non-volatile EEPROM memory.
- Once programmed the meter shall be re-programmable as a new meter or as existing meter without loss of previous data, through the required security passwords.
- Meter programming shall be DOS/Windows based.
- An Optical Communication Port shall be provided on the meter cover and shall either be IEC 62056-21 or ANSI C12.18 Type II compliant

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8. TESTS

Following routine, type and sample tests shall be carried out as per requirements of IEC standards.

8.1 ROUTINE TESTS

Following routine tests shall be carried out on KWH, KW meters as per respective IECs:

Accuracy Test
Running with no load test
Starting current test
Insulation resistance test

8.2 TYPE TEST

Following type tests shall be carried out on KWH, KW meters as per respective IECs.

8.2.1 Tests of mechanical requirements

- Spring hammer test
- Shock test
- Vibration test
- Test of resistance to heat and fire
- Test of protection against penetration of dust and water

8.2.2 Test of climate influence

- Dry heat test
- Cold test
- Damp heat cycle test
- Solar Radiation test

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8.2.3 Tests of electrical requirements

- Test of power consumption of voltage circuit
- Test of power consumption of current circuit
- Test of effect of voltage dips and short interruptions
- Test of influence of short time over current
- Test of influence of self heating
- Test of influence of heating
- Impulse voltage test
- A.C. voltage test.

8.2.4 Tests for electromagnetic compatibility (EMC)

- Test of immunity to electrostatic discharges
- Test of immunity to electromagnetic HF fields
- Fast transient burst test
- Radio interference measurement

8.2.5 Tests of Accuracy requirements (for KWH meter parts as per IEC 62053-21 where applicable

- Test of Accuracy
- Test of influence quantities
- Test of no load condition
- Test of starting condition

9. NAME AND RATING PLATE

9.1 A suitable name/rating plate shall be provided inside at the front of the meter, indicating the following information:

- Name of the manufacturer and country of origin

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- Type of meter
- Meter rating and other information
- WAPDA P.O. No.
- Serial No. and year of manufacture

10. PACKING

10.1 Each meter shall be individually packed in thermopore packing or thermopore lined packing, covered with adhesive tape at joints or plastic strips etc.

10.2 For overseas shipment, a suitable number of individually thermopore packed meters shall then further be packed in sea worthy packing.

10.3 The packing shall be strong enough to withstand rigors of ocean, rail, road etc.

11. SAMPLE

At least one number sample of multi-rate meter shall be submitted with the bid.

12. PROTOTYPE APPROVAL

The successful bidder shall submit 3 Nos samples for Prototype Approval in case valid Prototype Approval as per WAPDA purchase procedure does not exist for the offered model/type. All tests shall be carried on the submitted prototype meters to ensure compliance to WAPDA and IEC specs. Meters shall be subjected to all tests including type, routine and sample tests. Once approved such prototype approval shall be valid as per WAPDA purchase procedure.

13. INSPECTION

The successful bidder shall offer the meters for testing/inspection, Procedure for pre-shipment inspection is given below:

13.1 SAMPLE TESTS (ELECTRICAL)

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13.1.1 The meters offered for acceptance shall be grouped into lots containing upto 1000 meters. A sample comprising of five (05) meters shall be selected at random from each lot and subjected to tests as below:

Starting Current Test
Creep Test
Accuracy Test
A.C. Voltage Test

13.1.2 The meters offered for acceptance shall be grouped into lots containing upto 1000 meters. A sample comprising of two (02) meters shall be selected at random from each lot and subjected to following tests:

Impulse test
Power loss test
Fast transient burst test

Influence of harmonics test
DC and even harmonics test
Dry Heat Test at 80 deg C

13.1.3 The lot shall be accepted if all the meters qualify in the tests described in clause 13.1.1 & 13.1.2 above. The lot shall be rejected if two or more meters fail in any of the tests. If any one meter fails in any of the above tests re-sampling shall be carried out after collecting same No. of meters and subjected to the tests described in clause 13.1.1 & 13.1.2 above. If any one meter fails in any of the above tests the whole lot shall be rejected.

13.2 SAMPLE TESTS (MECHANICAL)

13.2.1 The meter offered for acceptance shall be grouped into lots containing upto 1000 meters. Sample comprising of three (03) meters shall be selected at random from each lot and subjected to tests as below:

Sr. No.	Description	Nos. of Meters
1.	Test of protection against penetration of dust and water	One meter
2.	Dimensional Check	One meter

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The lot shall be accepted if meters qualify the above tests in clause 13.2.1. In case any meter fails in the relevant test, another sample of double the size shall be selected and test/tests repeated. If any meter fails in the relevant in the second group, the entire lot shall be rejected.

13.3 VERIFICATION TEST OF FUNCTIONALITY OF SOFTWARE

13.3.1 Verification test of the functionality of software and display features on offered meters shall be promoted by loading/unloading of program and auditing the diagnostic reports. The number of meters shall be three if any meter fails to comply with the functionality requirements the entire offered lot shall be rejected.

13.4 TYPE TESTS

13.4.1 The remaining type tests not performed on the above samples shall be carried out (as per recommended sequence of IEC 62052-11 Annexure (F) on three (03) Nos. meters out of the total offered meters. If two meters fail in any of the above tests, the lot shall be rejected. If one of the meters fails to qualify any of the above tests, re-sampling shall be carried out. In case of failure of any of the tests the lot shall be rejected.

14. WARRANTY

The supplier shall provide two years warranty for the successful operation of the meter including its maintenance where ever required.

15. TRAINING

The successful bidder shall arrange a comprehensive practical training regarding programming, billing, loading of software etc. in Pakistan.

16. BID DATA, TEST CERTIFICATES, DRAWINGS, LITERATURE, REFERENCE LIST & MANUFACTURING EXPERIENCE

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All the bidders shall submit complete technical data, detailed drawings test certificates, literature in English language, supply reference list and manufacturing experience along with the bid.

Annex – I

REFERENCE STANDARDS

When following standards referred to in this document have been superseded, the latest revisions shall apply.

1. METERING STANDARDS

a. IEC

62053-21 : 2003,	Static Meters for Active Energy (Classes 1 and 2).
61358 (1996-05)	Acceptance inspection for direct connected alternating current static watt-hour meters for active energy (Classes 1 and 2).
62052-11 : 2003	Electricity Metering Equipment (AC) – General Requirements, Tests and Test conditions
61162, 61107	Optical interface

b. ANSI

C12.18	Protocol specification for ANSI type II Optical ports
C12.19	Utility industry and device data tables

2. ELECTRICAL TESTING STANDARDS

a. IEC

60038: 1983	IEC standard voltages 50(301, 302, 303): 1983, International Electrotechnical Vocabulary (IEV) Chapter 301: General terms on measurements in electricity. Chapter 302: Electrical measuring instruments. Chapter 303: Electronic measuring instruments.
60060-1: 1989	High voltage test techniques.
60085: 1984	Thermal evaluation and classification of electrical insulation

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61000-4-2: 1995 Electromagnetic compatibility (EMC)-Part 4: Testing & measurement techniques-section 2: Electrostatic discharge immunity test.

61000-4-3: 2002, Electromagnetic compatibility (EMC)-Part4-3: Testing & measurement techniques-section 2: Radiated radio frequency electromagnetic field immunity test.

61000-4-4: 1995, Electromagnetic compatibility (EMC)-Part 4: Testing & measurement techniques-section 4: Electrical fast transient/burst immunity test.

CISPR22: 1997, Information technology equipment-Radio disturbance characteristics-Limits & methods of measurement.

b. ANSI

C37.90.1 – 1989, IEEE standard surge withstand capability

C62.41 – 1991 IEEE recommended practice on surge voltages in Low-voltage AC power circuits.

3. MECHANICAL TESTING STANDARDS

a. IEC

60529: 1989 Degrees of protection provided by enclosures (IP code)

60695-2-11: 2000, Fire hazard testing. Part2-11: Glowing/hot wire based test methods.

60817: 1984, spring operated impact test apparatus and its calibration.

b. ISO Standard

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75-2: 1993, Plastics – Determination of temperature of deflection under load-Part 2: Plastic & ebonite.

4. ENVIRONMENTAL STANDARDS

a. IEC

60068-2-1: 1990, Environmental testing, part 2: Tests. Tests A: Cold.

60068-2-2: 1974, Basic environmental testing procedures, part 2: Tests. Tests B: Dry Heat.

60068-2-5: 1975, Basic environmental testing procedures, part 2: Tests. Test Sa: Simulated solar radiation at ground level.

60068-2-6: 1995, Environmental testing, part 2: Tests. Test Fc: Vibration (sinusoidal).

60068-2-11: 1981, Basic environmental testing procedures, part 2: Tests. Test Ka: Salt mist.

60068-2-27: 1987, Basic environmental testing procedures, part 2: Tests. Test Ea and guidance: Shock.

60068-2-30: 1980, Basic environmental testing procedures, part 2: Tests. Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle).

60721-1: Ed. 2.0 b Classification of environmental conditions. Part 1: Environmental parameters and their severities.

60721-2-1 (1982-01) Classification of environmental conditions. Part 2: Environmental conditions appearing in nature. Temperature and humidity.

60721-2-4 (1987-12) Classification of environmental conditions. Part 2: Environmental conditions appearing in nature. Solar Radiation and temperature.

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SPECIFICATION NO. DDS-65: 03

STATIC SINGLE PHASE, 2-WIRE ENERGY METERS WITH MULTI RATE TARIFF OPTIONAL (CLASS-1)

AMENDMENT NO. 1

DATED 27th October, 2004

Add following under clause 7:-

i. Existing clauses 7.1 to 7.4 will be applicable for multi rate meters.

ii. Add new clause 7.5 below which will be applicable for single tariff meters.

