



**PROCUREMENT OF METER DATA MANAGEMENT INCLUDING  
INTEGRATED ENERGY METER DATA MANAGEMENT SOLUTION  
(MDM+EDMS)**

**PROJECT "INSTALLATION OF AMI METERS AT MDI CT OPERATED  
PUBLIC CONNECTIONS"**

Issued By:

DIRECTOR TECHNICAL (RECONCILIATION) RECONCILIATION CELL,  
ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB, 27-  
JAHANGIR PARK (LOS), NEW MOZANG LAHORE



## BIDDING DETAILS (INSTRUCTIONS TO BIDDERS)

- a. Submission of Bids / Proposals: The complete Bids/Proposals, prepared in accordance with the instructions provided in this Tender Document, must be submitted exclusively through EPADS.
- b. Schedule of Bidding Process: The schedule for the bidding process is as follows:

Activity	Date	Time	Venue
<b>Tender advertisement</b>	4 <sup>th</sup> December, 2025	03:00 PM	EPADS, News Papers & Social media
<b>Pre-Bid Meeting</b>	11 <sup>th</sup> December, 2025	11:00 AM	Committee Room, Reconciliation Cell, Energy Department, 27-Jahangir Park (LOS), New Mozang, Lahore
<b>Last Date &amp; Time for Bid Submission</b>	<b>23<sup>rd</sup> December, 2025</b>	<b>11:00 AM</b>	Reception, Reconciliation Cell, Energy Department, 27-Jahangir Park (LOS), New Mozang, Lahore
<b>Opening of Technical Bids</b>	<b>23<sup>rd</sup> December, 2025</b>	<b>11:30 AM</b>	Committee Room, Reconciliation Cell, Energy Department, 27-Jahangir Park (LOS), New Mozang, Lahore
<b>Opening of Financial Bids</b> <i>(for Technically Qualified Bidders only)</i>	To be announced later		Committee Room, Reconciliation Cell, Energy Department, 27-Jahangir Park (LOS), New Mozang, Lahore

### Contact Information

For any clarification regarding the bidding process, prospective bidders may raise their queries through EPADS and/or through the following email at least **seven (07) days prior** to the submission deadline:

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RECONCILIATION CELL, ENERGY DEPARTMENT,  
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## SECTION 1 – INTRODUCTION & DISCLAIMER

### 1.1. Introduction

The Energy Department, Government of the Punjab, through its Reconciliation Cell, is undertaking a key initiative to enhance transparency, operational efficiency, and energy accountability across public sector electricity connections.

Under the ongoing project titled:

**“Installation of AMI Meters at MDI Public Connections in LESCO”,**

the Department intends to procure, deploy, and commission an advanced Meter Data Management System (MDM) including an Integrated Energy Data Management Solution (EDMS).

This initiative — referred to as the **“Procurement of Meter Data Management Including Integrated Energy Meter Data Management Solution (MDM + EDMS)”** aims to establish a centralized platform for accurate data collection, validation, analysis, and reporting from Advanced Metering Infrastructure (AMI) devices installed at public sector sites.

The proposed system will ensure timely access to reliable energy consumption data, enable reconciliation between AMI readings and billing records, and strengthen analytical capabilities for loss identification, anomaly detection, and operational decision-making.

The procurement shall be conducted under the **Punjab Procurement Rules, 2014 (amended)**, using the **Single Stage – Two Envelope Bidding Procedure**. Technical and Financial Proposals will be submitted online via EPADS and evaluated separately, and the contract shall be awarded to the lowest evaluated bidder meeting of all specified technical, functional, and financial criteria.

### 1.2. Background

The **Reconciliation Cell, Energy Department, Government of the Punjab** has been established to oversee the verification, reconciliation, and validation of metering and billing data from electricity distribution companies (DISCOs) for public sector consumers across Punjab.

As part of the **AMI Implementation Project**, multiple Meter Data Concentrators (MDCs) and smart meters have been deployed at Public Connections to enable interval-based data recording. However, data from these AMI devices is currently fragmented across multiple vendor platforms.

To address this challenge, the Energy Department seeks to establish a **comprehensive and vendor-neutral Meter Data Management (MDM) and Energy Data Management System (EDMS)** capable of integrating data from all existing and future AMI systems.

This solution shall enable unified data processing, automated validation and estimation, customized reporting, anomaly detection, and detailed energy analysis at multiple operational levels (DISCO, Circle, Division, Sub-Division, Department wise and individual connection).

The solution will serve as a centralized platform for **data acquisition, validation, analysis, and reporting** from multiple metering sources, enabling near real-time visibility into energy consumption patterns, losses, and operational performance. It will facilitate effective data reconciliation between utilities, enhance billing accuracy, and strengthen energy accountability across the network.



Under the ongoing AMI project, a significant number of MDI CT-operated connections have been equipped with smart meters capable of capturing interval data. However, to realize the full potential of this investment, there is a need to establish a centralized Meter Data Management (MDM) and Energy Data Management (EDMS) system.

This system will integrate with multiple Meter Data Concentrators (MDCs) and AMI meters from different manufacturers (e.g., KBK, MICROTECH, etc.) to facilitate standardized data acquisition, validation, estimation, editing, and reporting. The proposed MDM + EDMS platform will empower the Reconciliation Cell to reconcile electricity bills, conduct energy audits, detect anomalies, and generate analytical reports for improved decision-making.

The implementation of this project will play a pivotal role in enhancing Punjab's energy data governance framework, aligning it with the provincial and national vision for **smart metering and intelligent energy management**. It will also serve as a foundational system for integrating future initiatives such as predictive analytics, loss reduction programs, and smart grid operations.

### 1.3. Objectives of Procurement

The key objectives of this procurement are to:

- i. Deploy a **centralized, interoperable, and scalable MDM + EDMS platform** compatible with multiple AMI systems and meter brands.
- ii. Automate meter data acquisition, validation, estimation, editing, and reconciliation processes.
- iii. Facilitate detailed consumption analytics, trend and exception reporting, and energy balance analysis.
- iv. Provide comparative reports between AMI data and billed units for reconciliation purposes.
- v. Enable the creation of user-defined customer groups and customized reporting dashboards.
- vi. Improve decision-making through data-driven insights, visualization, and exception alerts.
- vii. Support secure data access through **role-based permissions** and maintain a complete **DATA trail** of user activities.
- viii. Ensure compliance with all applicable Government of Punjab standards, PPRA procurement procedures, and data security protocols.

### 1.4. Issuing Authority

This Invitation to Bids (ITB) is issued by:

- Focal Person
  - Name: Tariq Nazeer
  - DIRECTOR TECHNICAL (RECONCILIATION)  
RECONCILIATION CELL, ENERGY DEPARTMENT,  
GOVERNMENT OF THE PUNJAB  
27-Jahangir Park (LOS), New Mozang, Lahore
  - Email:tariqnazeermul@gmail.com
  - Tel. No.:03215105310



All correspondence, clarifications, and document submissions related to this ITB shall be addressed to the above office.

**Consultant (Support):**

Vital Management Services (Pvt) Ltd.  
<http://www.vms.com.pk>

**1.5. Disclaimer**

- a. This Bidding Document has been prepared and is being issued under the applicable provisions of the Punjab Procurement Rules 2014 (amended) and the internal procurement procedures of the DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB for inviting bids for the Procurement of Integrated Metering Data Management & Energy Data Management System (MDM + EDMS).
- b. The Bidding Document, together with its instructions, technical requirements, evaluation criteria, and draft contract, shall be used for the selection of the **most responsive and technically compliant bidder**. The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB its officers, employees, agents, consultants, or advisors shall not be liable to reimburse or compensate any recipient or prospective bidder for any costs, expenses, losses, or damages incurred in reviewing, evaluating, or responding to this document, or otherwise participating in this procurement process.
- c. Submission of a bid by any bidder shall be deemed to constitute an acknowledgment that the bidder has fully read, understood, and agreed to all the terms, conditions, and requirements specified in this document, and has conducted its own due diligence with respect to all aspects of the assignment, including technical, financial, and contractual implications.
- d. Bids submitted in response to this Invitation to Bid (ITB) shall be construed to be based upon the bidder's full understanding of the scope of work, technical specifications, implementation framework, and contractual obligations after careful review and verification of all information and data provided herein. Mere acquisition of this document or participation in the bidding process shall not be construed as a guarantee or commitment by the Energy Department to award the contract or enter into any binding agreement.
- e. The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB, reserves the right, at its sole discretion, to amend, modify, or cancel the bidding process, reject any or all bids, or annul the procurement at any stage prior to the signing of the contract, without incurring any liability or obligation to compensate the bidders for any costs or damages incurred in connection with the preparation or submission of their bids.
- f. The **Proof of Concept (POC)** is **mandatory** for all participating bidders. No payment shall be made for the POC stage. The signing of the contract shall be contingent upon the **successful completion and formal approval of the POC** by the procuring agency.
- g. The evaluation of bids shall be carried out in accordance with the procedures and criteria defined in this document. Only those bidders achieving a **minimum of sixty percent (60%) marks in the technical evaluation** shall qualify for financial evaluation. The final award shall be made to the **lowest evaluated cost bidder** among those who meet the technical qualification criteria and have successfully completed the POC.
- h. Mere submission of a bid does not confer any legal or vested right upon the bidder for the award of contract. The decision of The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB regarding evaluation, qualification, and award shall be final, conclusive, and binding in all respects.



Definitions and Abbreviations

<b>Abbr.</b>	<b>Explanation</b>
ADP	Annual Development Programme
AMI	Advanced Metering Infrastructure
AMR	Automated Meter Reading
BI	Business Intelligence
CT	Current Transformer
DISCO	Distribution Company
EDMS	Energy Data Management System
EPADS	e-PAK Acquisition & Disposal System ---- PPRA Portal
GCC	General Conditions of Contract
GSM/GPRS	Global System for Mobile / General Packet Radio Service
HES	Head End System
IT	Information Technology
ITB	Instructions to Bidders / Invitation to Bids
KPI	Key Performance Indicator
KWh KVARh	/ Energy Units – Active / Reactive
LESCO	Lahore Electric Supply Company
LoA	Letter of Acceptance
MDAS	Meter Data Acquisition System
MDC	Meter Data Collection
MDG	Millennium Development Goals
MDM	Meter Data Management
MoM	Minutes of Meeting
N	Defined number of months as determined by Client



NCB	National Competitive Bidding
PEC	Pakistan Engineering Council
PEPCO	Pakistan Electric Power Company
PITC	Pakistan Information Technology Company
PMC	Project Management Consultant
POC	Proof of Concept
PPRA	Punjab Procurement Regulatory Authority
QA/QC	Quality Assurance / Quality Control
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Quotation
SCC	Special Conditions of Contract
SDG	Sustainable Development Goals
SLA	Service Level Agreement
TA/DA	Travelling Allowance / Daily Allowance
TOR	Terms of Reference
TOU	Time of Use
VEE	Validation, Estimation & Editing
VMS	Vital Management Services (Pvt) Ltd



## SECTION 2 – INSTRUCTIONS TO BIDDERS (ITB)

(In accordance with Punjab Procurement Rules 2014, as amended)

### 2.1. General

- 2.1.1. The Procuring Agency, Director Technical (Reconciliation), Reconciliation Cell, Energy Department, Government of the Punjab, invites electronic bids through the Punjab Procurement Regulatory Authority's e-PAK Acquisition & Disposal System (EPADS Portal) for the "Procurement of Meter Data Management Including Integrated Energy Data Management Solution (MDM + EDMS)"
- 2.1.2. under the Project "*Installation of AMI Meters at MDI Public Connections in LESCO.*"
- 2.1.3. The bidding process shall be conducted in accordance with the Punjab Procurement Rules, 2014 (amended time to time) and EPADS operational guidelines issued by PPRA Punjab.

### 2.2. Method of Procurement

- 2.2.1. The procurement shall be carried out through Single Stage – Two Envelope Procedure under Rule 38(2)(a) of the Punjab Procurement Rules, 2014 (as amended).
- 2.2.2. Bidders shall submit separate Technical and Financial Bids electronically through the PPRA EPADS Portal.

### 2.3. Mode of Submission

#### 2.3.1. Online Submission Only:

- a. All bids must be submitted online via the EPADS Portal ( <https://punjab.eprocure.gov.pk> ).
- b. Manual submission, courier delivery, or hand-delivered documents shall not be accepted.
- c. No physical copies of bid documents are required at any stage of the bidding process.
- d. However, Original bid security in the shape of Bank Guarantee/CDR/Pay Order/Demand Draft must be submitted physically at the address of procuring agency well before the date and time of submission of e-bids.

#### 2.3.2. Bid Documents Access:

- a. Bidding documents, specifications, forms, and annexures can be downloaded free of cost from the EPADS Portal.
- b. Bidders are not required to purchase or collect documents manually.



### **2.3.3. Bid Uploading:**

- a. The bidder shall upload complete Technical and Financial proposals separately in the designated sections of the EPADS Portal before the deadline for submission.
- b. Files should be uploaded in PDF format, digitally signed and stamped.
- c. Each document must clearly indicate the bidder's name and the title of the assignment.

### **2.3.4. Deadline for Submission:**

- a. Bids must be submitted electronically before the date and time specified in the Invitation for Bids (IFB).
- b. Late submissions shall be automatically rejected by the EPADS system.

### **2.4. Opening of Bids**

- 2.4.1. Technical Bids will be opened online at the specified date and time in the presence of bidders (or their representatives) who wish to attend virtually through the EPADS platform.
- 2.4.2. The Procuring Agency shall download and open the Technical Bids electronically from the EPADS system.
- 2.4.3. Financial Bids of only technically qualified bidders shall be opened later, as per schedule, through the same electronic process.

### **2.5. Bid Security (Earnest Money)**

- 2.5.1. Original bid security of Rs. 600,000/- (Six Hundred thousand only) which is 02% of the total estimated cost as "Bid Security" in favor of Director Technical (reconciliation) / Project Director, Reconciliation Cell, Energy Department, Government of the Punjab, 27-JAHANGIR PARK (LOS), NEW MOZANG LAHORE.
- 2.5.2. The bid security must be submitted in the form of a Bank Draft, Pay Order, or Bank Guarantee in favor of "Director Technical (Reconciliation), Energy Department, Government of the Punjab."
- 2.5.3. The original instrument shall be **submitted physically to the Procuring Agency's office** before the bid opening date/time, and scanned proof of submission shall be **uploaded on the EPADS Portal**.
- 2.5.4. Bids without valid bid security shall be rejected.

### **2.6. Clarifications and Queries**

- 2.6.1. Any clarification regarding the bidding documents must be requested through the EPADS portal message center before the pre-bid meeting or within the period specified in the IFB.
- 2.6.2. Responses and addenda, if any, shall also be communicated through the EPADS system only.



2.6.3. No direct communication or submission outside the portal will be entertained.

## **2.7. Pre-Bid Meeting**

2.7.1. Bidders are encouraged to participate to clarify any technical or procedural queries.

## **2.8. Evaluation Process**

2.8.1. Evaluation of bids shall follow Rule 35 of Punjab Procurement Rules 2014 (amended).

2.8.2. Only electronically submitted documents on EPADS will be considered for evaluation.

2.8.3. The Technical Evaluation Report (TER) and Financial Evaluation Report (FER) will be uploaded on EPADS in compliance with transparency requirements.

## **2.9. Award of Contract**

2.9.1. The Letter of Acceptance (LOA) and Contract Agreement will be issued/uploaded through the EPADS Portal to the successful bidder.

2.9.2. The selected bidder shall submit a Performance Guarantee as per bid data sheet before signing the contract after successful completion of POC.

## **2.10. Rights of the Procuring Agency**

The Procuring Agency reserves the right to:

- a. Reject any or all bids as per Rule 35 of Punjab Procurement Rules 2014 (amended);
- b. Cancel the procurement process at any stage prior to award.
- c. Seek clarification or verification from bidders during evaluation.

## **2.11. Important Notes**

2.11.1. Bidders must be registered on PPRA Punjab's EPADS Portal to participate.

2.11.2. Manual bids will not be entertained.

2.11.3. Bidders are responsible for ensuring successful upload of all documents before the deadline.

2.11.4. The Procuring Agency shall not be responsible for any network or system failure on the part of the bidder.



## 2.12. Eligibility of Bidders

2.12.1. The Invitation to Bids is open to all vendors / suppliers i.e. association of firms / companies registered with relevant Registration Authorities (Pakistan Engineering Council with minimum C5 category or PSEB or P@SHA or any recognize body) and Tax Departments / Authorities (FBR, EPADS, Punjab Revenue Authority - PRA, Income Tax, Sales Tax & Punjab Sales Tax etc.) except as provided hereinafter. The bidder must be a legal entity (Company/Firm) registered in Pakistan or abroad, with a local authorized partner or representative in Pakistan.

2.12.2. Bidders should not be 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 DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB to provide consultancy services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods/services to be procured under this Invitation to Bids.

To ensure vendor independence and avoid any potential lock in with a specific meter brand or technology, the proposed MDM/MDAS/EDMS solution must remain fully interoperable and VENDOR-NEUTRAL. Participation is open to all eligible bidders including meter manufacturers, AMI vendors, system integrators, and consortiums provided the proposed solution supports open standards and does not rely on proprietary integrations restricted to any single meter brand. The system must ensure seamless interoperability with the existing Meter Data Concentrators (MDCs) deployed at the Reconciliation Cell, including those installed by KBK and MICROTECH, and must support integration with the current and future AMI infrastructure of LESCO and the Reconciliation Cell.

2.12.3. Government-owned enterprises may participate only if they are duly/legally authorized in this regard by the respective/relevant competent forum/authority.

2.12.4. Bidders shall not be under a declaration of ineligibility/blacklisting by Energy Department, Govt of Punjab (the Employer) or by Punjab Procurement Regulatory Authority (PPRA), at the date of submission of the Application or thereafter.

2.12.5. 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 contract.

2.12.6. The appointment of Lead Member in the Joint Venture, Consortium, or Association shall be confirmed by submission of a valid JV or Consortium agreement to The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB.

2.12.7. Any agreement that forms a Joint Venture, Consortium or Association shall be required to be submitted as part of the Bid and shall be attested.

2.12.8. 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 with respect to its contribution only and the responsibilities of each party and shall not be substantially altered without prior written approval of The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB and in line with any instructions issued by the Authority.



- 2.12.9. The invitation for Bids is open to all prospective Vendors/ Supplier, Manufacturers or Authorized Agents / Dealers / Distributors subject to any provisions or licensing/regulatory requirements issued by the respective National/ Provincial Professional Statutory Body established for that particular trade or business.
- 2.12.10. A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be non-responsive. A Bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if they:
- Are associated or have been associated for the procurement of the goods to be purchased under this Invitation for Bids, directly or indirectly with a firm or any of its affiliates which have been engaged by The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB to provide consulting services for the preparation of the design, specifications and other documents to be used.
  - Have controlling shareholders in common; or
  - Receive or have received any direct or indirect subsidy from any of them; or
  - Have the same legal representative for purposes of this Bid; or
  - 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 Bid of another Bidder, or influence the decisions of The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB.
- 2.12.11. A Bidder may be ineligible if;
- The Bidder is not having active registration with relevant Registration Authorities(Pakistan Engineering Council or Pakistan Software Export Board or P@SHA or any recognize body) and Tax Departments / Authorities (FBR, EPADS, Punjab Revenue Authority - PRA, Income Tax, Sales Tax & Punjab Sales Tax etc.).
  - The Bidder is declared bankrupt or, in the case of company or firm, insolvent.
  - 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.
  - Legal proceedings are established against Bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property.
  - The Bidder is convicted, by a final judgment, of any offence involving professional conduct.
  - The Bidder is debarred and blacklisted due to involvement in corrupt and fraudulent practices
  - The Bidder is debarred and blacklisted in general (i.e. to the extent of all public procurement) due to consistent performance failure



- 2.12.12. The firm, supplier and contractor is blacklisted/ debarred by any international organization. Bidders shall provide evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.
- 2.12.13. Bidders shall provide such evidence of their continued eligibility satisfactory to Client, as The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB shall reasonably request.
- 2.12.14. Bidders shall submit proposals 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 percent of the Bid price is envisaged.
- 2.12.15. The bidder must demonstrate:
- At least **one (1) successfully completed projects** of similar nature (MDM/MDAS/EDMS/AMI) including data migration of AMI solution.
  - Proven experience in **system integration** and **data analytics** for utilities or energy sector clients.

## 2.13. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its Bid, and The DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

## 2.14. One person one bid

- 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.
- No Bidder can be a sub-contractor while submitting a Bid individually or as a member of a joint venture in the same Bidding process.
- A Bidder, if acting in the capacity of sub-contractor in any Bid, shall not submit bid for the same.

## 2.15. Governing Law

The procurement and subsequent contract shall be governed by the **Laws of Pakistan**, and the courts of **Lahore, Punjab** shall have exclusive jurisdiction.

## 2.16. Clarification of Bidding Documents

- 2.16.1. A prospective bidder requiring any clarification on the bidding documents may notify the Procuring Agency online on EPADS at least **seven (07) days** before the deadline for submission.



- 2.16.2. The Procuring Agency shall respond online via EPADS to any such request and publish it on EPADS.

## 2.17. Bid Prices

- 2.17.1. The Bidder shall quote unit prices and total prices (inclusive of all applicable taxes, duties, and levies) as per the Price Schedule prescribed in this Bidding Document, for the services proposed to be supplied on FOR (Free on Road) basis at the office of the DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB, Lahore.
- 2.17.2. In case taxes are not explicitly mentioned, the offered/quoted price shall be deemed inclusive of all prevailing taxes and duties applicable at the time of bid submission.
- 2.17.3. The Bidder shall be responsible for issuing invoices that reflect any new taxes or duties imposed by the Government of Pakistan during the contract period, until the completion of the contract.
- 2.17.4. Any exemption or reduction in taxes or duties obtained by the Bidder shall be passed on in full to the DIRECTOR TECHNICAL (RECONCILIATION), RECONCILIATION CELL, ENERGY DEPARTMENT, GOVERNMENT OF THE PUNJAB.
- 2.17.5. While preparing the price quote, Bidders must take into consideration market trends and inflationary impacts on the cost of services. **No request for price escalation due to market fluctuations shall be entertained during the validity of the contract.**
- 2.17.6. Prices must be quoted using the prescribed Price Schedule Form, typed and printed on the Bidder's official letterhead. Any overwriting, erasure, or correction must be duly initialed and stamped by the authorized signatory.
- 2.17.7. The Bidder shall quote prices strictly in accordance with the technical specifications and scope of work provided in this Bidding Document. Any deviation from the prescribed specifications shall render the bid non-responsive and liable to rejection.
- 2.17.8. Bid Currency: All prices shall be quoted in Pakistani Rupees (PKR) only.

## 2.18. Bid Invitation

The Energy Department, Government of the Punjab (hereinafter referred to as "the Client"), invites proposals as per documented above for the **supply, installation, and commissioning of an Integrated Meter Data Management and Energy Data Management System (MDM + EDMS)** under the project *"Installation of AMI Meters at MDI Public Connections in LESCO."*

The objective is to implement a centralized, scalable, and secure platform capable of consolidating data from multiple Meter Data Concentrators (MDCs) and AMI systems, ensuring transparency, accurate billing validation, and analytics-based energy management.

## 2.19. Technical Proposal Contents

The **Technical Proposal** shall include, but not be limited to, the following:

- a. Cover Letter



- b. Company Profile and Legal Documents
- c. Proof of Eligibility and Experience
- d. Proposed MDM + EDMS Solution Architecture
- e. Compliance to Technical Specifications
- f. Project Implementation Plan (with timelines, milestones, and resource allocation)
- g. Team Structure and Key Resource Profiles
- h. Proposed Hardware and Software Infrastructure Details
- i. Training and Knowledge Transfer Plan
- j. Post-Implementation Support and Maintenance Plan
- k. Proof of Concept (POC) Execution Plan
- l. Annexures (Brochures, Certificates, References, etc.)

## **2.20. Financial Proposal Contents**

The Financial Proposal shall include:

- a. Cover Letter (Financial)
- b. Summary of Costs (in PKR)
- c. Detailed Cost Breakdown:
  - I. Software Licenses
  - II. Hardware Components (if any)
  - III. Implementation Services
  - IV. Training
  - V. Support and Maintenance
- d. Applicable Taxes
- e. Total Bid Price (in Figures and Words)
- f. Payment Schedule
- g. Price Validity (minimum 120 days)
- h. Annexures: Detailed Price Sheet

*Note: Financial proposals of only technically qualified bidders shall be opened.*



## **2.21. Validity and Acceptance**

- a. Bids must remain valid for a period of **120 days** from the submission deadline.
- b. The Procuring Agency reserves the right to accept or reject any or all bids in accordance with the **Punjab Procurement Rules, 2014 (amended)**.

## **2.22. Confidentiality**

- a. All information contained in the bidder's proposal, or related correspondence shall be treated as confidential and used solely for evaluation purposes.
- b. Information provided by the Client to bidders shall be treated as confidential and used solely for the preparation of the proposal.
- c. The bidder shall not disclose or use this information for any purpose other than performance of the contract.

## **2.23. Fraud and Corruption**

Bidders shall observe the highest standard of ethics during the procurement process. Any fraudulent, collusive, or corrupt activity shall lead to immediate disqualification and blacklisting as per applicable Government rules.