7.5 **BASIC DATA RECORDING**

7.5.1 Static Watt hour meter

- Energy (kWh)

7.5.2 Security Features

- Every meter shall have a unique Sr. No. in its memory which can be displayed.
- Meter shall be capable of recording energy accurately in the case of change of phase with the neutral wire.
- LED indication shall be provided for kWh.
- Reverse energy flow indication shall be provided in the meter through LCD/LED.
- Meter shall record energy consumption in the absence of neutral wire as long as phase is connected to the phase terminal or the neutral terminals of meters. 10% of basic current flows through the phase wire in such case the energy recording shall be based on current flowing through the meter with assumed voltage and power factor.

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- Meter shall be protected against external Interference such as influence of strong electro magnet, CD drive, mobile phones and shall comply to all relevant IEC/ ANSI standards for functional performance and loss of data.

7.5.3 DISPLAY

- The display shall be LCD type with at least 5 whole digit for energy consumption.
- Display mod indicator.
- Display quantity labels.
- Pulse output for field testing of meter.

Deputy Director (D&S)	Director (D&S)	Chief Engineer (Distt. Engg.)

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WAPDA SPECIFICATION NO. DDS-65:2003

STATIC SINGLE PHASE, 2-WIRE ENERGY METERS WITH MULTI RATE TARIFF OPTIONAL (CLASS-1)

AMENDMENT NO. 2

DATED 26th July, 2007

Add following new clause after 13.4.1:

13.6 JOINT TYPE TESTING

Over and above normal inspection, the representative of Chief Engineer (Design & Standard) and Chief Engineer (Material Inspection)WAPDA will carry out all possible locally available type tests jointly, twice during the calendar year and it shall be applicable during this period to all other WAPDA/DISCOs purchase orders. The type tests will be carried out keeping in view that every time different DISCOs purchase order will be selected for the test.

Deputy Director (D&S)	(MEHBOOB ALAM) Director (D & S)	(ANWAR-UL-HASSAN KHAN) Chief Engineer (D & S)

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SPECIFICATION NO. DDS-65:2003

STATIC SINGLE PHASE, 2-WIRE ENERGY METERS WITH MULTI RATE TARIFF OPTIONAL (CLASS-1)

AMENDMENT NO. 3

DATED 17th March, 2007

Add following clauses under INSPECTION:

13.6 Procedure for inspection for local manufacturers is given below:-

13.6.1 ROUTINE TEST

Following routine tests shall be carried out by manufacturer on each meter and witnessed by the Inspector as per respective clauses of IEC 62053-21.

- Starting current test (Clause 8.1)
- Accuracy test (Clause 8.1)

If failure exceeds than 5%, the group offered for routine inspection be rejected:-

13.5.2 SAMPLE TEST

The meters offered for acceptance shall be grouped into lots containing upto 500 meters. A sample comprising ten meters shall be selected at random from each lot and eight meters be subjected to electrical test and two meters for mechanical test.

(i) Sample test (Electrical)

(a) Following tests be performed on each of two selected sample meters:-
- Impulse test
- Power loss test
- Influence of DC and even harmonics.

(b) Following tests be performed on each of four selected sample meters:-
- Accuracy test
- Starting current test
- Running with no load test (Creep test)

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(c) Following EMC tests be performed on each of two selected sample meters:-
- Fast Transient burst test
- Surge Immunity test.
- Electrostatic discharge test

(ii) Sample Tests (Mechanical)

(a) Following tests be performed on each of two meters already selected:-
- Impact test
- Tin coating test

(b) Following tests be performed on three meters selected randomly from offered lot. Dimensional check be performed on one meter and remaining two tests be performed on both the meters:-
- Dimensional check
- Shock and vibration test
- Rain fall test

13.6.1 ACCEPTANCE CRITERIA

a) Electrical Test

- The lot shall be accepted if one meter fails in any one of the tests described in clause 13.5.2 (i).
- Re-sampling of the same size shall be carried out if:-

  One meter fails in any of the two tests
  OR
  Two meters fail in any one test
- The lot shall be rejected if:

  Three or more meters fail in any of the test
  OR
  One meter fails in any three or more tests
  OR
  One meter fails in any two tests and one meter in one test

b) Mechanical Test

- The lot shall be accepted if meters qualify the above tests in clause 13.5.2 (ii) (a).

- In case any meter fails in the relevant test, another sample of double the size shall be selected and test be repeated.

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- If any meter fails in any test during re-sampling, the entire lot shall be rejected.

NOTE:- Rejected lot can be re-offered for routine tests.

13.6 VERIFICATION FUNCTIONALITY TEST OF SOFTWARE
(Applicable in case of multi rate meter)

13.6.1 Verification test of the functionality of software and display features on offered meters shall be performed by loading/down loading of and auditing of the reports. Copy of the report be retained for official record. The number of meters shall be two. If any meter fails to comply with the functionality requirements, the entire offered lot shall be rejected.

Deputy Director (D&S)	(MEHBOOB ALAM) Director (D & S)	(YAQOOB BAIG MIRZA) 20/10/2007 Chief Engineer (Design & Standards)

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SPECIFICATION NO. DDS-65: 03

STATIC SINGLE PHASE, 2-WIRE ENERGY METERS WITH MULTI RATE TARIFF OPTIONAL (CLASS-1)

AMENDMENT NO. 4

DATED 20th October, 2007

- **Add following under clause 7.2.1 :-**

iii. The meter shall be properly shielded against the affects of strong magnetic field of 0.7 Tesla.

iv. The meter shall be capable to provide safeguard against the theft of energy through dimmer.

- **Add following under clause 7.3 :-**

  - The meter shall be equipped with fixed long life battery to display reading during power supply failure.

Deputy Director (D&S)	20/X/07 (AZIZ UR REHMAN) Director (D&S)	(YAQOOB BAIG MIRZA) 20/10/2007 Chief Engineer (Design & Standards)

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SPECIFICATION NO. DDS-65: 03

STATIC SINGLE PHASE, 2-WIRE ENERGY METERS WITH MULTI RATE TARIFF OPTIONAL (CLASS-1)

AMENDMENT NO. 5

DATED 27th October, 2007

- **Add following under clause 7.2.1 :-**

v. The meter shall be properly shielded against the affects of strong magnetic field of 0.7 Tesla.

vi. The meter shall be capable to provide safeguard against the theft of energy through dimmer.

vii. The meter shall be equipped with fixed long life battery to display reading during power supply failure.

Deputy Director (D&S)	27/X/07 (AZIZ UR REHMAN) Director (D&S)	(YAQOOB BAIG MIRZA) 20/10/2007 Chief Engineer (Design & Standards)

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6- **Add following new Sub Clause 13.5.4: -**

13.5.4 Visual Inspection

The meter shall be inspected visually for, but not limited to, the defects mentioned below:

Examination	Defects

Material:

1. The material used are not of good quality finish, contain surface defects or other imperfections injurious to the working of the meter.
2. The parts of terminal block e.g. terminals, pressure plates and terminals screws are not of specified material / quality.
3. Sealing screws are not made of steel.

Design and Construction:

1. The design or construction differs in any respect from that of the approved prototype.
2. Any part or components is missing, loose or damaged, effecting use or performance of the meter in any respect.
3. Clearance between various live parts and that between live and earthed metal parts is not sufficient.
4. The connections of leads to the potential coil are not soldered securely and show tendency to opening.
5. Sealing screws are not captive. If washers are used to keep them captive, they are not of proper design.
6. Sealing hook for the terminals is not of proper design, size or is found broken.
7. Gaskets are not of neoprene, not properly embedded, shows cracks, uneven thickness of surfaces.

Workmanship/Finishing/Marking

1. Meters are not uniform in quality, show scale, chips, dented or bent edges or other disfiguring / blemishes.
2. The terminal block is chipped at some places, shows signs of breakage, presence of weak points or other moulding defects.
3. Ultrasonic welding are not strong and smooth.
4. Joints are not in proper alignment, causing assembly defects of nature that interferes with normal working.
5. Nameplate markings are missing, incomplete, incorrect, illegible, not permanent, or not in accordance with relevant clause.
6. The connection diagrams and terminal marking are missing, incomplete, or applied in a temporary manners.
7. Polycarbonate cover is not clear transparent, not properly finished, deformed, shows burrs, extra material, cracks, cold shots, voids and air bubbles etc.

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NATIONAL TRANSMISSION & DESPATCH COMPANY
Office of Chief Engineer (Design & Standards) NTDC
48-L Model Town Extension, Lahore.
Ph No.042/99230024, Fax No.042/99230025
Email: cedengg@yahoo.com.

No. 5298-5315/CEDS/Z-226 Dated: 5-12-2009

The Chief Executive Officers

All DISCOs.

Subject: **AMENDMENT NO.6 DATED 05.12.2009 IN SPECIFICATION NO. DDS-65:2003 - STATIC SINGLE PHASE, STATIC ENERGY METER**

Enclosed please find herewith a copy of Amendment No.6 in the Specification No. DDS-65:2003 of the subject material for your reference and record.

DA/As above.

(AZIZ UR REHMAN)
MANAGER (D&S)

CC: -

1. General Manager (Services Division) NTDC, PEPCO, Wapda House , Lahore.
2. General Manager H.V & S.C Testing Lab. NTDC Rawat.
3. Chief Engineer (Material Inspection) NTDC PEPCO, Sunny View, Lahore.
4. All meter manufacturers.

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

SPECIFICATION NO. DDS-65:2003

STATIC SINGLE PHASE, STATIC ENERGY METER

AMENDMENT NO. 6

DATED 05TH DECEMBER 2009

1. The existing Sub Clause 13.4.2 shall be replaced as under:

13.4.2 JOINT TYPE TESTING

Over and above normal inspection, the representative of Chief Engineer (Design & Standards) and Chief Engineer (MI) PEPCO will carry out all possible locally available type tests jointly, once during the calendar year and it shall be applicable during this period to all PEPCO/DISCOs purchase orders. The type testing will be carried out keeping in view that every time different DISCOs purchase order will be selected for the test. Chief Engineer (MI) PEPCO will communicate the schedule for joint type testing due well before time for a lot of reasonable size (not less 2000 meters).

2. Add following new Sub Clauses

13.4.3 TESTING CRITERIA

For joint type testing five (05) meters shall be selected jointly from the offered lot and all tests mentioned in the specification shall be performed.

13.4.4 Out of above five (05) samples, three (03) meters shall be subjected to following tests in sequence as mentioned in IEC 62052-11 Annexure-F:

a) Tests of Insulation Properties;
b) Test of Accuracy Requirements;
c) Tests of Electrical Requirements;
d) Tests of Electro Magnetic Compatibility (EMC), in house;
e) Tests of the effect of the Climatic Environments.

Note: The manufacturer should enable the meter with three decimals while performing tests of EMC and voltage dips & short interruption.

13.4.5 One (01) meter out of three (03) meters be subjected to EMC test of RF Field to be performed at AWC Wah Cantt (or elsewhere approved by Chief Engineer (D&S):

13.4.6 Remaining two (02) meters out of five (05) shall be subjected to following tests: -

f) Mechanical tests = One meter
g) Miscellaneous requirement including verification of components and dimensions, = One meter

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13.4.6 (a) If any one (01) meter fails in any test then double the quantity of samples shall be collected and all tests shall be repeated in sequence mentioned above. If any meter fails again in any test, whole lot shall be rejected.

(b) In case one (01) meter fails in two tests or two (02) meters fails in one test then whole lot shall be rejected.

13.4.7 In case of rejected lot, the manufacturer shall identify the cause of failure and re-offer the meters for joint inspection after rectifying the defect. Warranty of the meters already supplied during preceding months of the last joint type testing or prototype approval (whichever is earlier) shall be doubled.

3- <u>The existing Clause 13.5.2 (Sample Test) shall be replaced as under</u>: -

13.5.2 <u>SAMPLE TEST</u>

The meters offered for acceptance shall be grouped into lots containing up to 1000 meters. A sample comprising Ten (10) meters shall be selected at random from each lot and subjected to following tests: -

(i) Electrical

1-	Impulse Voltage Power loss & Influence of DC & even harmonics test and AC voltage test]	= 02 Nos.
2-	a) Test of accuracy requirement: b) Test of starting condition c) Test of no load condition	= 05 Nos. already selected
3-	EMC tests a) Fast transient burst test b) Test of immunity to electro static discharges c) Surge immunity test	= 02 Nos.

(ii) Mechanical

1-	Shock & Vibration test	=	2 Nos.**(Twice in P.O)**
2-	Test of protection against penetration of water and dust.	=	Any 2 meters already selected
3-	Dimensional check and verification of components	=	Any 01 meter **(against each inspection call)**
4-	Impact test and Tin coating test	=	Any 01 meter already selected
5-	Test of resistance to heat & fire.	=	Any 01 meter already selected

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(iii) Verification for limit range of operation.

Following tests to be performed on one number meter already selected to verify the limit range and specified range of operation as per clause 4.2.1.

The selected meter will be subjected to uniform rate of increase of temperature, meter error shall be measured at unity power factor at interval short enough to allow a correct drawing to be made of the curve of error variation as a function of time. The same test shall be repeated for 0.5 lagging power factor.

(iv) Extreme Temperature Condition

Following test to be performed on one (01 No.) meter already selected:

i. Test of Extreme Temperature condition:

ii. Temperature = 80 ^{0}C
Duration = 04 hours

Meter shall be energized with reference voltage and Imax current continuously for four hours then the Accuracy of meter will be checked that will determine its qualification in test.

(v) Security Features Verification:

Following tests be performed on the meters already selected:

i) Influence of magnet (0.7 Tesla)	2 Nos.
ii) Dimmer Test	2 Nos. (Once in Inspection call)
iii) Single wire operation	2 Nos.

4- <u>Acceptance Criteria.</u>

a) The existing Sub Clause 13.5.3 (a) shall remain the same

5- <u>The existing clause 13.5.3 (b) shall be read as under:</u>

b) Mechanical Test, Limit Range of Operation, Extreme Temperature Condition and Security Features Verification:

- The lot shall be accepted if meters qualify the above tests in clause 13.5.2. In case any meter fails in the relevant test, another sample from the same lot of double the size shall be selected and test be repeated.
- If any meter fails in any test during re-sampling, the entire lot shall be rejected.

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7- **Add the following at the end of Clauses 8.2.5 and 13.5.2.**

NOTE: ***The manufacturer should provide UV Stabilized LCD Certificate from their principal at the time of prototype approval and during mass production.***

8- **Add new clause 17 as under:**

Clause 17. VERIFICATION OF LOCAL VENDORS

The verification of local vendors for the manufacturing of locally manufactured components of their meter shall be done twice in the calendar year which shall be applicable to all purchase orders for all DISCOs

5/12 **(MANSOOR NASIR)** Dy. Manager (D&S)	5/12/09 **(AZIZ UR REHMAN)** Manager (D&S)	5/12/09 **(MUHAMMAD SHAFQAT)** Chief Engineer (Design & Standards)

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

SPECIFICATION NO. DDS-65:2003

STATIC SINGLE PHASE 2 WIRE ENERGY METER WITH MULTI RATE TARIFF OPTIONAL (CLASS-1)

AMENDMENT NO. 7

DATED 14TH MAY, 2012

1. **Amend point 4 in clause 7.1.3 as under:-**

   - Without any Power the Back- Up battery shall maintain the time and calendar for a continuous period of at-least 24 months.

2. **Add new point in clause 7.1.3 as under:-**

   - Frequency tolerance of the timing source shall be equal to or less than ± 20 ppm at reference temperature.

3. **Add new point in clause 7.2.1 as under:-**

   - Opening of meter after breaking the seals shall be detected and an indication (OPENED) shall be permanently displayed on the meter's LCD.

4. **Add new point in clause 7.2.2 as under:-**

   - Opening of meter warning permanently on the LCD.

(ASHFAQ AHMAD) DY. MANAGER (DE)	(DR. RANA ABDUL JABBAR KHAN) MANAGER (DE)	(ZUBAIR MALIK) CHIEF ENGINEER (D&S)

NATIONAL TRANSMISSION & DESPATCH COMPANY
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48- L, Model Town Extension, Lahore.
Ph No.042/99230024, Fax No.99230025
Email: cedengg@yahoo.com.

No. 1562-20/CEDS/ X-267 Dated: 16-03-2011

All Chief Executive Officers,
DISCOs.

Subject: **SPECIFICATION OF ADVANCED METERING INFRASTRUCTURE (AMI)**

Please find enclosed specification No. DDS-98:2011 for Advanced Metering Infrastructure (AMI), which has been prepared after incorporating the feedback from all DISCOs and meter manufacturers.

DA/Specification.

(Dr. Rana Abdul Jabbar Khan)
Manager (D.E), NTDC,
Lahore.

CC to: -

1. General Manager (Services Division) WAPDA House, Lahore.
2. Director General (Energy Conservation), WAPDA House, Lahore.
3. Chief Engineer (Material Inspection) NTDC, Sunny View, Lahore.
4. Chief Engineer (PMU) PEPCO, PIA Building, Lahore.
5. Chief Engineer (P&D), WAPDA House, Lahore.
6. All Meter manufacturers.
7. US AID, House No. 23, Street No. 19, F-6/2, Islamabad.
8. PA to Chief Engineer (D&S)
9. Master file.

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

PAKISTAN ELECTRIC POWER COMPANY (PEPCO)

SPECIFICATION DDS-98:2011



SPECIFICATION FOR ADVANCED METERING INFRASTRUCTURE (AMI)

SERVICES DIVISION (NTDC) DESIGN & STANDARDS DEPARTMENT

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

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PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

SPECIFICATION FOR ADVANCED METERING INFRASTRUCTURE (AMI)

0.0 FOREWARD:

0.1 This standard specification has been prepared by the Engineering Directorate of Chief Engineer (D&S).

0.2 This specification is intended for procurement of material and not for contract.

0.3 This specification is subject to revision as and when required.

1.0 SCOPE:

1.1 This specification has been prepared for the introduction of GSM/GPRS enabled energy meters and GSM/GPRS Modem/Module as integral part of meters of specifications DDS-50, DDS-60 and DDS-65 that should be used in DISCOs for AMI system.

1.2 This specification covers the aspects of GSM/GPRS communication between AMR enabled meters and AMR server using SMS and GPRS technology.

2.0 DEFINITIONS:

2.1 **Manufacturer Identifier**: The unique numeric identification of each meter manufacturer.

2.2 **Meter Type**: Each separate meter product of the meter manufacturer is identified using Meter Type.

2.3 **Payload**: Metering data GSM communication is composed within the structure called Payload.

2.4 **SMS**: Short Message Service is a communication service standardized in the GSM mobile communication system.

2.5 **GPRS:** General Packet Radio Service is a packet oriented mobile data service available to users of the cellular communication systems Global System for Mobile Communication (GSM).

2.6 **RTU:** Remote Terminal Unit is a device, which interfaces telemetering data of objects in the physical world to central server.

2.7 **DCU:** Data Concentrator Unit is a device used to Communicate between RTU and AMI server.

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3.0 NETWORK ARCHITECTURE:

Proposed Network Diagram is given in Annexure –I

4.0 RTU (Remote Terminal Unit) SPECIFICATION:

4.1 METERS:

4.1.1 Meters to be supplied by the vendors should comply with their respective WAPDA standards viz. DDS-50:2007, DDS-60:2007 and DDS-65:2003 (amended to date).

4.1.2 The meters should have built-in communication device i.e. GSM/GPRS Modem/Module for direct communication to server over SMS and GPRS.

4.1.3 Meters should be capable of generating the query response originated by the host system/sever.

4.1.4 Meters should be capable of sending data to the host system at a preprogrammed interval and two (2) IP addresses should be programmed in the GSM/GPRS module and three (3) number of SIMS (GSM subscriber) should be programmed for communication with the meter and meter can only be communicated through these SIMS for downloading data.

4.1.5 Meter should send data to the host system with time and date stamp when alerts/events generated inside the meter including the CT fail or CT bypass.

4.1.6 Meter time should be synchronized to Host Server from time to time automatically.

4.1.7 The meter should be multi vendor compliant and the protocols to be used for communication following international standards DLMS/COSEM.