## SECTION 3 – SPECIFICATIONS (HARDWARE & SOFTWARE)

PROCUREMENT OF METER DATA MANAGEMENT INCLUDING INTEGRATED ENERGY METER DATA MANAGEMENT SOLUTION (MDM+EDMS)

PROJECT “INSTALLATION OF AMI METERS AT MDI CT OPERATED PUBLIC CONNECTIONS”

### 3.1. Primary Objectives

The primary objectives of this procurement are:

1. To implement a **vendor-neutral MDM + EDMS** capable of integrating with multiple MDCs (e.g., KBK, MICROTECH, etc.). Current & Future MDCs.
2. To provide a **centralized data management and analytics platform** for AMI meter data and billing reconciliation.
3. To ensure **transparency and accuracy** in metering and billing through automated validation, comparison, and exception reporting.
4. To strengthen the Energy Department’s capability for **data-driven decision-making, performance monitoring, and energy auditing**.
5. To establish a scalable foundation for future integration with DISCOs, PITC systems, and other government energy platforms.

### 3.2. Key Solution

#### 3.2.1. Integrated Energy Meter Data Management System (EDMS)

The **EDMS** provides a comprehensive platform for acquiring, processing, analyzing, and reporting energy-related data from multiple systems — including smart meters, substations, and enterprise systems.

##### Key Features:

- Centralized monitoring and analysis of consumption and losses.
- Integration with MDC, SCADA, and billing systems if required to be decided during discover session.
- Advanced analytics for demand forecasting, reconciliation, and loss detection.
- Support for transparent reporting and compliance with regulatory frameworks.



The EDMS consists of three main subsystems:

1. **MDAS** – Meter Data Acquisition System
2. **MDM** – Meter Data Management System

### 3.2.2. Energy Data Analysis System

Provides analytical insights by integrating validated data from MDM with SCADA, GIS, and billing systems.

#### Key Functions:

- Energy balancing and reconciliation.
- Detection of losses and inefficiencies.
- Load forecasting and regulatory reporting.

#### Role:

Acts as the **strategic decision-support layer**, helping the Energy Department monitor performance, enhance efficiency, and improve transparency.

### 3.2.3. Meter Data Acquisition System (MDAS)

#### Definition:

MDAS acquires raw data from field meters and devices in real-time or on schedule, combining HES and partial MDM functionalities.

#### Key Functions:

- Meter provisioning, communication management, and remote operations.
- Event and alarm management (tamper, outage, restoration).
- Integration with multiple MDCs and communication technologies.

#### Role:

Acts as the **front-end data collector**, ensuring reliable data transmission to the MDM system.

### 3.2.4. Meter Data Management (MDM) System

#### Definition:

MDM provides centralized storage, validation, and processing of smart meter data, ensuring data consistency and integration with enterprise systems.

#### Key Functions:

- Validation, Estimation, and Editing (VEE) of meter data.



- Support for billing, energy audits, and demand response.
- Aggregation by consumer, feeder, or region.
- Detection of anomalies and overbilling patterns.

**Role:**

Serves as the **central data repository and validation engine**, enabling clean, accurate, and actionable data for downstream systems.

### 3.2.5. Energy Data Analysis System

Provides analytical insights by integrating validated data from MDM with SCADA, GIS, and billing systems.

**Key Functions:**

- Energy balancing and reconciliation.
- Detection of losses and inefficiencies.
- Load forecasting and regulatory reporting.

**Role:**

Acts as the **strategic decision-support layer**, helping the Energy Department monitor performance, enhance efficiency, and improve transparency.

### 3.2.6. Integration Flow

MDAS → MDM → EDMS

MDAS: Collects real-time or batch meter data.

MDM: Validates, processes, and structures the data.

EDMS: Analyzes validated data, generates reports, and supports decision-making.



### 3.3. Hardware Requirements

The bidder should provide all necessary hardware to support the deployment of the Meter Data Management (MDM) and Energy Data Management System (EDMS), ensuring scalability, redundancy, and optimal performance.

Note:

The proposed system must have the capability to be deployed both on-premises and on cloud (or in a hybrid model) as per the client's operational and data governance requirements.

Important Condition:

The bidder may fine-tune or enhance the hardware specifications to optimize performance or align with proposed system architecture; however, under no circumstances shall the specifications be lower than the minimum requirements listed below.

The bidder shall supply all hardware necessary for deployment of MDM/EDMS with full redundancy and scalability.

Minimum Specifications:

#### 3.2.1. Server Infrastructure

- a. **Processor:** Dual Intel Xeon Silver (or AMD EPYC equivalent), minimum **2.4 GHz, 12 cores**
- b. **Memory:** **128 GB RAM** (expandable up to 256 GB)
- c. **Storage:** **4 TB usable storage**, scalable, **RAID 10** configuration (mix of SSD for OS/apps and HDD for data)
- d. **Network:** Dual **1 Gbps Ethernet ports** (expandable to 10 Gbps if required)
- e. **Power:** Dual redundant power supplies
- f. **OS Support:** Compatible with **Windows Server** or **Linux (RedHat/Ubuntu)**; supports **VMware/Hyper-V** virtualization

#### 3.2.2. Database Server

- a. Dedicated mid-range server for MDM/EDMS database
- b. Processor: Dual Intel Xeon Silver (or higher), 2.4 GHz, 12 cores
- c. Memory: 64 GB RAM (expandable up to 128 GB)
- d. Storage: 2 TB SSD-based storage, RAID 10 configuration
- e. High Availability: Optional database mirroring or snapshot-based backup
- f. Database Engine: Compatible with PostgreSQL / MS SQL / Oracle (depending on solution architecture)



### 3.2.3. Network & Security

- a. Firewall: Enterprise-grade next-generation firewall (NGFW) with basic IPS/IDS features
- b. VPN: Secure role-based remote access (SSL VPN)
- c. Switching/Routing: Managed gigabit switches and routers with redundancy
- d. Backup: Automated backup system with onsite + cloud/offsite data replication

### 3.2.4. Workstations & User Terminals

System Administrators / Key Users:

- a. Processor: Intel Core i5 (12th Gen) or AMD Ryzen 5 equivalent
- b. Memory: 16 GB RAM
- c. Storage: 512 GB SSD
- d. Display: Single or dual monitor setup
- e. OS: Windows 10/11 Professional or Linux

## 3.4. Software Requirements

### 3.4.1. Key Features

- 3.4.1.1. **Data Comparison and Synchronization:** The MDM system shall have the capability to compare AMI consumption data including Peak, Off-Peak, Total kWh, kVARh, MDI, Power Factor, with billed parameters (**to be provided by RC through PITC in shape of CSV etc**) for a defined number of months (N), where the value of N shall be provided by the Client/End-User. The system must ensure synchronization of reading dates between billed units and AMI data to enable accurate and meaningful comparisons and analyses.
- 3.4.1.2. **Data Import and Integration:** The system shall be capable of importing monthly billing data provided by the Reconciliation Cell (Employer), in the format and structure prescribed by PITC/DISCOs. This data shall be used to support customized comparative, analytical, and reconciliation reporting.
- 3.4.1.3. **User-Defined Customer Grouping:** The system shall provide functionality for creating user-defined customer groups, either through manual selection or by importing bulk customer data (e.g., CSV or Excel formats). These groups shall be usable for customized reporting, comparative analytics, loss identification, and performance tracking across defined categories such as tariff, feeder, region, or customer type.
- 3.4.1.4. **Usage Trend Analysis:** The system shall include the capability to analyze and display trends in normal usage quantities for the previous N months, where N shall be defined by the Client/End-User. This functionality shall apply to all reports and analytical modules requiring trend or historical performance analysis.
- 3.4.1.5. **Automated Anomaly Detection:** The system shall support automated detection of consumption anomalies, such as sudden increases or decreases, zero consumption,



- reverse flow, or suspected meter tampering. The system shall generate exception reports and alerts for each anomaly type.
- 3.4.1.6. **Technical Benchmark Comparison:** The system shall enable comparative analysis between metered data and established technical benchmarks, including load profile deviations, demand factor variations, and energy balance across transformer, feeder, division, and sub-division levels.
  - 3.4.1.7. **Graphical Visualization and Dashboards:** The system shall include interactive graphical tools — such as dashboards, charts, and heat maps — to facilitate intuitive analysis of consumption patterns, billing discrepancies, and overall system performance.
  - 3.4.1.8. **Role-Based Access Control:** The system shall incorporate role-based access control to ensure secure report generation, data visualization, and export functions. Users shall have permissions aligned with their designated roles and responsibilities.
  - 3.4.1.9. **Multi-Level and Multi-Period Reporting:** The MDM system shall support multi-level and multi-period reporting — from DISCO, Circle, Division, and Sub-Division levels down to individual customer connections. The system shall allow report generation for flexible date ranges and time periods, with access governed by user roles.
  - 3.4.1.10. **Audit Trail and Traceability:** The system shall maintain a comprehensive audit trail for all analytical and reporting activities, including data imports, report generation, configuration updates, and parameter modifications, ensuring transparency, traceability, and accountability.
  - 3.4.1.11. **Automated Report Scheduling and Distribution:** The system shall allow users to schedule automated reports (daily, weekly, or monthly) and distribute them via email or other configured channels to authorized stakeholders.
  - 3.4.1.12. **Configurable Dashboards and Custom Reports:** The system shall support configurable dashboards and report templates, enabling users to design and generate customized views and reports based on operational or analytical requirements.
  - 3.4.1.13. **Multi-Format Data Upload Capability:** The MDM software shall be capable of importing and processing data from external sources in multiple formats (e.g., CSV, Excel, XML, JSON, or database integration), ensuring interoperability with existing systems and data repositories.



### **3.4.2. Core MDM/EDMS Platform**

- a. Meter Manufacturer Vendor-independent, fully interoperable with existing MDCs (KBK, MICROTECH) and future MDCs (UDI compliant)
- b. Support for 15,000+ meters, scalable to 100,000
- c. Real-time data collection using standard protocols (DLMS/COSEM, IEC 62056)
- d. Built-in data validation, estimation, and editing (VEE) engine including Validation Rules, Estimation Methods, Forecast Techniques, etc
- e. Event and alarm management (tamper detection, outages, restoration)
- f. TOU data, tamper detection, and outage alerts

### **3.4.3. Reporting & Business Analytics (Standard and customizable reports for)**

- a. Comprehensive dashboards and customizable reports
- b. Consumption, billing, and load analysis reports
- c. Meter health, exception, and tamper reports
- d. Export in PDF, Excel, CSV, XML formats

### **3.4.4. Integration Capabilities**

Must integrate with:

- a. Existing systems/MDCs (KBK, MICROTECH) and future MDCs
- b. Utility billing systems (PITC/LESCO billing)
- c. Reconciliation Cell's databases and reporting systems
- d. Standard APIs for interoperability with ERP/CIS, GIS, SCADA, and other enterprise applications.

### **3.4.5. Security & Compliance**

- a. End-to-end encryption (TLS/SSL)
- b. Role-based access, MFA, and full audit trails
- c. Compliance with NEPRA and Punjab IT security standards



### **3.4.6. Training & Documentation**

- a. User and admin training sessions
- b. Technical manuals and operational guides

### **3.4.7. Scalability & Futureproofing**

- a. Expandable architecture for Punjab-wide AMI adoption
- b. Modular design ensuring long-term adaptability

### **3.4.8. Integration Requirement**

Includes workflows for:

- a. Purchase Orders, SCO, MCO, RCO, DCO, TDCO, COA where applicable
- b. Bidirectional synchronization (push/pull)
- c. Real-time search by meter number, customer, or GPS
- d. Comprehensive analytics (usage, tamper, exception, and performance trends)

### **3.4.9. Incorporates multiple workflows**

- a. Purchase Order (PO)
- b. Vendor Supply Flow against PO
- c. Store Requisition Features (SR)
- d. Service Connection Order (SCO)
- e. Meter Change Order (MCO)
- f. Reconnection Order (RCO)
- g. Disconnection Order (DCO)
- h. Temporary Disconnection Order (TDCO)
- i. Change of Attributes (COA)

Note: The above workflow will be finalized at the time of Discover Session and can be deleted or added if required

### **3.4.10. Synchronize**

The workflows information will be both ways (Push/Pull)



### **3.4.11. Reports/Analytics**

- 3.4.11.1. The required system should translate data for use with operational as well as analytical reports.
- 3.4.11.2. The required system should have ability to search meter data by meter serial number, customer reference/account number, customer name, msn or part of the address or GPS coordinates.
- 3.4.11.3. Monthly side-by-side comparison report of Energy Auditing against DISCOs and check meters
- 3.4.11.4. The required System must provide the following minimum reports but not limited to:
- a. Customer Billing record as per prevalent commercial procedure
  - b. Meter Reading Record.
  - c. Consumer Statistics.
  - d. Readings with Exceptions
  - e. Analysis to show the total number of Readings that resulted in exceptions.
  - f. Analysis to show the number of meters that were sending measurement data and then stopped sending for some reason. (mute meters)
  - g. Analysis to show a summary of new devices that never send any measurements since the time of their installation.
  - h. The system shall identify and report “Meters Not in Communication (Mute)”, referring to meters that have not established communication or transmitted data for the last N days, where N shall be defined by the Client/End-User.
  - i. Meter change orders processed during the current billing month.
  - j. Other Reports as identified during the System Integration & Configuration process.
- 3.4.11.5. Activity Distribution - Analysis to show how the device activities are distributed as a percentage of total. Activities are records of communication related to meters such as meter profile fetching etc.
- 3.4.11.6. Activity Analysis - Analysis to show a list of the top 100 service points with the highest number of activities in the selected month.
- 3.4.11.7. Critical Alarms / Tamper Events - Tamper events are the types of meter events defined in the system to indicate that a meter installed in the field has been tampered.
- 3.4.11.8. The system shall generate an “Installations and Removals Analysis Report” to display the total number of meters installed and removed during the previous N months, where N shall be defined by the Client/End-User. The report shall allow filtering and trend visualization based on parameters such as meter type, location, customer category, and period, providing insights into network expansion, replacement activities, and asset management efficiency.
- 3.4.11.9. Estimation Summary - Analysis to show the distribution of estimated and user-edited measurement quantity per estimated and user-edited measurement count per month.
- 3.4.11.10. Usage/Consumption Distribution - Analysis to show the measured usage quantity distribution by various dimension attributes.