4.1.8 Load profile and Event Data should be in the format as defined in the meter reporting software of relevant specifications.

4.1.9 Load limit device (Relay/Contactor) may be provided as per demand in the meters to operate from server automatically if load exceeds than the predefined load limit.

5.0 GSM/GPRS MODEM/MODULE SPECIFICATION:

5.1 The GSM/GPRS Modem and antenna shall be integral part of the meter.

5.2 Quad-Band GSM/GPRS 850/900/1800/1900MHz.

5.3 Compliant to GSM phase 2/2+

Class 4 (2W @ 850/900MHz)

Class 1(1W @ 1800/1900MHz)

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5.4 The Modem shall have the capability for SMS and GPRS communication.

5.5 The modem shall have single LED in the front, which should be visible from the distance.

5.6 The LED shall indicate the operational status of the modem like:

i) Fast blinking LED indicates absence of SIM card or no network service or insufficient signal strength.

ii) OFF LED indicates modem is not working.

iii) Slow blinking LED indicates healthiness of the modem and is registered to the GSM network.

iv) Data communication indication should be provided on LCD.

5.7 SIM card shall be field replaceable.

6.0 RELAY/CONTACTOR SPECIFICATION:

6.1 Relay/Contactor must have the capability of connect and disconnect the consumer output for each phase in case of over loading and non payment.

6.2 Relay/Contactor should be able to reconnect after preprogrammed time interval and keep connected within preprogrammed threshold otherwise disconnected.

6.3 Consumer load threshold for disconnection and number of retries should be programmable.

6.4 Relay/Contactor should be operated remotely form server.

7.0 AMR SERVER/ HOST SOFTWARE:

7.1 AMR Server/Host Software must be DLMS/COSEM compliant and the host software should be capable to provide all metering data mentioned in meter reporting software in relevant WAPDA/PEPCO specifications.

7.2 The host software shall provide GUI (Graphical User Interface) for users to initiate data queries and receive responses.

7.3 The host software must have capabilities to store and report all metering data in a database management system as required in the relevant meter specifications reporting software like billing data, event data, load profiles etc.

7.4 The database shall have redundant hard drives and there should be at least one mirroring server.

7.5 The database server should have backup interface for CD/DVD.

7.6 The billing interface will generate billing data to be used in DISCO's customer information and billing system in the form of .csv format.

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8.0 DCU Specification:

DCU Specification is given in Annexure-II

9.0 TESTING SOP:

Testing Method of GSM/GPRS enabled meters is given in Annexure-III.

10.0 SAMPLE:

The sample requirement is as per relevant meter specifications.

11.0 PROTOTYPE:

The prototype requirement is as per relevant meter specifications.

12.0 TESTING AND INSPECTION:

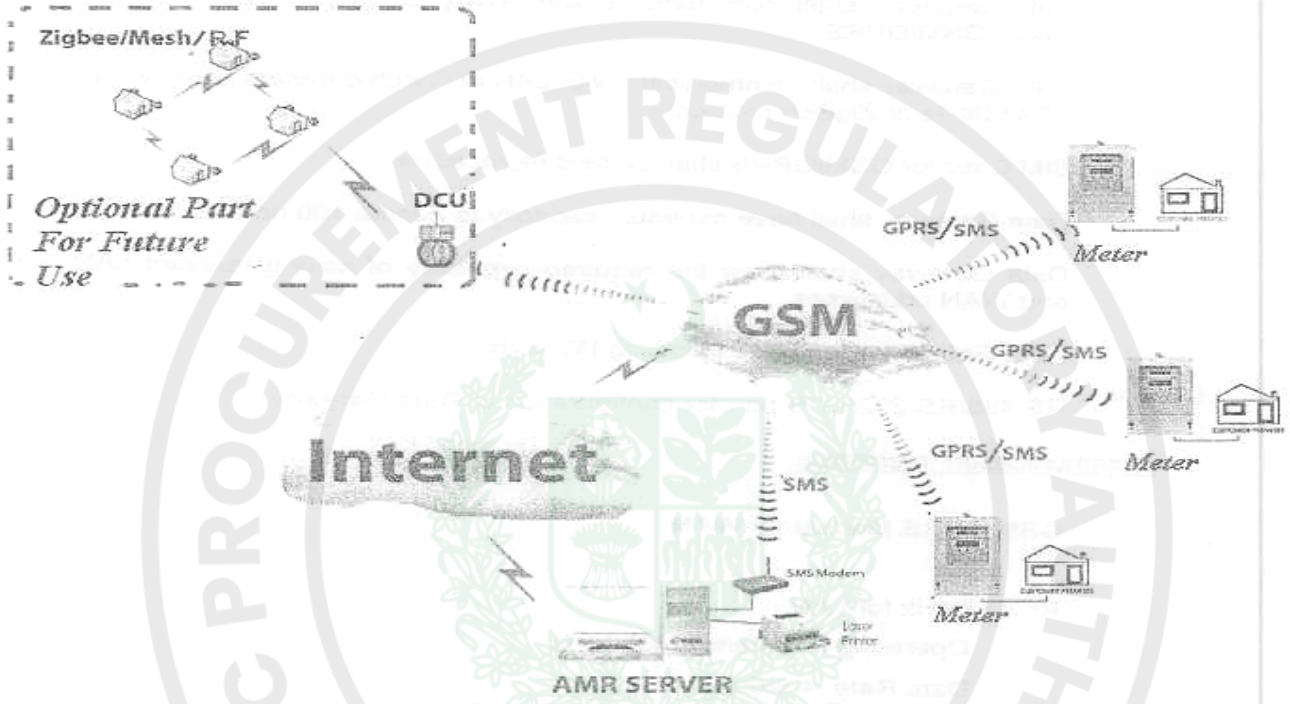
Inspection requirement is as per relevant meter specifications in addition to verification of GSM/GPRS features.

(ASHFAQ AHMAD) DY: MANAGER (DISTT. ENGG.)	16-03-11 (DR. RANA ABULD JABBAR KHAN) MANAGER (DISTT. ENGG.)	(INAYAT HUSSAIN) CHIEF ENGINEER (D&S)

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

Annex-I

Network Architecture



PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

Technical characteristics of DCU shall be as under:

Power Supply:

3 Phase 4 wire 3x230/400VAC at 50Hz should also be operational on 2 wire.

IP Code (Environmental Protection):

Protection against penetration of dust & water: IP54

Operating Temperature:

-25°C to + 60°C

Status Indicators:

Power: Indicates the availability of power to the DCU.
WAN: Indicates communication status with the host software.
LAN: Indicates communication status with the meter.

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Additional Tests & Limits of Testing for GPRS/GSM Enabled Meters

GPRS Enabled Meters are generally considered as Electronic Meters with the additional functionality for remote communication in GSM/GPRS mode. There exist certain conditions in which the normal test procedure or limits already specified for metering need to be reviewed keeping in view the requirements of GSM/GPRS system.

This document addresses only the additional requirements for ensuring successful meter operation with GSM/GPRS module during communications.

1. Power Requirement.(IEC 62053-61 Clause 4.3)

The specification of general electronic Meter addresses the Power Requirements of non-multi-functional and non-multi-energy Electronic Meters. But the GPRS/GSM modules attached in a GPRS/GSM enabled meters do have certain Power Requirements.

These requirements are properly addressed in IEC 62053-61. The user and manufacturer should consider that first of all, the meter is multi-energy as well as multi-functional. Also it has a Communication Device installed within the meter deriving energy from the Main's Power Supply.

The Power Loss of GPRS/GSM Enabled Meter may increase due to additional Load of GPRS/GSM Module in normal operating conditions and the VA burden may increase also. During Transmission/Reception of GPRS/GSM Data the power requirements increase. The total power loss should not exceed the values given in IEC 62053-61.

2. Low Voltage Application.

The Specification of general electronic meters also addresses the Voltage Limit Range of Operation as well as Specified Range of Operation. In case of GPRS/GSM Enabled Meters, this limit is also applicable.

3. Test including Testing at Different Frequencies other than Line Frequency (CISPR 22 Clause 3.1)

The normal electronic meters are tested for its Immunity to EMC and for EMC Emission (both radiated and conducted). This testing cannot hold true for GPRS/GSM enabled meters because the GPRS/GSM enabled meters itself are Radiating Devices.

CISPR 22 which is the standard for Testing of Emissions clearly states that the ITEs (Information Technology Equipment) that have their own radiating devices built in are out of scope of this standard and therefore, National Radio Regulations have to be applied. Electricity Meters are not covered under the Pakistan Telecommunication Authority (PTA) regulations. Therefore, an FCC, USA/European Directives approval, certification, and test reports for the GSM/GPRS modules should be provided.

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List of Tests Under Category 1

Sr. No.	Test Name	Specification
	Tests Insulation Properties	**As per Relevant Specifications**
1	Impulse Voltage test for circuits and between circuits.	
2	AC Voltage Test (4kV)	
3	Insulation Resistance Test	
	Tests of the effect of the climatic	
4	Dry Heat Test	
5	Dry Test	
6	Solar Radiation Test	
	Mechanical Tests	
7	Spring Hammer Test	
8	Shock test	
9	Vibration Test	
10	Test of Penetration of Dust Particles	
11	Test of Penetration of Water	

Category 2

Tests during which Meter is Energized but Accuracy is not Taken.

Testing Methodology

This category addresses the Type Tests in which meter is energized with the voltage applied at the meter terminals and with or without current flowing through the meter but accuracy is not observed.

The meter undergoing the tests under this category should be checked for successful communication during application of the specified test. It should also comply with the test conditions and should not affect the result. This is to ensure that the communication of the meter is not affecting the meter in particular test conditions.

In cases where Temporary Loss of Function of meter is allowed, the same is applicable to the communication enabled meter. Example of such test is the Electrostatic Discharge Test.

Application Methodology

To execute this scheme, meter should be energized according to the test specification. The communication with the meter is performed during the application of Test conditions.

The meter communication shall be checked before and after application of the test conditions.