- 3.4.11.11. Usage / Consumption Trend Analysis - The system shall generate a Usage or Consumption Trend Report to analyze and visualize the pattern of energy usage over the previous N months, where N shall be defined by the Client/End-User. The report shall include key consumption parameters (such as Peak, Off-Peak, Total kWh, kVARh, and kW) and provide graphical trend views to identify variations, seasonal patterns, or anomalies in consumption behavior at the customer, feeder, or group level. It shall support filtering and comparison across user-defined groups, enabling proactive monitoring and decision-making related to energy efficiency, billing accuracy, and demand management.
- 3.4.11.12. Estimated Usage Trend Analysis - The system shall generate an Estimated Usage Trend Report to analyze and display the trend of estimated measurement quantities over the previous N months, where N shall be defined by the Client/End-User. This report shall enable comparison between estimated and actual consumption values, highlighting the frequency, duration, and magnitude of estimation occurrences. The analysis shall help identify customers or areas with recurring estimated readings, supporting improved data accuracy, meter performance monitoring, and corrective action planning.
- 3.4.11.13. TOU-Mapped Usage Analysis - The system shall generate a Time-of-Use (TOU) Mapped Usage Report to analyze and display estimated measurement quantities categorized by TOU intervals (e.g., Peak, Off-Peak, Mid-Peak) over the previous N months, where N shall be defined by the Client/End-User. This analysis shall provide insights into consumption behavior patterns, enabling comparison between actual and estimated TOU data, identification of anomalies or inconsistencies in meter readings, and evaluation of load distribution and billing accuracy across defined TOU periods.
- 3.4.11.14. Usage/ Consumption by Day - Analysis displays the usage values for the selected month on daily basis.
- 3.4.11.15. Monthly Usage / Consumption Trend Analysis - The system shall generate a Monthly Usage/Consumption Trend Report that compares usage data over a defined period of N months (default: 6 months, user-selectable). The Client/End-User shall have the flexibility to specify the value of N. This analysis shall provide a visual and analytical comparison of consumption patterns across the selected timeframe, enabling the identification of seasonal variations, abnormal usage behaviors, and consumption growth or decline trends for individual customers or user-defined groups.
- 3.4.11.16. Comparison of AMI Consumption with Billed Units - The system shall have the capability to compare AMI consumption data — including Peak, Off-Peak, Total kWh, kVARh, kW, and other relevant parameters with the billed units over a defined number of months (N), where the value of N shall be specified by the Client/End-User. The system must ensure that the reading date of the billed units and the consumption/data date from the AMI meters are aligned to enable accurate, period-specific comparison and analysis of consumption versus billing data.
- 3.4.11.17. Billing Data Integration - The MDM system shall have the capability to import monthly billing data provided by the Reconciliation Cell (Employer) in accordance with the data format and structure prescribed by PITC/DISCOs. This imported billing data shall be utilized for generating customized comparison, reconciliation, and analytical reports, enabling accurate assessment of consumption versus billing performance across defined periods.
- 3.4.11.18. Usage/ Consumption by Hour - Analysis displays the usage values on an hourly
- 3.4.11.19. basis. The data is displayed for the selected day(s).
- 3.4.11.20. Usage Summary by TOU Period - Analysis to show a n-month usage trend by TOU period.
- 3.4.11.21. Top N Analysis – Highest Usage - The MDM system shall provide an analytical feature to identify and display the Top N service points with the highest energy consumption during a selected month or defined period. The value of N shall be configurable by the Client/End-User. The analysis should



support sorting, filtering, and visualization options (e.g., charts or tables) to facilitate detailed review of high-usage customers or service points.

- 3.4.11.22. Top N Analysis – Lowest Usage - The MDM system shall provide an analytical feature to identify and display the Top N service points with the lowest energy consumption for a selected month or defined period. The value of N shall be configurable by the Client/End-User. The analysis should include options for sorting, filtering, and visualization (e.g., charts or tabular reports) to support performance monitoring, anomaly detection, and energy efficiency assessment.
- 3.4.11.23. Top Service Points Without Usage Transactions - Analysis lists the top 100 records with highest unreported usage quantity in the selected month.
- a. Load-Usage Analysis
  - b. Consumer wise maximum demand
  - c. List of consumers having maximum demand greater than sanctioned load
  - d. List of consumers having maximum demand greater than sanctioned load for last consecutive n-months
- 3.4.11.24. Exception Types - Analysis to show how the VEE exceptions are distributed across each exception type in the selected month.
- 3.4.11.25. The required System shall support customization of the reports that are listed or identify during discover session, and the reports shall be supported on both a scheduled interval and an unscheduled interval as defined by the user.
- a. Loss calculation report over user definable period (feeder to transformer to consumers).
  - b. Maximum demand report over a user defined range on a single device as well as on a set of devices.
  - c. KWH report over a user defined range on a single device as well as on a set of devices.
  - d. Average PF report on a single device as well as on a set of devices.
  - e. Report for critical alarms and events over a user defined range.
  - f. Daily data collection and performance reports (successful devices, non-successful devices, missing values, and time to read all devices).
  - g. Report of meters exceeding a pre-defined maximum demand.
  - h. Report of meters having a total consumption that is lower or higher than a user defined percentage over the prior total consumption read.
  - i. Report on synchronized and non-synchronized meters.
  - j. Report on service continuity, voltage interruptions, and outages.

### 3.5. Flexibility

The proposed **Integrated Metering Data Management and Energy Data Management System (MDM + EDMS)** must support **both on-premises and cloud-based deployment models**.



The system should:

- a. Be capable of **full-scale on-premises installation** within the infrastructure of the Reconciliation Cell or designated Data Center, ensuring data ownership, security, and compliance with Government of the Punjab's IT policies.
- b. Equally support **cloud or hybrid deployment** options to enable scalability, remote accessibility, and operational continuity.
- c. Allow seamless transition or coexistence between on-premises and cloud environments without functional degradation.
- d. Comply with relevant data protection and cybersecurity standards for both deployment environments.

### 3.6. Special Requirements

- a. Migration of existing MDC data to the new platform is mandatory
- b. Full UDIL compliance and test interface
- c. Local customization support within short lead times
- d. Advanced cybersecurity (DDoS, brute-force protection, geo-login control)
- e. Multi-dashboard support for quick system health overview

### 3.7. Functional Scope

The assignment includes, but is not limited to, the following functional components:

#### 3.7.1. System Supply and Installation

- a. Supply of all required hardware and licensed software components (servers, storage, networking, OS, databases, middleware, etc.).
- b. Installation of MDM/EDMS platforms with complete configuration and testing in the designated environment.

#### 3.7.2. System Configuration and Customization

- a. Configure MDM and EDMS modules to collect, store, validate, and process meter data from AMI/MDI connections.
- b. Implement integration with LESCO metering data sources, SCADA (if applicable), and reporting systems.

#### 3.7.3. Integration with Existing Infrastructure

- a. Ensure compatibility and integration with the existing metering ecosystem, including head-end systems (HES), billing, and reconciliation platforms.



- b. Provide APIs and data exchange mechanisms for secure and efficient communication.

### **3.7.4. Data Management and Analytics**

- a. Enable automated data validation, estimation, and editing (VEE) processes.
- b. Implement dashboards and analytics tools for consumption monitoring, loss detection, and energy reconciliation.

### **3.7.5. Analytics & Reporting**

The system shall support generation of the following **core analytical reports and dashboards**, among others:

- 3.7.5.1. Meter Communication Status (Mute/Offline Meters): Identify meters not in communication for more than N days (user-defined).
- 3.7.5.2. Installs and Removals Report: Show total installed and removed meters over the last N months.
- 3.7.5.3. Usage/Consumption Trends: Analyze normal consumption patterns for the previous N months (default 6, configurable).
- 3.7.5.4. Estimated Usage Trends: Analyze estimated or substituted measurement quantities over N months.
- 3.7.5.5. TOU-Mapped Usage: Display time-of-use-based consumption distribution for defined periods.
- 3.7.5.6. Top N Analysis – Highest Usage: Identify top service points with the highest consumption during a selected month.
- 3.7.5.7. Top N Analysis – Lowest Usage: Identify service points with the lowest consumption during a selected month.
- 3.7.5.8. Billing Comparison Reports: Compare AMI data (Peak, Off-Peak, Total kWh, kVARh, kW, etc.) with billed units for N months, ensuring synchronized reading dates.
- 3.7.5.9. User-Defined Customer Groups: Enable creation or import of groups (manual or bulk upload via CSV/Excel) for customized comparative analysis.
- 3.7.5.10. Normal Usage Trend Analysis: Generate graphical trend lines for N months of historical consumption for anomaly detection.
- 3.7.5.11. Exception Reports: Automatically flag irregular patterns such as zero consumption, reverse flow, tampering, or abnormal load changes.
- 3.7.5.12. Energy Balance Analysis: Provide transformer/feeder/sub-division level energy balancing and loss identification.
- 3.7.5.13. Standardized Regulatory Reports: Generate reports compatible with NEPRA/DISCO/PITC formats for billing and reconciliation purposes.



- 3.7.5.14. Graphical Dashboards: Interactive dashboards with charts, trend lines, KPIs, and heat maps for data visualization.

### 3.8. Cybersecurity and Access Control

- a. Implement robust data protection and access control measures in compliance with Punjab Government IT security standards.
- b. Ensure data encryption (in transit and at rest) and system-level audit trails.

### 3.9. Data Acquisition & Integration

- a. Integration with multiple AMI Meter Data Concentrators (MDCs) (e.g., KBK, MICROTECH, etc.).
- b. Ability to import meter data in industry-standard protocols (DLMS/COSEM, XML, CSV, or API-based integration).
- c. Capability to import billing data on a monthly basis, as provided by the Reconciliation Cell in PITC-prescribed formats.
- d. Data validation and synchronization between AMI data timestamps and billing periods.

### 3.10. Data Processing & Management

- a. Centralized repository for meter, billing, and operational data.
- b. Automated validation, estimation, and editing (VEE) routines for data accuracy.
- c. Ability to handle at least **15,000 metering devices** in the first phase, with scalability for future expansion.
- d. Role-based access control for data upload, review, and approvals.

### 3.11. Warranty and Post-Implementation Support

- **Warranty Period:** 03 years (36 months) from Go-Live
- **Support:** On-site for troubleshooting, patching, and updates
- **Response Time:**
  - ✓ Critical: ≤ 4 hours
  - ✓ Major: ≤ 12 hours
  - ✓ Minor: ≤ 24 hours



### 3.12. Performance and Compliance Requirements

Parameter	Minimum Requirement
System Availability	99.5% uptime
Data Accuracy	≥ 99%
Response Time	≤ 3 seconds per query
Data Retention	10 years
Scalability	100,000+ meters
Compliance	ISO 27001, IEC 61968, IEC 61970



### 3.13. Acceptance Criteria

Acceptance shall be based on successful:

- a. Completion of all functional modules as per Bidding Document.
- b. Integration with HES and Billing System (PITC pattern).
- c. User Acceptance Testing (UAT) and performance validation.
- d. Submission and approval of all technical and operational documentation.
- e. System Go-Live with stable performance for **one full billing cycle**.

### 3.14. Warranty and Post-Implementation Support

- a. **03 years warranty** from Go-Live.
- b. The Supplier shall ensure:
  - I. 24/7 helpdesk support
  - II. Regular software updates and patches
  - III. Remote and on-site troubleshooting
  - IV. Backup and recovery support
- c. Performance of the Successful Bidder shall be monitored monthly.



## SECTION 4 – EVALUATION CRITERIA & METHODOLOGY

### 4.1. Overview

This section defines the methodology and criteria for evaluating bids received in response to this Invitation to Bid (ITB). The evaluation shall be conducted in accordance with the **Punjab Procurement Rules (PPRA) 2014 (amended time to time)**.

The purpose of the evaluation process is to ensure the selection of the most advantageous, technically compliant, and cost-effective proposal that meets the requirements outlined in this bidding document.