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Interpretation of Results

If the meter communicates properly and the accuracy results remain with in the permissible limits during, before, and after (as applicable) then the meter is considered to comply with the test standard.

List of Tests Under Category 3

Sr.#	Test Name	Specification
	Test of Accuracy requirement	As per Relevant Specifications
1	Test of Accuracy	
2	Test of Meter Constant	
	Tests of Influence quantities	
3	Voltage Variation	
4	Frequency Variation	
5	Reverse Phase Sequence	
6	Voltage Unbalance	
7	Harmonic Content in current & voltage circuit	
8	Odd Harmonics in the current circuit	
9	Sub Harmonics in the AC Current	
10	Continuous magnetic induction of external origin	
11	Magnetic induction of external origin 0.5mT	
12	Influence of Radar Magnet (0.5 Tesla)	
13	Test of Ambient Temperature influence	
14	Test of Temp at Extreme Condition (-25°C to +70°C)	
	Tests of Electromagnetic Compatibility (EMC)	
15	Fast Transient Burst Test	
16	Surge Immunity Test	
17	Test of Immunity to Electromagnetic RF Fields (Conducted Disturbance)	
18	Damp Oscillatory Waves Immunity Test	

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

NATIONAL TRANSMISSION AND DESPATCH COMPANY
(NTDC)

SPECIFICATION DDS-110:2012



METER DATA COLLECTION (MDC) SERVER
TO BE USED IN
ADVANCED METERING INFRASTRUCTURE (AMI)

(D&S) Department

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

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SPECIFICATION FOR METER DATA COLLECTION (MDC) SERVER TO BE USED IN ADVANCED METERING INFRASTRUCTURE (AMI)

1. Foreword:

1.1. This standard specification has been prepared by the Engineering Directorate of Chief Engineer (D&S).

1.2. This specification is intended for procurement of material and not for contract.

1.3. This specification is subject to revision as and when required.

2. Scope:

2.1. This specification is being prepared for the introduction of a Meter Data Collection (MDC) server to be used with Advanced Metering Infrastructure (AMI).

2.2. This specification is intended for the introduction of MDC based Meter Reading System to be used with Meters as per relevant specification DDS-50:2007, DDS-60:2007 and DDS-65:03 having communication as per specification DDS-98:2011.

2.3. This specification covers the aspects of Meter Data Collection (MDC) server specification, MDC Software Specification, MDC integration with AMI and multi-vendor protocol.

2.4. This specification shall cover the multi-vendor compliance of the existing manufacturers as well as the prospective vendors.

3. Definitions:

3.1. **AMI:**

Advanced Metering Infrastructure (AMI) are systems that measure, collect and analyze energy usage, and communicate with metering devices such as electricity meters, either on request or on a schedule. These systems include hardware, software, communications and Meter Data Management (MDM) software etc.

3.2. **Meter Serial Number:**

Meter serial number is printed on meter label and stored in meter memory.

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3.3. **Manufacturer Identifier**:

The unique numeric identification of each meter manufacturer.

3.4. **Meter Type:**

Meter Type shall correspond to design specification i.e. DDS-50:2007, DDS-60:2007 & DDS-65:03.

3.5. **MDC:**

Meter Data Collection Server is a system in Advanced Metering Infrastructure (AMI) used to obtain data from the meters and store it into the database.

3.6. **Wakeup:**

Wakeup is a request sent by Meter Data Collection (MDC) Server to the meter for making a connection.

3.7. **Pull:**

Pull is a mechanism in which MDC demands for specific information or data from meter and meter sends data in response.

3.8. **GPRS:**

General Packet Radio Service is a packet oriented communication technology. This technology is specifically used for communication between mobile phone and internet.

3.9. **SMS:**

Short Message Service is a communication service standardized in the GSM mobile communication system.

3.10. **Voice Call:**

Voice Call is a GSM service used to interchange speech data between two communication entities.

3.11. **TCP:**

Transmission Control Protocol is transport layer protocol for Internet Protocol (IP).

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3.12. **IP:**

Internet Protocol is a networking layer protocol and forms the core of Internet all around the world.

3.13. **DVD:**

DVD is an optical disc storage media format, offering higher storage capacity than Compact Discs while having the same dimensions.

3.14. **RAID:**

RAID (an acronym for redundant array of independent disks; originally redundant array of inexpensive disks) is a storage technology that combines multiple disk drive components into a logical unit to increase the data storage reliability.

3.15. **OBIS:**

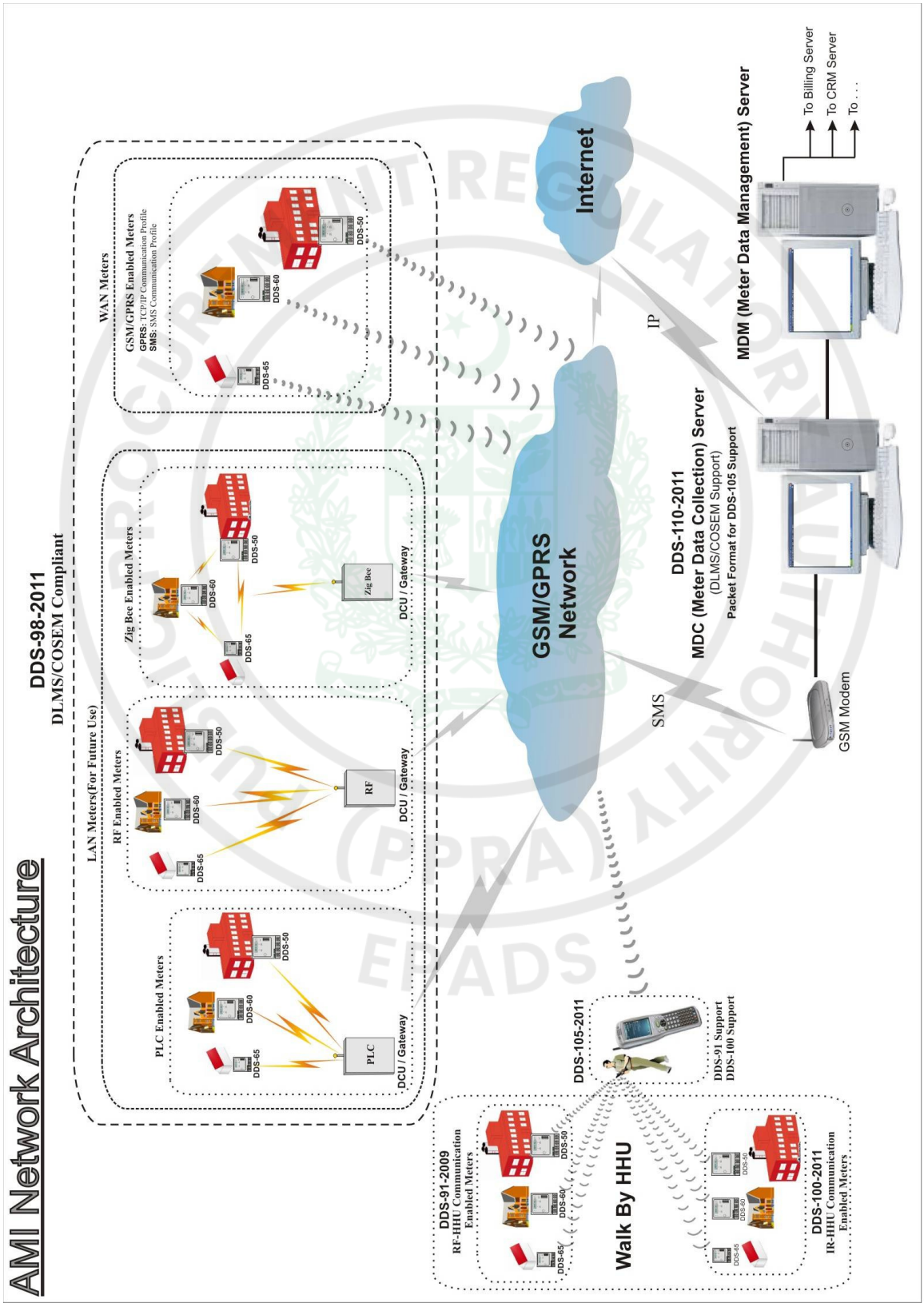
The OBIS OBject Identification System defines identification codes for all data in DLMS/COSEM compliant metering equipment.

3.16. **Mockup:**

In manufacturing and design, a mockup is a scaled model of a design or device, used for teaching, demonstration, design evaluation, promotion, and other purposes. A mockup is a prototype if it provides at least part of the functionality of a system and enables testing of a design.

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4. Network Architecture:



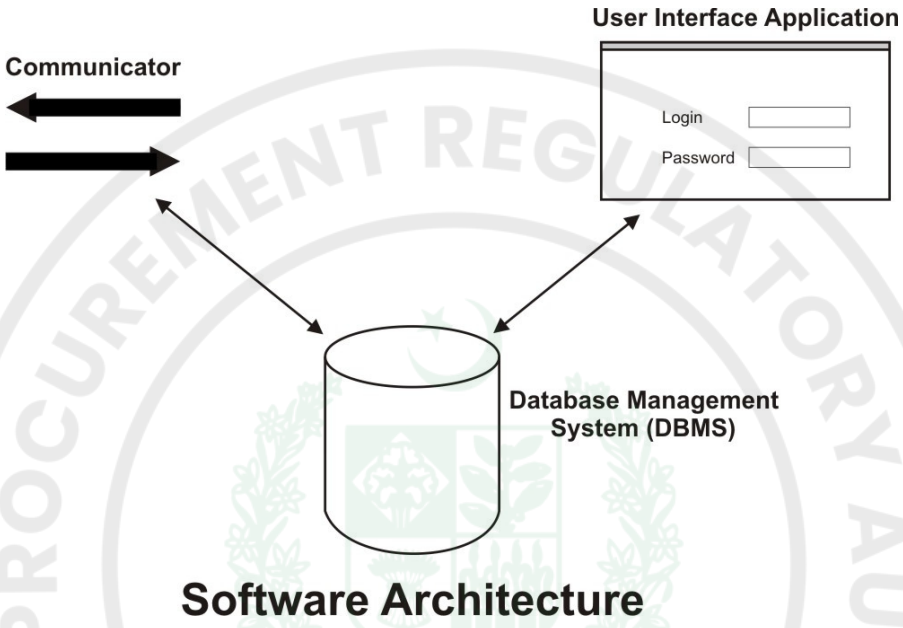
5. Software Architecture:

Meter Data Collection (MDC) Server shall have following:

5.1. User Interface Application

5.2. Database Management System (DBMS)

5.3. Communicator



Software Architecture

6. User Interface Application:

6.1. It is responsible for providing a graphical interface to the user to view the data received from the communicator; send meter configuration and other relevant data to the meters.

6.2. MDC software shall be capable of displaying all metering data as per relevant meter's specifications (DDS-50:2007, DDS-60:2007 and DDS-65:03).

6.3. The interface application shall provide customer hierarchy for at least 3 levels. It shall also provide user management and user rights. User rights shall limit a user to a certain level of customer hierarchy.

6.4. The user interface application shall provide a mechanism for meter management functions. For example, adding or deleting a meter, meter configuration etc.

6.5. The user interface application shall provide a Graphical User Interface (GUI).

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7. Database Management System (DBMS):

7.1. The Database Management System (DBMS) is a central repository for all metering data collected through communicator.

7.2. The host software shall have capabilities to store and report all metering data in a database management system as required in the relevant meter specifications like billing data, event data, load profiles etc.

7.3. It shall provide mechanism for periodic as well as on-demand backup; and also, it shall be able to restore data on request.

7.4. The Database server shall have backup interface for DVD.

7.5. The database shall be capable to hold the metering data as specified in “Schedule of Technical Data” for a period specified therein (Annex-I)

8. Hardware:

8.1. The Database Management Server shall have RAID hard drives.

8.2. There shall be at least one backup server (optional).

8.3. Server Class machines shall be used.

8.4. Online UPS shall be used.

8.5. Reliable Internet Connection with at least one static public IP address shall be used.

8.6. There shall be arrangement for at least two generators.

8.7. Data center room shall be properly air-conditioned.

8.8. There shall be at least one GSM Modem for Wakeup SMS/voice call to send one SMS/ make Voice call all at a time.

8.9. It shall be possible to use more than one server for load sharing when data load is high. The vender will propose system on the basis of requirements given by the customer in Annex-1.

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9. GSM Modem:

GSM modem of following specifications shall be used with MDC

9.1. Quad-Band GSM/GPRS 850/900/1800/1900MHz

9.2. Compliant to GSM phase 2/2+

9.2.1. Class 4 (2W @ 850/900MHz)

9.2.2. Class 1(1W @ 1800/1900MHz)

9.3. The Modem shall have the capability for SMS and voice call communication

9.4. The modem shall have LED indicator visible from the distance.

9.5. The LED shall indicate the operational status of the modem like:

9.5.1. Fast blinking LED indicates absence of SIM card or no network service or insufficient signal strength.

9.5.2. OFF LED indicates modem is not working.

9.5.3. Slow blinking LED indicates healthiness of the modem and is registered to the GSM network

9.6. The SIM card shall be field replaceable

9.7. It shall have RS232 or USB interface for computer

10. Communicator:

It is responsible for handling all communications between meters and MDC and sending data into database for the user interface application.

10.1 Communication Protocols:

10.1.1. MDC shall support DLMS/COSEM communication protocol.

10.1.2. MDC shall also accept output data files as specified in DDS-105:2011 (if applicable).

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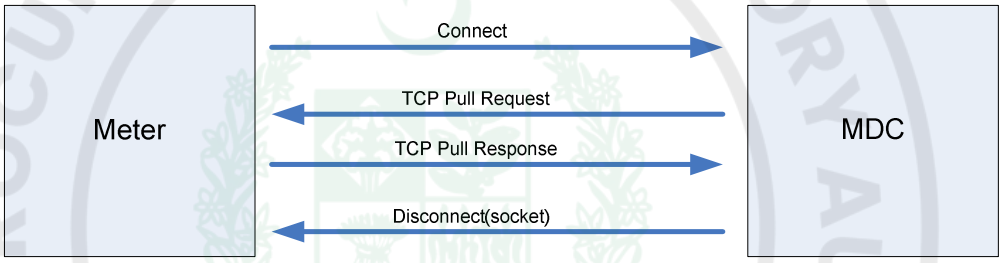
10.2. Communication Modes:

Meters shall be configurable to one of following Mode-I or Mode-II at a time

10.2.1. Mode I (GPRS as Primary Medium and SMS/Voice Call for Wakeup):

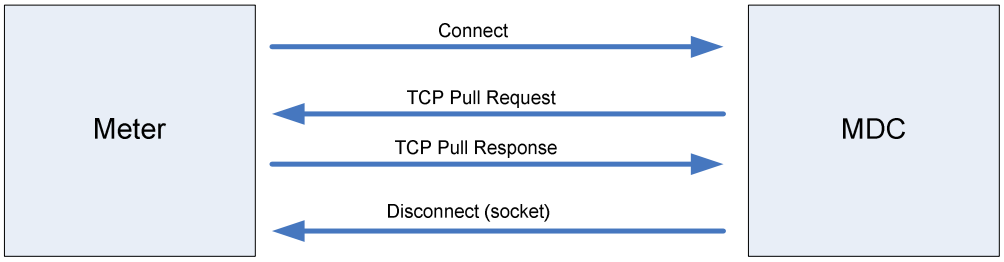
10.2.1.1. Pull at Preprogrammed Interval:

Meter shall establish a TCP connection with the MDC server at a predefined interval via GPRS. Number of retries and retry interval shall be programmable. The MDC shall pull data from the meter as shown in the figure below:



10.2.1.2. Pull at Events & Alarms:

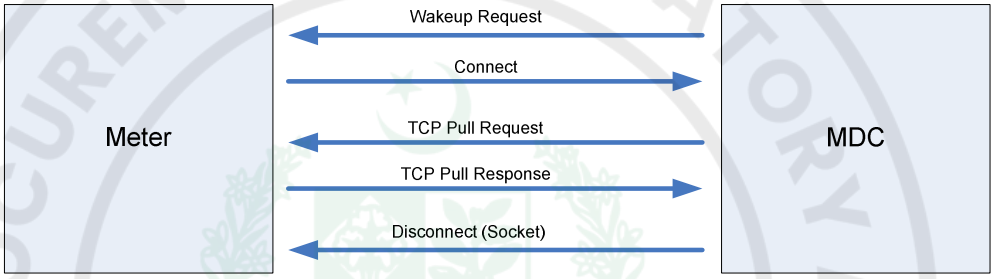
The meter has a number of events/alarms; any of these events/alarms can be configured as a major alarm. If a major alarm/event occurs, meter shall establish a TCP/IP connection with the MDC via GPRS. Number of retries and retry interval shall be programmable. The MDC shall pull data from the meter as shown in the figure below:



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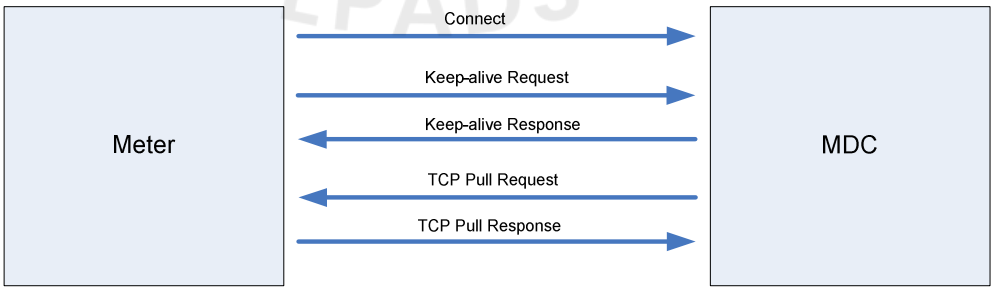
10.2.1.3. Pull on-Demand:

For on-demand data the MDC shall send wakeup SMS or initiate a wakeup voice call for the meter. In response the meter shall establish a TCP/IP connection with the MDC server via GPRS. Number of retries and retry interval shall be programmable. The MDC shall pull data from the meter as shown in the figure below:



10.2.2. Mode-II (GPRS always alive):

Meter shall always maintain a TCP/IP connection with the MDC server via GPRS. In this process the meter shall send periodic heart beat/keep-alive packets to the MDC server. The MDC shall pull data from the meter as and when required as shown in the figure below:



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10.3. Communication Channels:

Meter shall have two programmable IP addresses. For communication via GPRS one of two programmed IP address shall be used as primary address and the other IP address shall be used as secondary address. The meter shall try to establish a TCP/IP connection with the primary IP address if it fails to do so then the meter shall try to establish TCP/IP connection with secondary IP address.

Meter shall have at least three programmable GSM Numbers. In case of Wakeup command via SMS or voice call the meter shall only respond to the wakeup commands originated from the GSM number programmed in it.

10.4. Communication OBIS codes:

10.4.1. Energy and Demand:

Standard OBIS codes for quantities used for billing purposes are shown below.