The evaluation process will consist of **three major stages**:

- a. Preliminary Examination / Responsiveness Check
- b. Technical Evaluation
- c. Financial Evaluation

The customer reserves the right to accept or reject any or all bids in accordance with applicable PPRA regulations.

### 4.2. Evaluation Stages

Evaluation shall be conducted in two stages:

- Stage 1 – Technical Evaluation
  - Stage 2 – Financial Evaluation
- a. Bidders obtaining 60% or above in technical evaluation shall be declared Technically Compliant.
  - b. Among technically qualified bidders, the one offering the lowest evaluated cost shall be selected for Proof of Concept (POC).
  - c. Upon successful completion of POC, the Contract shall be signed with the successful bidder.
  - d. No payment shall be made for POC activities.

### 4.3. Preliminary Examination

All bids shall first be examined for compliance with **mandatory requirements** as listed below. Failure to comply with any of these requirements shall result in **rejection of the bid** without further evaluation.



#### 4.4. Mandatory Requirements

Sr. #.	Requirement	Compliance (Yes/No)
1	Bid is submitted within the prescribed deadline.	
2	Bid is duly signed and stamped by the authorized signatory.	
3	Bid Security is physically submitted to employer office as per amount and format specified in Section 3.	
4	Valid active registration with <b>Income Tax, Sales Tax, and Active Taxpayer List (ATL)</b> in Pakistan.	
5	Active registration with <b>Punjab Revenue Authority (PRA)</b> .	
6	Valid company registration/incorporation certificate (SECP or equivalent authority).	
7	Compliance with all terms and conditions of the Invitation to the bid, including undertaking on official letterhead.	
8	Proof of manufacturer authorization (if applicable).	
9	No blacklisting certificate from any Energy Department and PPRA.	

Only bids meeting **all mandatory conditions** shall proceed to **technical evaluation**.

#### 4.5. Bid Evaluation steps for Responsive Bidders:

##### 4.5.1. Step 1 – Technical Evaluation

(as per Punjab Procurement Rules 2014, Rule 35(2))

- a. Technical proposals shall be evaluated without reference to price.
- b. Partial compliance without proper justification shall result in score deductions.
- c. Technical proposals will be evaluated using a scoring system.
- d. A minimum score of **60%** is required to be declared *technically compliant*.
- e. Only technically compliant bidders will proceed to financial evaluation.



f. Technical Evaluation criteria are as under:

Category	Evaluation Criteria	Maximum Marks
<b>A. Firm Experience (25 Marks)</b>	<b>General Experience (Total Marks =25)</b> At least one Project of similar nature completed over last ten (15) years. <b>Note:</b> Project Range capable of handling at least 5000 AMI meters data or greater.	15
	Projects of similar nature in hand. <b>Note:</b> Project Range capable of handling at least 5000 AMI meters data or greater.	5
	Experience of works related to project but not basic part.	5
<b>B. Technical Approach &amp; Methodology (20 Marks)</b>	Understanding of project objectives, scope, and challenges.	5
	Technical soundness of proposed MDM + EDMS architecture, interoperability, and scalability.	5
	Cyber security, backup, and redundancy strategy.	5
	Implementation schedule, resource plan, and risk mitigation.	5
<b>C. Solution Features &amp; Compliance (25 Marks)</b>	Compatibility with existing MDCs (KBK, MICROTECH).	5
	Functional compliance with MDM, MDAS, and EDMS features (VEE, analytics, dashboards).	10
	On-premises and cloud deployment readiness.	5
	Demonstrated data integration and reporting capability.	5
<b>D. Team Qualification (10 Marks)</b>	Relevant qualifications and certifications of key experts (System Architect, DBA, AMI Specialist, Data Analyst).	10
<b>E. Financial Position (20 Marks)</b>  i)	<b>Available Average Working Capital.</b> This shall be calculated as follows: Working Capital = Current Assets – Current Liabilities or Working Capital = Available Credit Line (Average of Annual Audited Reports of Last 3 years shall be considered)	10



	<p><b>Marks distribution</b></p> <ul style="list-style-type: none"> <li>• Full marks will be given if the available average working capital for last three years or available bank credit line limit is equal to 30 Million PKR or above.</li> <li>• For limit, less than 30 million PKR, following weightage will be applied (10 x A/30)</li> <li>• A= Average working capital for last three years OR Available Bank Credit Line Limit</li> </ul>	
ii)	<p><b>Average Annual Turnover</b> (Average of Annual Audited Reports of Last 3 years shall be considered)</p> <p><b>Marks distribution</b></p> <ul style="list-style-type: none"> <li>• 10 Full marks are given if the average annual turnover for last three years is equal to 30 million PKR or above.</li> <li>• For the turnover, less than 30 million PKR following weightage will be applied (10 x A/30)</li> <li>A= Average Annual Turnover in last three (03) years certified From Audited financials.</li> </ul>	10
<b>TOTAL</b>		<b>100 Marks</b>

- ✓ Bidders scoring **less than 60 marks** will be rejected.
- ✓ Marks and supporting details must be verifiable through documentation.

#### 4.5.2. Step 2 – Financial Evaluation

- a. Only technically qualified bidders ( $\geq 60\%$ ) shall be considered for financial evaluation.
- b. Financial proposals should be **opened publicly** at the time and place communicated by the Employer.
- c. Prices shall be quoted in **Pakistani Rupees (PKR)**, inclusive of all applicable taxes, duties, and levies.
- d. Financial proposals will be evaluated on the **lowest quoted price (L1)** basis.



- e. The financial proposals of technically compliant bidders will be opened in the presence of their authorized representatives who want to participate.
- f. The lowest cost bidder (L1) among technically compliant firms will be recommended for Proof of Concept (POC).

#### 4.5.3. Step 3 – Proof of Concept (POC)

- a. The lowest evaluated (L1) bidder will be invited for a **mandatory POC demonstration**.
- b. **No payment** shall be made for the POC.
- c. POC must be completed within **30 days**
- d. Upon successful validation of the POC deliverables, the **contract will be awarded**.
- e. If the POC fails, the **next lowest evaluated bidder (L2)** will be invited for POC.

#### 4.6. POC DELIVERABLES

Please refer to SECTION 5 – DELIVERABLES & PAYMENT SCHEDULE

#### 4.7. Clarifications and Presentations

- a. The customer reserves the right to seek **clarifications, system demonstrations, or presentations** from technically responsive bidders.
- b. Such sessions should not be used to modify the original proposal but to better understand the solution offered.
- c. Failure to attend or demonstrate may result in disqualification.

#### 4.8. Conflict of Interest

Any bidder or consortium partner found to have a conflict of interest (financial, organizational, or personnel-related) will be disqualified in accordance with PPRA Rule 16.

Bidders must disclose any existing or potential conflict of interest that may affect their impartial participation.

Failure to disclose shall render the bidder liable to disqualification and blacklisting as per PPRA Rules.

#### 4.9. Award of Contract

- The contract will be awarded to the bidder completing POC successfully.

#### 4.10. Post-Qualification & Due Diligence

The Employer reserves the right, at any stage during the contract, may conduct **post-qualification verification**, including:



- Inspection of bidder's facilities or previous deployments.
- Validation of project references.
- Verification of key personnel credentials.

#### **4.11. Confidentiality**

All evaluation proceedings shall remain confidential until the award of contract is formally announced. No bidder shall contact the Employer on any matter related to evaluation during the process.

#### **4.12. Rejection of Bids**

The customer reserves the right to reject any or all bids without assigning any reason, subject to compliance with **Rule 35 of PPRA Punjab Rules, 2014 (Amended)**.

#### **4.13. Final Selection and Contract Award**

The contract shall be awarded to the **bidder offering the lowest evaluated cost** among the technically qualified and POC-successful bidders.

The selected bidder shall:

- a. Submit **Performance Security** equivalent to **10% of the contract value** within seven (7) days of Letter of Acceptance (LoA).
- b. Sign the formal **Contract Agreement** with the Employer.
- c. Commence project implementation as per the agreed timeline.



## SECTION 5 – DELIVERABLES & PAYMENT SCHEDULE

(Procurement of Meter Data Management Including Integrated Energy Data Management Solution (MDM + EDMS) under the Project “Installation of AMI Meters at MDI CT Operated Public Connections”)

### 5.1. Overview

- a. This section outlines the key **deliverables, milestones, acceptance procedures, and payment schedule** associated with the successful implementation of the MDM + EDMS system.
- b. All deliverables shall be completed in accordance with the **approved Implementation Plan** and to the satisfaction of the **Director Technical (Reconciliation), Reconciliation Cell, Energy Department, Government of the Punjab** (“the Employer”).
- c. Payments shall be strictly linked to **successful completion and acceptance** of defined milestones.
- d. No payment shall be made for Proof of Concept (POC), which is **mandatory for contract signing**.

### 5.2. POC DELIVERABLES

The POC shall include at least the following for that the Bider will submit POC Execution Plan:

- a. Deployment of a functional prototype environment (ON-PREMISES OR CLOUD) for MDM + EDMS.
- b. Integration with at least one existing Meter Data Concentrator (MDC) (KBK or MICROTECH).
- c. Successful data acquisition from a defined set of meters (minimum 10 sample meters).
- d. Execution of data validation, estimation, and editing (VEE) processes.
- e. Visualization of key reports and dashboards through the EDMS interface.
- f. Demonstration of user authentication, access control, and data security features.
- g. Presentation of results and technical documentation to the Employer and the Technical Committee and/or third-party consultant.

### 5.3. OTHER DELIVERABLES:

The selected bidder shall complete the following deliverables as part of the Supply, Installation, and Commissioning of the **Integrated Meter Data Management (MDM) and Energy Data Management System (EDMS)**:



Phase	Deliverable	Description / Scope	Approval / Acceptance
<b>Pre-Contract Phase</b>	<b>Proof of Concept (POC)</b>	Demonstrate end-to-end functionality of proposed MDM + EDMS solution using live or sample data from reliable resources. The POC must cover data acquisition from at least one existing MDC, validation, storage, analytics, and dashboard visualization.	To be validated by the Technical Committee notified by the Employer and/or third-party consultant. No payment will be made for POC. Successful completion is mandatory for contract signing.
<b>Milestone 1</b>	<b>System Supply and Installation</b>	Delivery and installation of approved hardware and software components at the designated data center.	Acceptance by employer after physical verification by the notified Technical Committee and/or third-party consultant.
<b>Milestone 2</b>	<b>System Configuration &amp; Integration</b>	Configuration of MDM + EDMS modules, integration with existing MDCs (KBK & MICROTECH), and establishment of data flow from all AMI meters.	Acceptance by employer after verification by the notified Technical Committee and/or third-party consultant.
<b>Milestone 3</b>	<b>System Testing &amp; Commissioning</b>	Functional and performance testing, including end-to-end validation, reporting accuracy, and cybersecurity compliance.	Successful completion and acceptance report by Employer through the Technical Committee and/or third-party consultant.
<b>Milestone 4</b>	<b>Training &amp; Documentation</b>	Conduct comprehensive training for technical and end users, and provide all manuals, architecture documents, and SOPs.	Training completion certificate.
<b>Milestone 5</b>	<b>Post-Implementation Support</b>	Three-Year warranty and technical support, including system updates and issue resolution.	Bi-annual performance reviews by the Employer.

#### 5.4. Payment Milestones

All payments will be made **only after the successful completion of the Proof of Concept (POC)** and signing of the contract. The payment schedule is as follows:



Milestone	Payment (% of Contract Value)	Payment Condition
<b>1. System Supply and Installation</b>	30 %	Upon delivery and installation of all approved hardware and software.
<b>2. System Configuration &amp; Integration</b>	25 %	Upon successful configuration and demonstration of data acquisition and integration with existing MDCs.
<b>3. System Testing &amp; Commissioning</b>	25 %	Upon successful completion of functional testing and acceptance by Client.
<b>4. Training &amp; Documentation</b>	10 %	Upon completion of user training and submission of complete documentation.
<b>5. Post-Implementation Support (Warranty Period)</b>	10 %	Upon satisfactory completion of warranty/support period of 03 years and submission of final acceptance certificate.

**Note:**

- a. All payments shall be made in PKR through crossed cheque or bank transfer.
- b. Deductions of taxes, duties, and retention (if any) shall be made in accordance with prevailing Government of Pakistan & Govt. of Punjab laws.
- c. Performance Guarantee (10%) shall be retained or submitted as per contract requirements.

### 5.5. Implementation Timeline/Phases

Phase	Activity / Deliverable	Description	Timeline (from T <sub>0</sub> )
<b>POC Phase</b>	POC	As per explained earlier	30 Calander Days
<b>Post POC Phase/Implementation Phase after signing Contract</b>			
<b>Phase 1</b>	<b>Project Mobilization &amp; Inception</b>	Project initiation, appointment of Project Manager, submission of Project Implementation Plan (PIP), resource deployment, and finalization of project governance framework.	At the time of Contract Signing
<b>Phase 2</b>	<b>System Design, Requirement Finalization &amp; Documentation</b>	Detailed design document preparation including functional, technical, and integration requirements for MDM & EDMS, aligned with DISCO and PITC specifications. Approval from Employer required.	Within Two Weeks



Phase	Activity / Deliverable	Description	Timeline (from T <sub>0</sub> )
Phase 3	<b>Hardware &amp; Infrastructure Setup</b>	Delivery, installation, and configuration of server infrastructure, network setup, and security components at designated data center and DR site.	Within Two Weeks
Phase 4	<b>Software Configuration &amp; Customization</b>	Installation, configuration, and customization of MDM and EDMS modules including integration with AMI Head-End System (HES) and billing system.	Within Three Weeks
Phase 5	<b>Data Migration &amp; Integration Testing</b>	Import of legacy/billing/AMI data, establishment of interfaces (APIs) with existing systems, and end-to-end functional testing.	Within One Week
Phase 6	<b>User Acceptance Testing (UAT)</b>	Joint testing with Employer, validation of reports, dashboards, analytics, and performance.	Within One Week
Phase 7	<b>Training &amp; Knowledge Transfer</b>	Conduct hands-on training sessions for system administrators, Reconciliation Cell users, and other stakeholders. Submission of training manuals and operational documentation.	Within One Week
Phase 8	<b>Pilot Go-Live</b>	Go-live for Monitoring and stabilization of operations.	Within One Week
Phase 9	<b>Full Rollout &amp; Go-Live</b>	System-wide deployment and activation of MDM+EDMS solution for all targeted service points.	Within One Week
Phase 10	<b>Post-Implementation Support &amp; Maintenance</b>	Commencement of warranty period, ongoing technical support, performance tuning, and system updates as per contract.	<b>36 months (03-years) post go-live</b>

Note: The Bidder can finetune timelines and share project plan accordingly. All milestones are Calander days.

Completion of the POC to the Client's satisfaction is **mandatory** for contract signing-

## 5.6. Acceptance Procedures

- a. Each deliverable shall be reviewed and approved by the **Employer's notified Technical Committee** and/or third-party consultant.
- b. The Contractor shall submit deliverables in both **hard and soft copy** formats whichever is required by the Employer.
- c. The Employer shall have up to **15 working days** to review and either approve or request modifications.
- d. Payments shall only be processed after **formal written acceptance**.



## 5.7. Penalties for Delay

If the Contractor fails to complete the project within the agreed timeline, a **liquidated damages penalty** of **0.05% per day** (up to a maximum of 10% of contract value) shall apply, in accordance with **PPRA Rule 54**.

## 5.8. Performance Guarantee

The successful bidder shall provide a **Performance Security** equivalent to **10% of the contract value**, valid for the entire project duration and additional warranty period of 03-years, as per **Rule 39 of PPRA Punjab**.

## 5.9. Warranty & Support Obligations

The Contractor shall provide:

- a. 36 months (03-years) of post-implementation warranty and support, starting from the Go-Live date.
- b. 24/7 technical support for critical issues and system outages.
- c. Quarterly system health and performance reports.
- d. Free updates, security patches, and bug fixes during the warranty period.
- e. The bidder may share SLA draft for employer consent to adopt his services after the warranty period, if required by the Employer.

## 5.10. Performance Benchmarks

- a. The Vendor must achieve all milestones within the defined timeframe.
- b. Any delays must be communicated in writing with valid justification, subject to Employer's approval.
- c. Penalties may be imposed for delays as per the contract terms.
- d. Employer reserves the right to monitor progress through periodic reviews and acceptance checkpoints.



## SECTION 6 – PAYMENT SCHEDULE & TERMS

Procurement of Meter Data Management Including Integrated Energy Meter Data Management Solution (MDM + EDMS)

Project: *Installation of AMI Meters at MDI CT Operated Public Connections*

### 6.1. Overview

This section defines the payment structure, conditions, and procedures applicable to the Vendor under the Contract. All payments shall be milestone-based, linked to successful completion, acceptance, and approval of deliverables by the **Director Technical (Reconciliation), Energy Department, Government of the Punjab (Employer)**.

The total contract price shall be fixed and inclusive of all applicable taxes, duties, logistics, manpower, and incidental costs. No payment shall be made for Proof-of-Concept (POC) or demonstration activities.

### 6.2. Payment Principles

- a. Payments shall be made only upon **satisfactory completion** of each deliverable or milestone, verified by the Employer through formal acceptance reports.
- b. All invoices must be supported by relevant documentation, deliverable acceptance certificates, and performance verification reports.
- c. **No advance payment shall be made under this contract.**
- d. All payments shall be made in **Pakistani Rupees (PKR)** through cross cheque or electronic transfer after deduction of applicable government taxes.
- e. The Earnest Money shall be retained as **Performance Security** until the completion of the contract period, unless replaced by an equivalent bank guarantee.

### 6.3. Milestone-Based Payment Schedule

Please refer to above section for Payment Schedule

### 6.4. Retention and Warranty Payment

- a. 10% of the total contract amount shall be retained as Performance Security/Warranty Retention, to be released after successful completion of the **36-month warranty** and support period, subject to satisfactory performance and resolution of all issues reported during the period.
- b. Alternatively, the Vendor may provide a Performance Bank Guarantee equivalent to 10% of the contract value in lieu of retention.



## 6.5. Taxes and Deductions

All payments shall be subject to applicable deductions under the **Income Tax Ordinance, Sales Tax Act, Punjab Revenue Authority (PRA)**, or any other relevant law.

The Employer shall provide withholding tax certificates upon deduction.

## 6.6. Invoicing Procedure

The Vendor shall submit invoices to the Employer along with:

- a. Copy of acceptance certificate for the completed milestone.
- b. Progress and performance reports.
- c. Tax-compliant invoice in the name of: Director Technical (Reconciliation), Energy Department, Government of the Punjab.
- d. Payments shall be processed within 30 working days after receipt of complete invoice and verification of deliverables.

## 6.7. Liquidated Damages for Delays

If the Vendor fails to achieve any milestone within the approved implementation timeline, **liquidated damages** may be imposed at a rate of **0.05% of the total contract value per day of delay**, subject to a maximum of **10% of the total contract value**, unless an extension is granted by the Employer for justified reasons.

## 6.8. No Claim for POC or Unapproved Work

No payment shall be made for Proof-of-Concept (POC), demonstration activities, or any work performed prior to formal contract signing or without written authorization from the Employer.



## SECTION 7– GENERAL & SPECIAL CONDITIONS OF CONTRACT

### 7.1. General Conditions

#### 7.2.1. Governing Law and Jurisdiction

The Contract shall be governed and interpreted in accordance with the laws of the **Islamic Republic of Pakistan** and the **Government of the Punjab Procurement Rules (PPRA)**. All disputes arising out of or in connection with this Contract shall be subject to the **exclusive jurisdiction of the Courts at Lahore, Pakistan**.

#### 7.2.2. Contract Documents

The following documents shall form and be read as part of the Contract:

- a. Letter of Award / Notification of Acceptance
- b. Draft Contract Agreement
- c. Bid submitted by the Successful Bidder
- d. Technical and Financial Proposals
- e. Clarifications and Addenda (if any)
- f. General & Special Conditions of Contract
- g. Implementation and Payment Schedule

In the event of conflict, the order of precedence shall be as listed above.

#### 7.2.3. Language

The Contract and all related correspondence, documents, and reports shall be written in **English language**.

#### 7.2.4. Contract Type

This is a **Turnkey, Fixed-Price Contract**. The Bidder shall be responsible for complete supply, delivery, installation, integration, testing, training, and commissioning of the MDM + EDMS Solution, inclusive of all related equipment, licenses, and services.

#### 7.2.5. Contract Duration

The duration of the Contract shall cover:

- **Implementation Period:** As per the approved Implementation Timeline
- **Warranty and Support Period:** Minimum of **36 months** post successful Go-Live (extendable based on mutual consent)



### 7.2.6. Performance Security

The Successful Bidder shall furnish a **Performance Security** equivalent to **10% of the Contract Price**, in the form of a **Bank Guarantee** issued by a scheduled bank in Pakistan, valid for the duration of the contract and additional **three (03) months** beyond completion.

### 7.2.7. Insurance

The Contractor shall maintain adequate insurance coverage during the execution of the Contract, including but not limited to:

- Equipment and material in transit
- Public liability insurance
- Professional indemnity insurance

Proof of insurance shall be provided prior to commencement of work.

### 7.2.8. Confidentiality

The Contractor shall treat all information, data, and system details provided by the Employer as **confidential** and shall not disclose it to any third party without prior written consent of the Employer.

### 7.2.9. Intellectual Property Rights

All intellectual property, software configurations, documentation, and customizations developed under this Contract shall become the **exclusive property of the Employer** upon final acceptance and payment.

Neither Party shall be liable for any delay or failure to perform its obligations due to causes beyond its reasonable control, such as natural disasters, war, or government restrictions. The affected Party shall notify the other in writing within **10 days** of the event's occurrence.

### 7.2.10. Force Majeure

- a) Neither party shall be held liable for failure to fulfil obligations due to events beyond reasonable control, such as natural disasters, war, strikes, or government restrictions.
- b) such cases, timelines may be extended with mutual consent without penalty.

### 7.2.11. Termination of Contract

The Employer may terminate the Contract in part or whole if:

- The Contractor fails to perform any of its obligations;
- The Contractor becomes insolvent;
- The Contractor is found involved in corruption, fraud, or misrepresentation; or



- Work is delayed beyond the permissible limit without justification.

Termination shall be subject to due notice and opportunity for explanation.

## 7.2.12. Dispute Resolution

Disputes shall first be resolved amicably through mutual consultation. If unresolved within **30 days**, the matter shall be referred to **arbitration** under the **Arbitration Act, 1940 (as amended)**, with the venue at Lahore, Pakistan.

## 7.3. Special Conditions

### 7.2.1. Project Management & Coordination

The Contractor shall nominate a **Project Manager** to serve as a single point of contact for all project-related communications. The Employer shall notify a **Technical Committee** and/or third-party consultant to monitor progress and approve deliverables.

### 7.2.2. Data Security & Compliance

The system shall comply with **National Cyber Security Policies, PITC IT Standards**, and all data protection regulations applicable to public sector organizations in Pakistan. All data shall be hosted on **local servers** within Pakistan.

### 7.2.3. Site Access & Safety

The Contractor shall ensure that all deployed personnel comply with the Employer's security and safety regulations while accessing data centers, substations, or any other designated sites.

### 7.2.4. Change Management

Any modification in the scope, deliverables, or schedule shall be subject to written approval of the Employer through a formal **Change Request (CR)** process, including impact assessment on time and cost.

### 7.2.5. Inspection and Acceptance

All equipment and software shall be subject to inspection, testing, and acceptance by the Employer's technical committee and/or third-party consultant prior to final handover.

### 7.2.6. Payment Terms

Payments shall be made against verified milestones as per the approved **Payment and Milestone Schedule (Section 3.9)**, subject to submission of invoices, progress reports, and deliverable acceptance certificates.



### 7.2.7. Liquidated Damages (LD)

If the Contractor fails to complete any phase or deliverable within the agreed time, **Liquidated Damages** of up to **0.05% of the Contract Price per day**, subject to a maximum of **10% of total contract value**, may be imposed.

### 7.2.8. Training:

The Contractor shall provide comprehensive training sessions to Employer's technical and operational teams.

Training deliverables shall include:

- a. Administrator-level training
- b. End-user and report usage training
- c. System maintenance manuals

### 7.2.9. Warranty and Support

The Contractor shall provide **36 months of warranty support** from the date of Final Acceptance. During this period, the Contractor shall rectify any software or hardware defect at no additional cost. Extended support may be contracted separately upon mutual agreement.

### 7.2.10. Audit Rights

The Employer reserves the right to audit the Contractor's performance, records, and deliverables at any stage during the contract period to ensure compliance with the contract and applicable laws.

### 7.2.11. Compliance with Local Regulations

The Contractor shall comply with all applicable laws, labor regulations, and tax requirements enforced by the **Government of Pakistan** and the **Government of the Punjab**.

### 7.2.12. Exit & Data Handover

- a. Upon completion or termination of the Contract, the Contractor shall ensure secure transfer of all project-related data, documentation, and system credentials to the Employer in prescribed formats.
- b. No proprietary locks or encryption shall restrict data ownership or accessibility



## SECTION 8 – CONTRACT AGREEMENT

(For Procurement of Meter Data Management Including Integrated Energy Data Management System – MDM + EDMS)  
Reconciliation Cell, Energy Department, Government of the Punjab

### CONTRACT AGREEMENT

This Agreement is made on the \_\_\_ day of \_\_\_\_\_ 2025 at Lahore, Punjab.

#### BETWEEN

The Government of the Punjab, acting through Director Technical (Reconciliation) / Project Director, Reconciliation Cell, Energy Department, Government of the Punjab, 27-Jahangir Park (LOS), New Mozang, Lahore

(hereinafter referred to as “the Employer”, which expression shall include its successors, assigns and legal representatives)

#### AND

M/s \_\_\_\_\_, a company incorporated under the laws of Pakistan having its registered office at \_\_\_\_\_ (hereinafter referred to as “the Contractor”, which expression shall include its successors, assigns, legal representatives)

The Employer and the Contractor are hereinafter collectively referred to as “the Parties” and individually as a “Party.”