Cumulative Active energy absolute (Abs KWH)	
Total	1.0.15.8.0.255
Tariff 1	1.0.15.8.1.255
Tariff 2	1.0.15.8.2.255
Tariff 3	1.0.15.8.3.255
Tariff 4	1.0.15.8.4.255

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Cumulative Reactive Energy KVarh Q1 + Q3 in single packet (Pakistan Specific)	
Total	1.0.94.92.0.255
Tariff 1	1.0.94.92.1.255
Tariff 2	1.0.94.92.2.255
Tariff 3	1.0.94.92.3.255
Tariff 4	1.0.94.92.4.255

Maximum Demand Active absolute (MDI-KW abs)	
Total	1.0.15.6.0.255
Tariff 1	1.0.15.6.1.255
Tariff 2	1.0.15.6.2.255
Tariff 3	1.0.15.6.3.255
Tariff 4	1.0.15.6.4.255

Cumulative Maximum Demand Active absolute (Cum-MDI-KW abs)	
Total	1.0.15.2.0.255
Tariff 1	1.0.15.2.1.255
Tariff 2	1.0.15.2.2.255
Tariff 3	1.0.15.2.3.255
Tariff 4	1.0.15.2.4.255

Associated data	
MDI Reset Date and Time	1.0.0.1.2.255
MDI Reset Count	1.0.0.1.0.255

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10.4.2. Instantaneous:

Standard OBIS codes instantaneous data elements are shown below:

Quantity	OBIS code
Aggregate Active power Import (KW+)	1.0.1.7.0.255
Aggregate Active Power Export (KW-)	1.0.2.7.0.255
Aggregate Reactive power Import	1.0.3.7.0.255
Aggregate Reactive power export	1.0.4.7.0.255
Voltage Phase A	1.0.32.7.0.255
Voltage Phase B	1.0.52.7.0.255
Voltage Phase C	1.0.72.7.0.255
Current Phase A	1.0.31.7.0.255
Current Phase B	1.0.51.7.0.255
Current Phase C	1.0.71.7.0.255
Average Power Factor	1.0.13.7.0.255
Frequency	1.0.14.7.0.255
Time	1.0.0.9.1.255
Date	1.0.0.9.2.255
Current Tariff	0.0.96.14.0.255
CT ratio Numerator	1.0.0.4.2.255
CT ratio Denominator	1.0.0.4.5.255
PT ratio Numerator	1.0.0.4.3.255
PT ratio Denominator	1.0.0.4.6.255
Customer Code	0.0.96.1.10.255

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10.4.3. Events Codes and Event notification Packet:

For Event notification standard packet of DLMS/COSEM with Tag 0xC2 should be used. Reference to IEC-62056-53. OBIS code to be used in this Packet is 0.0.96.11.0.255. This OBIS code contains the event code of most recent event occurred. Event code list is implementation specific. List of Event codes for all necessary quantities is given below.

List of event Codes					
Quantitiy	**Event Code**	**DDS-50**	**DDS-60**	**DDS-65 Multi Tariff**	**DDS-65 single Tariff**
MDI reset - 65	101	Y	Y	Y	N
Parameterization - 66	102	Y	Y	Y	N
Power fail start (will be reported when power is restored) - 6F	111	Y	Y	Y	N
Power fail end - 70	112	Y	Y	Y	N
Phase failure - 71	113	Y	Y	N	N
Over Volt - 72	114	Y	N	N	N
Under Volt - 73	115	Y	N	N	N
Demand Over Load - 74	116	Y	N	N	N
Reverse Energy (Ative energy) - 75	117	Y	Y	N	N
Reverse Polarity - 76	118	Y	Y	N	N
CT Bypass - 79	121	Y	N	N	N

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10.4.4. Keep-alive Packet Format:

The Transport Layer payload of Keep-alive request is defined in the table as follows:

Tag	Length of Meter number	Meter Number
1 byte **(0xDD)**	1 byte	As Specified in Section 10.5

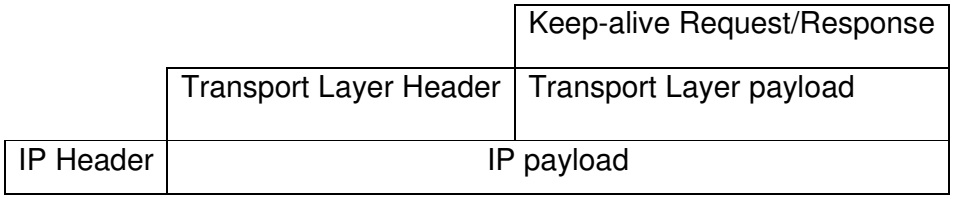
The Transport Layer payload of Keep-alive response is defined in the table as follows:

Tag
1 byte **(0xDA)**

The above request and response packets of Keep-alive commands are payload of Transport Layer. The reasons behind choosing it as Transport Layer payload are given below:

- To keep GPRS data traffic low.
- The purpose served by this packet is beyond the DLMS protocol specification.
- Tags used for Keep-alive request and response packets are utilized by DLMS specification for some other purpose.

Communication network layers stack, showing the generation of Keep-alive request and response, is shown below.



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10.5. Meter identifier:

The MDC shall communicate with meter using a unique 4-Byte Meter Identifier. The office of the Chief Engineer Design and Standards shall allocate prefix to each manufacturer a 4 byte meter identifier as mentioned below:

Meter Serial Number Format		
00-40	00-99	000001-999999
Manufacturer	Meter Type	Meter Serial Number
40 SBL	99 DDS-50	Start =000001 , End = 999999
39 PEL	98 DDS-60	
38 Escorts	97 DDS-65	
37 KBK	Etc.	
36 MicroTech		
35 CTI		
34 TIP		
33 Ace Indigo		
32 Creative Electronics		
Etc.		

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11. Data Export Formats:

11.1 Billing_Data.CSV

Sr #	Item Name	Type (ASCII Text)	Description
1	Reading Date	YY/MM/DD	
2	Reading Time	HH:MM:SS	
3	Reference Number	XXXXXXXXXXXXXX	
4	Meter Serial Number	NNNNNNNNNN	
5	T1 Active kWh	XXXXXX.XX	kWh
6	T2 Active kWh	XXXXXX.XX	kWh
7	T3 Active kWh	XXXXXX.XX	kWh
8	T4 Active kWh	XXXXXX.XX	kWh
9	TL Active kWh	XXXXXX.XX	kWh
10	T1 Reactive kVArh	XXXXXX.XX	kVArh
11	T2 Reactive kVArh	XXXXXX.XX	kVArh
12	T3 Reactive kVArh	XXXXXX.XX	kVArh
13	T4 Reactive kVArh	XXXXXX.XX	kVArh
14	TL Reactive kVArh	XXXXXX.XX	kVArh
15	T1 Active MDI	XXX.XXX	kW
16	T2 Active MDI	XXX.XXX	kW
17	T3 Active MDI	XXX.XXX	kW
18	T4 Active MDI	XXX.XXX	kW
19	TL Active MDI	XXX.XXX	kW
20	T1 Cumulative Active MDI	XXXXXX.XX	kW
21	T2 Cumulative Active MDI	XXXXXX.XX	kW
22	T3 Cumulative Active MDI	XXXXXX.XX	kW
23	T4 Cumulative Active MDI	XXXXXX.XX	kW
24	TL Cumulative Active MDI	XXXXXX.XX	kW
25	MDI Reset Date	YY/MM/DD	
26	MDI Reset Time	HH:MM:SS	
27	MDI Reset Count Number	XXXX	

Note: Unavailable quantities shall be appended by blank spaces

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11.2 Instantaneous_Data.CSV

Sr #	Item Name	Type (ASCII Text)	Description
1	Reading Date	YY/MM/DD	
2	Reading Time	HH:MM:SS	
3	Reference Number	XXXXXXXXXXXXXX	
4	Meter Serial Number	NNNNNNNNNN	
5	Aggregate Active power Import (KW+)	XXXXXX.XXX	kW
6	Aggregate Active Power Export (KW-)	XXXXXX.XXX	kW
7	Aggregate Reactive power Import	XXXXXX.XXX	kW
8	Aggregate Reactive power export	XXXXXX.XXX	kW
9	Voltage Phase A	XXXXXX.XXX	Volts
10	Voltage Phase B	XXXXXX.XXX	Volts
11	Voltage Phase C	XXXXXX.XXX	Volts
12	Current Phase A	XXXXXX.XXX	Amperes
13	Current Phase B	XXXXXX.XXX	Amperes
14	Current Phase C	XXXXXX.XXX	Amperes
15	Average Power Factor	X.XX	
16	Frequency	XX.XX	Hz
17	Time	YY/MM/DD	
18	Date	HH:MM:SS	
19	Current Tariff	X	Number

Note: Unavailable quantities shall be appended by blank spaces

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12. User Acceptance Criteria:

Following tests shall only to be performed when MDC is fully installed at utility designated location. MDC Sever software does not require prototype testing/approval.

For energy meter prototype testing as per DDS-98 required communication verification as per Annex-II shall be performed using MDC software mockup.

12.1 Software Architecture

Criteria	Pass	Fail
Provision of User Interface Application		
Provision of Database Management System		
Provision of Communicator Application		

12.2 User Interface Application

Criteria	Pass	Fail
Capable of displaying all metering data as per relevant WAPDA/PEPCO meter's specifications i.e. DDS-50,DDS-60 and DDS-65		
Provides customer hierarchy for at least 3 levels		
Provides user management and user rights		
User rights limit a user to a certain level of customer hierarchy		
Provides a GUI		

12.3 Database Management System

Criteria	Pass	Fail
Stores and reports all metering data in DBMS		
Provides mechanism for periodic as well as on-demand backup; and also restores data on request		
Database server has a backup interface for DVD		
Capable to hold the metering data as specified in "Schedule of Technical Data"		

12.4 Hardware:

Criteria	Pass	Fail
RAID Hard Drives(if applicable)		
At least one backup server(if applicable)		
Server Class machines(if applicable)		
Online UPS(if applicable)		
Arrangement for at least two generators(if applicable)		
At least one GSM Modem.		
More than one server for load sharing(if applicable)		

12.5 Server side GSM Modem:

Criteria	Pass	Fail
Quad Band (verification through datasheet)		
SMS Capability(if applicable)		
Voice Call Capability(if applicable)		
LED Indicator		
Field Replaceable SIM		
RS232 or USB Interface		

12.6 Communicator

Criteria	Pass	Fail
Supports DLMS/COSEM communication protocol		
Supports output data files as specified in DDS-105:2011(if applicable)		

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12.7 Communication Modes

Criteria	Pass	Fail
Mode I (Pull at preprogrammed Interval)		
Mode I (Pull at Events & Alarms)		
Mode I (Pull on Demand)		
Mode II(GPRS always live)		

12.8 Communication Channels

Criteria	Pass	Fail
Provision of two Programmable IP addresses		
Provision of primary and secondary IP addresses		
Provision of three Programmable GSM Numbers		

12.9 Meter Identifier

Criteria	Pass	Fail
Supports Meter Identifier		

12.10 Data Export Format

Criteria	Pass	Fail
Billing Data Export Format as per relevant specifications		
Instantaneous Data Export Format as per relevant specifications		

ASHFAQ AHMED DY MANAGER (DIST.ENGG.)	DR.RANA ABDUL JABBAR KHAN MANAGER (DIST.ENGG.)	ZUBAIR MALIK CHIEF ENGINEER (DIST.ENGG.)