### 1. DEFINITIONS & INTERPRETATION

Unless otherwise stated, capitalized terms shall have the meaning assigned in this Agreement or the Bidding Document.

#### 2.1. Definitions

“**Agreement**” means this Contract Agreement including all annexures, schedules, attachments, amendments and the entire bidding document.

“**Bidding Document / Tender**” means the complete bidding document uploaded on Punjab EPADS portal for: *Procurement of Meter Data Management including Integrated Energy Data Management System (MDM+EDMS)*.

“**MDM/EDMS System**” means the Integrated Meter Data Management and Energy Data Management System as specified in the technical requirements.

“**Proof of Concept (POC)**” means mandatory system demonstration showing functional, technical, analytical and interoperability capabilities as per Section \_\_\_ of the Bidding Documents.

“**Completion Certificate**” means the certificate issued by Employer upon successful completion of deliverables.

“**Applicable Laws**” means all laws applicable in the Islamic Republic of Pakistan, specifically Punjab Procurement Rules 2014 (amended), and Government of Punjab notifications.



“**Services**” include supply, installation, integration, testing, commissioning, configuration, analytics, training, documentation, and maintenance of the MDM + EDMS system.

## **2.2. Order of Precedence**

The following Documents shall be deemed to form and be read and construed as part of this Agreement:

- a) Advertisement of Invitation for BID
- b) Bidding Documents complete in all respect.
- c) Amendments, if any, issued by the Director Technical / Project Director, Reconciliation Cell, Energy Department for the Bidding Documents in pre-bid meeting or any Minutes of meeting with the bidders
- d) Corrigendum/Clarifications, if any, issued by the Director Technical / Project Director, Reconciliation Cell, Energy Department for the Bidding Documents
- e) Any informal agreement made by the Reconciliation Cell, Energy Department and the successful bidder which include a commitment
- f) Detailed technical & financial bids of the Successful Bidder
- g) Correspondence made by the Director Technical / Project Director, Reconciliation Cell, Energy Department to the successful Bidder from time to time during the period of the Agreement.
- h) Letter of Acceptance (LOA) and subsequent correspondence

Wherever the terms and conditions of the Bidding Documents or offer furnished by the Contractor are at variance with provisions of this Agreement, the Agreement shall prevail.

## **2.3. Communications**

All communications shall be in English and delivered in writing (letter or email) to addresses notified by the Parties.

## **3. SCOPE OF WORK**

The Contractor shall supply and implement a fully functional Meter Data Management & Energy Data Management System (MDM + EDMS) which includes but is not limited to:

### **3.1. System Supply, Installation & Commissioning**

- a. Supply, installation, configuration and commissioning of MDM + EDMS system.
- b. Deployment either On-Premise or Cloud as required.
- c. Integration with existing MDCs and AMI systems (KBK, MICROTECH, and future UDI-compliant MDCs).
- d. Data migration, synchronization, validation, cleansing, and performance testing.
- e. Deployment of dashboards, analytics, customized reporting and reconciliation modules.
- f. Role-based access, audit trails, security, failover, and backup implementation.
- g. Support for 15,000 metering devices (scalable).

### **3.2. Proof of Concept (POC)**



- a. POC is mandatory before contract becomes effective.
- b. No payment shall be made for POC.
- c. POC duration: 30 days.
- d. Successful POC is a prerequisite for contract activation.
- e. POC failure will result in invitation to the next lowest evaluated bidder.
- f. POC sign off is part of this contract

### 3.3. Documentation & Training

- a. User manuals, technical documentation, architecture diagrams, SOPs.
- b. Training for end-users, system administrators, and reconciliation team.

### 3.4.2.4 Warranty & Support

- a. 36-month warranty after Go-Live.
- b. Corrective and preventive maintenance.
- c. SLAs: Response within 4 hours; resolution within 72 hours.
- d. Replacement of defective components at no cost.

## 4. IMPLEMENTATION TIMELINE

Phase	Activity / Deliverable	Description	Timeline (from T <sub>0</sub> )
<b>POC Phase</b>	POC	As per explained earlier	30 Calander Days
<b>Post POC Phase/Implementation Phase after signing Contract</b>			
<b>Phase 1</b>	<b>Project Mobilization &amp; Inception</b>	Project initiation, appointment of Project Manager, submission of Project Implementation Plan (PIP), resource deployment, and finalization of project governance framework.	At the time of Contract Signing
<b>Phase 2</b>	<b>System Design, Requirement Finalization &amp; Documentation</b>	Detailed design document preparation including functional, technical, and integration requirements for MDM & EDMS, aligned with DISCO and PITC specifications. Approval from Employer required.	Within Two Weeks
<b>Phase 3</b>	<b>Hardware &amp; Infrastructure Setup</b>	Delivery, installation, and configuration of server infrastructure, network setup, and security components at designated data center and DR site.	Within Two Weeks
<b>Phase 4</b>	<b>Software Configuration &amp; Customization</b>	Installation, configuration, and customization of MDM and EDMS modules including integration with AMI Head-End System (HES) and billing system.	Within Three Weeks



Phase	Activity / Deliverable	Description	Timeline (from T <sub>0</sub> )
Phase 5	<b>Data Migration &amp; Integration Testing</b>	Import of legacy/billing/AMI data, establishment of interfaces (APIs) with existing systems, and end-to-end functional testing.	Within One Week
Phase 6	<b>User Acceptance Testing (UAT)</b>	Joint testing with Employer, validation of reports, dashboards, analytics, and performance.	Within One Week
Phase 7	<b>Training &amp; Knowledge Transfer</b>	Conduct hands-on training sessions for system administrators, Reconciliation Cell users, and other stakeholders. Submission of training manuals and operational documentation.	Within One Week
Phase 8	<b>Pilot Go-Live</b>	Go-live for Monitoring and stabilization of operations.	Within One Week
Phase 9	<b>Full Rollout &amp; Go-Live</b>	System-wide deployment and activation of MDM+EDMS solution for all targeted service points.	Within One Week
Phase 10	<b>Post-Implementation Support &amp; Maintenance</b>	Commencement of warranty period, ongoing technical support, performance tuning, and system updates as per contract.	<b>36 months (03-years) post go-live</b>

- (POC is pre-contract; not included in the above.)

## 5. CONTRACT PRICE & PAYMENT TERMS

### 5.1. Contract Price

The total Contract Price for the complete system and services is:  
PKR \_\_\_\_\_ (Inclusive of all Taxes)

### 5.2. Payment Milestones

Milestone	Payment (% of Contract Value)	Payment Condition
<b>1. System Supply and Installation</b>	30 %	Upon delivery and installation of all approved hardware and software.
<b>2. System Configuration &amp; Integration</b>	25 %	Upon successful configuration and demonstration of data acquisition and integration with existing MDCs.
<b>3. System Testing &amp; Commissioning</b>	25 %	Upon successful completion of functional testing and acceptance by Client.
<b>4. Training &amp; Documentation</b>	10 %	Upon completion of user training and submission of complete documentation.



Milestone	Payment (% of Contract Value)	Payment Condition
<b>5. Post-Implementation Support (Warranty Period)</b>	10 %	Upon satisfactory completion of warranty/support period of 03 years (36 Months) and submission of final acceptance certificate.

Retained money: 10% held in treasury as per Punjab Govt. rules.

### 5.3. Performance Guarantee

- a. Contractor shall submit a 10% Performance Guarantee within 7 days of signing.
- b. Guarantee valid until 90 days after warranty completion.

## 6. GENERAL CONDITIONS

This Agreement incorporates all GCC clauses as included in the Bidding Document, including:

- a. Governing Law
- b. Taxes
- c. Assignment & Subcontracting
- d. Confidentiality
- e. Intellectual Property
- f. Health, Safety & Security
- g. Audit Rights
- h. Limitation of Liability
- i. Fraud & Corruption

## 7. SPECIAL CONDITIONS OF CONTRACT

This section modifies GCC where required:

### 7.1. Interoperability

The Contractor shall ensure full interoperability with existing and future MDCs, AMI systems, and shall adhere to open, vendor-neutral standards.

### 7.2. Data Ownership

All data belongs exclusively to the Government of the Punjab.



### **7.3. Security Requirements**

Contractor shall implement end-to-end encryption, role-based access, audit trails, and comply with GoP cyber security guidelines.

### **7.4. Change Requests**

Changes requested by the Employer shall be managed through a Change Control Board (CCB) and subject to mutual approval.

## **8. PERFORMANCE & WARRANTY OBLIGATIONS**

### **8.1. Warranty Duration**

36 months (Three Years) from Go-Live.

### **8.2. Service Level Requirements**

- Response: 4 hours
- Resolution: 72 hours
- Penalty: PKR \_\_\_\_\_ per hour of delay beyond SLA

### **8.3. Replacement**

Any non-performing module or equipment shall be replaced at no cost.

## **9. TERMINATION OF AGREEMENT**

### **I. Termination for Default**

- a) Reconciliation Cell, Energy Department may without prejudice to any other remedy for breach of Agreement, by written notice of default with a notice period of seven (07) days, sent to the Contractor, terminate the Agreement in whole or part, (i) if the Contractor fails to meet assignment requirement define in technical specification of Bidding document / bidder technical proposal within the time period(s) specified in the Agreement (Milestone schedule) or fails to meet define in technical specification of Bidding document / bidder technical proposal as per the Project Completion Schedule or within any extension thereof granted by the Reconciliation Cell, Energy Department; or (ii) if the Contractor fails to deliver assignment requirement define in technical specification of Bidding document / bidder technical proposal as per required technical specifications; or (iii) if the Contractor fails to perform any of the obligation(s) under the Agreement; or (iv) if the Contractor, in the judgment of the Reconciliation Cell, Energy Department, has engaged in fraudulent and corrupt practices in competing for or in executing the Agreement.
- b) In the event the Reconciliation Cell, Energy Department terminates the Agreement in whole or in part. However, the Contractor shall continue the performance of the agreement to the extent not terminated.

### **II. Termination for Insolvency**

Reconciliation Cell, Energy Department may at any time terminate the Agreement by giving written notice with a notice period of seven (07) days to the Contractor, if the Contractor becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Contractor, provided



that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Reconciliation Cell, Energy Department.

### **III. Termination for Convenience**

Reconciliation Cell, Energy Department may through a written notice, with a notice period of seven (07) days sent to the Contractor, terminate the Agreement, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Reconciliation Cell, Energy Department convenience, the extent to which performance of work under the Agreement is terminated, and the date upon which such termination becomes effective. On termination under this sub clause, the Contractor will be entitled to any payment (s) due so far.

## **10. FORCE MAJEURE**

- a) Subject to sub clause (c), in a Force Majeure situation which directly and materially hinders/hampers the Contractor's ability to perform its obligations under the Agreement, the Parties will be excused from performance of their respective obligations under the Agreement until the existence / persistence of the Force Majeure Event.
- b) For purposes of this clause, "Force Majeure" means an event beyond the control of the Contractor and not involving the Contractor's fault or negligence or not reasonably foreseeable. Such events may include, but are not restricted to, acts of the God, wars, acts of terrorism, fires, floods, epidemics, quarantine restrictions and restriction imposed by the Government on the import of any material relating to the manufacture of goods."
- c) If a Force Majeure situation arises, the Contractor shall promptly notify the Reconciliation Cell, Energy Department in writing of such condition and the cause thereof. Unless otherwise directed by the Reconciliation Cell, Energy Department in writing, the Contractor shall continue to perform its obligations under the Agreement as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- d) If a Force Majeure Event persists for more than three (03) months from the date of the notice under sub clause (c) above, the Contractor may apply to the Reconciliation Cell, Energy Department seeking termination of the Agreement. If the Reconciliation Cell, Energy Department agrees, the Agreement may be terminated.
- e) If a Force Majeure event persists for more than three (03) months from the date of the notice under the sub clause (c) above, Reconciliation Cell, Energy Department may at its own absolute discretion terminate the Agreement.
- f) In the event of termination under clause (d) or (e), the Contractor shall be entitled to receive such part of the Agreement Price as pertains to the delivery, as on the date of termination, implemented in accordance with the terms of the Agreement. In case, at the time of termination, any action is pending on the part of the contractor regarding delivery and acceptance of the system or warranty and maintenance support or services as required under the Agreement which could not be completed, the Reconciliation Cell, Energy Department shall be entitled to utilize the performance guarantee/retention money or demand additional sum for such AMI System/Services to ensure continued provisioning thereof. This shall be without prejudice to any other rights and remedies which the Reconciliation Cell, Energy Department may have under the Agreement or under the relevant laws.