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13. Annex-I: Schedule of Technical Data:

Following data is to be filled by the customer as per their requirement

13.1. Billing Data to be transferred from meter to MDC to be filled for each meter/customer type.

S.No.	Item	Type	Required (mark Yes/No)
1	TL kWh	Billing	
2	T1 kWh	Billing	
3	T2 kWh	Billing	
4	T3 kWh	Billing	
5	T4 kWh	Billing	
6	TL kVArh	Billing	
7	T1 kVArh	Billing	
8	T2 kVArh	Billing	
9	T3 kVArh	Billing	
10	T4 kVArh	Billing	
11	TL MDI kW	Billing	
12	T1 MDI kW	Billing	
13	T2 MDI kW	Billing	
14	T3 MDI kW	Billing	
15	T4 MDI kW	Billing	
16	TL CUM MDI kW	Billing	
17	T1 CUM MDI kW	Billing	
18	T2 CUM MDI kW	Billing	
19	T3 CUM MDI kW	Billing	
20	T4 CUM MDI kW	Billing	

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13.2. Instantaneous Data to be transferred from meter to MDC to be filled for each meter/customer type

S.No.	Item	Type	Required (mark Yes/No)
1	Aggregate Active power Import (KW+)	Instantaneous	
2	Aggregate Active Power Export (KW-)	Instantaneous	
3	Aggregate Reactive power Import	Instantaneous	
4	Aggregate Reactive power export	Instantaneous	
5	Voltage Phase A	Instantaneous	
6	Voltage Phase B	Instantaneous	
7	Voltage Phase C	Instantaneous	
8	Current Phase A	Instantaneous	
9	Current Phase B	Instantaneous	
10	Current Phase C	Instantaneous	
11	Average Power Factor	Instantaneous	
12	Frequency	Instantaneous	
13	Time	Instantaneous	
14	Date	Instantaneous	
15	Current Tariff	Instantaneous	
16	CT ratio Numerator	Instantaneous	
17	CT ratio Denominator	Instantaneous	
18	PT ratio Numerator	Instantaneous	
19	PT ratio Denominator	Instantaneous	
20	Customer Code	Instantaneous	

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13.3. Frequency and Duration of Data to be filled for each meter/customer type used.

S.No.	Item	Count/Frequency/Duration
1	Billing Data interval	
2	Instantaneous Data interval	
3	Number of meters/customers in this category	
4	Data to be stored inside server for how many number of months	

13.4. IT Infrastructure requirement.

S.No.	IT Infrastructure	Required from bidder (Yes/No)
1	Servers	
2	Switched Router	
3	Online UPS	
4	Reliable Internet Connection	
5	Generators	
6	Data Center Room	
7	GSM Modems	
8	Tower	
9	Others(to be specified)	

13.5. Optional Features.

S.No.	Feature Names	Required from bidder (Yes/No)
1	Wake up on SMS	
2	Wake on voice Call	
3	Backup server	
4	DDS-105:2011 integration required	

13.6. Service Level Agreement (SLA).

S.No.	Feature Names	
1	Meters to be integrated (specify make and model)	
2	After sales support duration	
3	Quantity to be integrated for each type and make of meters	
4		

14. Annex-II Parameters list for communication verification:

S.No.	Quantity Name
1	Meter Serial Number
2	Total kWh
3	Total kvarh

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Delivery Terms and Conditions:

a. The bidder shall state the country and place of manufacture in its bid, and the applicable delivery schedule shall follow from that declaration. A bidder who misrepresents the place of manufacture shall be dealt with under the Public Procurement Rules, 2026.

b. For goods manufactured outside Pakistan, the full quantity of 185,200 Nos. shall be delivered within one hundred and fifty (150) calendar days, from the date of issuance of the Purchase Order (P.O.), in two (02) shipments 60,000 within one hundred and five (105) calendar days, and the remaining quantity 125,200 within one hundred and fifty (150) calendar days, matching the two inspection calls specified in the Inspection and Testing clause.
c. For goods manufactured in Pakistan, the full quantity of 185,200 Nos. shall be delivered within one hundred and fifty (150) calendar days, from the date of issuance of the P.O., in five (05) monthly consignments:
(i) the first consignment of 30,200 Nos. within thirty (30) calendar days from the date of the P.O.;
(ii) the second consignment of 38,750 Nos. within sixty (60) calendar days from the date of the P.O.;
(iii) the third consignment of 38,750 Nos. within ninety (90) calendar days from the date of the P.O.; and
(iv) the fourth consignment of 38,750 Nos. within one hundred and twenty (120) calendar days from the date of the P.O.
(v) the fifth consignment of 38,750 Nos. within one hundred and fifty (150) calendar days calendar days from the date of the P.O.

d. For delivery purposes, the Supplier shall be treated as having offered the goods within the delivery period only if it submits the inspection call within the time specified in the Inspection and Testing clause. For foreign goods, this means within forty-five (45) calendar days from the date of the P.O. for the first 60,000 Nos., and within ninety (90) calendar days for the remaining 125,200 Nos.). For local goods, this means at least fifteen (15) calendar days before the due date of each consignment. The offer must also not be rejected as a fake call, i.e. goods not ready for inspection, or because the goods do not conform to the specifications.

e. Once a valid inspection call has been made and the Inspection Certificate issued, the delivery period for the offered quantity shall stop running. The Supplier shall then deliver that quantity to the designated consignee store(s) within fifteen (15) calendar days for locally manufactured goods, or sixty (60) calendar days for goods manufactured outside Pakistan, from the date of issuance of the Inspection Certificate.

f. If the Supplier does not deliver within the period in clause (e), it shall be liable to liquidated damages, as specified in the Special Conditions of Contract, from the date that period expires until the date of the Goods Received Note (GRN).

g. The delivery period and liquidated damages shall be applied separately to each consignment (local) or shipment (foreign), on the value of the quantity delivered late. A delay in one consignment or shipment shall not extend the due date of the next.

h. Liquidated damages shall not be imposed for any period of delay caused solely by the Purchaser or PPMC in conducting the inspection or issuing the Inspection Certificate, provided the Supplier submitted a valid inspection call within the stipulated time.

i. Delivery shall be on Delivered Duty Paid (DDP) basis to [Regional Store Nowshera, Field Store Peshawar, Field Store Chakdara and Field Store Bannu], as per the distribution schedule provided in the Purchase Order.

PUBLIC PROCUREMENT REGULATORY AUTHORITY (PPRA) EPADS

INSPECTION, TESTING, SPECIAL TERMS & CONDITIONS

SINGLE PHASE AMI SMART ENERGY METERS ALONG WITH MDC SOFTWARE/DRIVER/HES

SPECIAL TERMS & CONDITIONS:

i. Supplier will submit requirements for UDIL certificate to PITC within 15-days from the date of issuance of LOI under intimation to this office. Non-submission of requirement by you for UDIL Certification within above specified period may tantamount to cancellation of LOI and confiscation of Bid Security in favor of PESCO as per WAPDA/PPMC Purchase Procedure. PESCO will issue the Purchase Order (PO) after receiving the UDIL Certification from PITC.

ii. The meters should comply DDS: 65:2003, DDS:98:2011, DDS:110-2012 (all amended to date) and PITC UDIL (latest version) all amended to date with PTA compliant 4G communication module (with backward compatibility to 2G). Supplier will have to obtain UDIL compliance testing certificate from PITC after the issuance of LOI within 30 days (extendible if both parties agree).

iii. The integration of Meters, MDM and MDCs will be the responsibility of vendor.

iv. Sample meters for testing should be created by vendor at the day of sample testing to check MDM communication.

v. One MDC should be installed at PESCO Peshawar and one at PITC Lahore, in case no sufficient MDC hardware of the successful bidder is already available and installed at the desired locations, new hardware will be provided by the bidder.

vi. The bidder will be responsible for the efficiency and data requirements of the MDCs and will upgrade the existing MDC servers or add new hardware accordingly to fulfill the data needs.

vii. The bidder will provide MDC hardware, brand new Servers having local OEM warranty and adequately fulfilling the MDCs data needs, in case no or insufficient MDC hardware at both locations.

viii. The meter number should be XX97XXXXXX where first 2 digits will be vendor code.

ix. 90% payment will be upon delivery and 10% of the payment will be released after first successful billing of 20% of the total AMR Meters mentioned in the Purchase Order verified by Performance certificate issued by PESCO AMI Cell.

x. An additional display window showing the cumulative MDI, updated on the 1st day of every month (meter display at Serial-6).

xi. An additional display window showing the total progressive kWh reading, updated on the 1st day of every month (meter display at Serial-7).

xii. The word “AMI” shall be permanently marked in large font on the meters’ name plate.

xiii. After issuance of inspection report and before delivery of the meters, it will be vendors responsibility to create all meters on MDM.

xiv. For warranty period a proper POC (Person of contact) should be nominated who would assist in case of any communication or hardware issue.

xv. Inspector can reject the lot for any valid technical reason not mentioned in DDS.

INSPECTION & TESTING:

i. Inspection of the material will be carried out at your works premises jointly by the Chief Engineer (MI) PPMC (3rd Party) or his authorized representative & representative(s) of CEO PESCO. Notice in writing shall have to be given to the Inspecting Officer(s) by you that the store against the above PO is ready for inspection. All reasonable facilities as provided in the specifications or followed by the Industry or Trade in General shall have to be afforded to the inspecting Officer by you at your expense for carrying out Inspection.

i. Inspection charges if any will not be reimbursed to you by PESCO