## **11. DISPUTE RESOLUTION**

### **11.1. Amicable Resolution**



The Parties shall make every reasonable effort to resolve any dispute, controversy, or claim arising out of or relating to this Contract, its interpretation, execution, breach, termination, or validity through direct and amicable negotiation. Either Party may notify the other Party in writing of the existence of a dispute. Upon such notice, the Parties shall meet within seven (07) working days and attempt to settle the dispute within fifteen (15) working days from the date of such meeting.

#### **11.2. Reference to Departmental Committee**

If the dispute remains unresolved, it shall be referred for review to a Committee constituted by the **Secretary, Energy Department, Government of the Punjab**.

The Committee shall evaluate all submissions and supporting evidence from both Parties and provide a written recommendation within **thirty (30) days**. The Committee's findings shall be considered in good faith by both Parties; however, if either Party does not accept the recommendation, the dispute may proceed to arbitration.

#### **11.3. Arbitration**

If the dispute is not resolved through amicable negotiations or departmental review, it shall be finally settled by arbitration under the **Arbitration Act, 1940**, and rules framed thereunder, which are applicable in the Province of the Punjab.

- The **Secretary Energy Department** or his authorized nominee shall appoint a **sole arbitrator** within **fifteen (15) days** of the request for arbitration by either Party.
- The decision of the arbitrator shall be **final, binding, and enforceable** on both Parties to the extent permitted by law.
- The venue of arbitration shall be **Lahore, Punjab**, and the proceedings shall be conducted in the **English language**.
- Each Party shall bear its own costs; however, the arbitrator may award costs as part of the final award.

#### **11.4. Continuation of Services**

During the period in which a dispute is being resolved, the Contractor shall **continue to perform all obligations under the Contract** without interruption, unless otherwise directed by the Employer in writing.

#### **11.5. Governing Law & Jurisdiction**

This Contract shall be governed by and construed in accordance with the laws of the **Islamic Republic of Pakistan** and the **Province of the Punjab**. Subject to the arbitration clause, any matter requiring judicial intervention shall fall under the **exclusive jurisdiction of the Courts of Lahore**.

#### **11.6. Protection of Public Interest**

Nothing in this clause shall prevent the Government of the Punjab from taking any action deemed necessary in the public interest or for ensuring compliance with applicable procurement, financial, or administrative laws, rules, or policies.

### **12. Waiver of Terms and Conditions of Agreement**

Any waiver of any terms and conditions by the Reconciliation Cell, Energy Department without in writing shall not have the effect of waiving or abandoning the terms and conditions of the Agreement.



- a. Unless otherwise provided in the Agreement, any notice, request, consent given or required to be given hereunder shall be given by mailing the same by registered mail, postage prepaid, in the case of the Contractor to the Director Technical, Reconciliation Cell, at its Registered Office set forth above or with other addresses and to the attention of such other person or persons as may hereafter be designated by like notice hereunder and any such notice sent by post shall be deemed to have been served on the date when in the ordinary course of post, it would have been delivered at the address to which it was sent.
- b. Any notice to the Contractor shall be deemed to be sufficiently served, if given or left in writing at their usual or last known place of abode or business.
- c. Day to day communication between the parties can be conducted using any modern communication devices such as email, fax etc.

### **13. OTHERS**

- a) In case of any difference of opinion, the terms and conditions as mentioned in this Agreement shall take precedence over any previous document.
- b) Reconciliation Cell, Energy Department (if required) may also give Repeat Order (not exceeding 15 % of the original procurement) to Contractor as per Punjab PPRA Rules, 2014 with the mutual consent of both parties in case of increase in scope of work.
- c) The JV / subcontractor, if applicable, shall be jointly and individually responsible for the execution and implementation of the Contract Agreement.
- d) Subject to above, the Courts in Pakistan alone shall have jurisdiction in the matter

### **14. DOCUMENTS FORMING PART OF AGREEMENT**

- a. This Contract Agreement
- b. Letter of Acceptance
- c. Contractor's signed Proposal
- d. Bidding Document (entire)
- e. Addenda & Clarifications
- f. Minutes of Meetings
- g. POC Signoff
- h. All Approved Technical Documents

### **SIGNATURE PAGE**

**For the Employer**

**Director Technical (Reconciliation)  
Energy Department, Government of the Punjab**

DIRECTOR TECHNICAL (RECONCILIATION)  
RECONCILIATION CELL, ENERGY DEPARTMENT,



Name: \_\_\_\_\_  
CNIC: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Seal: \_\_\_\_\_

**For the Contractor**

Name: \_\_\_\_\_  
Designation: \_\_\_\_\_  
Company: \_\_\_\_\_  
CNIC: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Seal: \_\_\_\_\_

**Witnesses**

1. \_\_\_\_\_ (Employer side)
2. \_\_\_\_\_ (Contractor side)



## SECTION 9 – ANNEXURES & FORMATS

This section contains the standard forms, templates, and annexures that must be duly completed, signed, and submitted by the bidder as part of the proposal. Failure to provide any of the required forms or supporting documentation in the prescribed format may result in disqualification or rejection of the bid.

<b>Annexure No.</b>	<b>Title / Description</b>
<b>Annexure–A</b>	Bid Submission Form (Cover Letter)
<b>Annexure–B</b>	Bidder’s Information Sheet
<b>Annexure–C</b>	Eligibility Criteria Compliance Checklist
<b>Annexure–D</b>	Technical Proposal Submission Form
<b>Annexure–E</b>	Technical Compliance Matrix (Functional & Technical Requirements)
<b>Annexure–F</b>	CVs of Key Personnel / Project Team
<b>Annexure–G</b>	Implementation Schedule & Project Plan
<b>Annexure–H</b>	Financial Proposal Submission Form
<b>Annexure–I</b>	Detailed Financial Breakdown (Cost Summary)
<b>Annexure–J</b>	OEM / Principal Authorization Letter
<b>Annexure–K</b>	Audited Financial Statements (Last Three Years)
<b>Annexure–L</b>	Relevant Project Experience Summary
<b>Annexure–M</b>	Undertaking of No Blacklisting / Litigation
<b>Annexure–N</b>	Bid Security Form
<b>Annexure–O</b>	Performance Guarantee Form
<b>Annexure–P</b>	Integrity Pact
<b>Annexure–Q</b>	Confidentiality Undertaking
<b>Annexure–R</b>	Affidavit of Authenticity of Information
<b>Annexure–S</b>	Checklist of Submitted Documents



## Annexure–A: Bid Submission Form (Cover Letter)

**To:**

The Procuring Agency  
[Name of Procuring Entity]  
[Address]

**Subject:** Submission of Proposal for “Procurement of Meter Data Management Including Integrated Energy Meter Data Management Solution (MDM + EDMS)”

Dear Sir/Madam,

Having examined the Invitation to Bid (ITB), including all sections, annexures, and amendments, we, the undersigned, offer to provide the required solution and services as per the terms and conditions specified in the Bidding document.

We hereby submit our proposal, which includes:

- Technical Proposal
- Financial Proposal (in separate sealed envelope)

We confirm that all the information provided in our proposal is true and accurate to the best of our knowledge.

We undertake to abide by the terms and conditions of the ITB and agree that the Procuring Agency reserves the right to accept or reject any proposal without assigning any reason.

<b>Authorized Name:</b>	<b>Signature:</b>	_____
<b>Designation:</b>		_____
<b>Company Name:</b>	<b>Name:</b>	_____
<b>Seal/Stamp:</b>		_____
<b>Date:</b>		_____



### Annexure–B: Bidder’s Information Sheet

Field	Details
Name of the Bidder / Company	
Country of Incorporation	
Year of Establishment	
Registered Address	
Contact Person	
Designation	
Telephone / Mobile	
Email	
NTN / Sales Tax Registration No.	
Active Taxpayer Status	
Number of Employees	
OEM / Partner Certifications	
Local Office in Pakistan (Yes/No)	
Authorized Signatory Name & Designation	

### Annexure–C: Eligibility Criteria Compliance Checklist

Requirement	Compliance (Yes/No)	Supporting Document Reference	Document
Valid Company Registration / Incorporation			
NTN & Sales Tax Registration (Active Status)			
Minimum 5 years of relevant experience			
Two similar utility projects completed			



OEM / Principal Authorization Letter			
Financial Capacity (PKR 500M turnover)			
Not blacklisted by any entity			
Audited Financial Statements (3 years)			

### **Annexure–D: Technical Proposal Submission Form**

To be submitted on company letterhead, signed by the authorized representative, and should summarize the bidder's understanding of the assignment, proposed methodology, solution overview, and implementation approach.



### **Annexure–E: Technical Compliance Matrix**

A detailed matrix comparing ITB requirements with the bidder's proposed solution.  
Format:

<b>Requirement Reference</b>	<b>Description</b>	<b>Bidder's Response (Comply / Partial / Not Comply)</b>	<b>Remarks / Reference Document</b>
------------------------------	--------------------	--	-------------------------------------

### **Annexure–F: CVs of Key Personnel**

Provide detailed resumes for all proposed key experts including Project Manager, Solution Architect, Database Administrator, System Integration Specialist, and MDM/EDMS domain experts. Each CV must include:

- Name, designation, and role
- Qualifications
- Total experience and relevant project experience
- Certifications (if applicable)
- Signature of expert and authorized representative

### **Annexure–G: Financial Proposal Submission Form**

To be submitted on company letterhead, sealed separately. It must include total project cost, payment schedule, applicable taxes, warranty, and support cost (if any).



### Annexure–H: Detailed Financial Breakdown

Item / Component	Description	Quantity	Unit Cost (PKR/USD)	Total Cost
Software Licenses (MDM + EDMS)				
Implementation Services				
Training & Capacity Building				
Hardware & Infrastructure				
Support & Maintenance (3 Years)				
<b>Grand Total (inclusive of taxes)</b>				



## Annexure-I: Integrity Pact

As per Punjab Procurement Rules, all bidders shall submit a duly signed **Integrity Pact** (on legal stamp paper) to ensure that no bribes, commissions, or corrupt practices are involved in the procurement process.

### (INTEGRITY PACT)

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

Contract No. \_\_\_\_\_ Dated \_\_\_\_\_  
Contract Value: \_\_\_\_\_  
Contract Title: \_\_\_\_\_

..... [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 (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by 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, fees 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 consultation 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, representation or warranty.

[name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts 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 rights 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 times 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.

Name of Buyer: .....

Name of Seller/Supplier: .....

Signature: .....

Signature: .....

[Seal]

[Seal]



## **Annexure–J: Confidentiality Undertaking**

The bidder shall submit a signed undertaking ensuring that all project-related data, documents, and information shall be kept strictly confidential and shall not be disclosed to any third party without prior written consent of the Procuring Agency.



## Annexure–K: Undertaking for Vendor-Independence & Interoperability

(To be submitted on the Bidder's Letterhead)

Date: \_\_\_\_\_

Tender Title: *Procurement of Meter Data Management Including Integrated Energy Meter Data Management Solution (MDM + EDMS)*

Tendering Agency: *Energy Department, Government of the Punjab*

### UNDERTAKING

We, the undersigned, hereby confirm, warrant, and undertake the following:

#### Vendor Independence

We affirm that our proposed MDM/MDAS/EDMS solution is *fully vendor-independent* and does not require or enforce exclusivity with any specific meter manufacturer, MDC vendor, communication technology, or proprietary ecosystem. The solution does not cause vendor lock-in of any kind.

#### Interoperability with Existing Infrastructure

We confirm that the proposed system is fully interoperable with all existing Meter Data Concentrators (MDCs) currently deployed at the Reconciliation Cell, including but not limited to KBK and MICROTECH systems. All required integration, protocols, and data exchange mechanisms shall be provided by us without any additional cost.

#### Interoperability with Future Systems

We certify that the system shall support integration with all future MDCs and AMI components that comply with open standards such as UDI, DLMS/COSEM, IEC standards, or any other standards notified by the Client. No proprietary interface, hardware dependency, or restricted protocol will be required for future compatibility.

#### Open Standards Compliance

We confirm that the solution is based on open, industry-recognized standards and that all APIs, data interfaces, and integration components will be provided to ensure seamless interoperability with LESCO's and the Reconciliation Cell's AMI ecosystem.

#### No Restriction on Meter Manufacturer Participation

We undertake that our system shall allow participation of and integration with all meter manufacturers without any restriction, limitation, or technical dependency.

#### Binding Commitment

This undertaking is a binding component of our proposal and, if awarded the contract, shall be enforceable under the terms and conditions of the contract.

Authorized Signatory:

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Company Name: \_\_\_\_\_

Signature & Stamp: \_\_\_\_\_



### **Annexure–L: Affidavit of Authenticity of Information**

An affidavit on stamp paper stating that all information, documents, and credentials submitted are authentic and verifiable. Any false or misleading information may lead to disqualification or termination of contract.

### **Annexure–M: Checklist of Submitted Documents**

<b>Document Description</b>	<b>Attached (Yes/No)</b>	<b>Remarks</b>
Bid Submission Form		
Technical Proposal		
Financial Proposal		
OEM Authorization		
Project Experience Proofs		
Audited Accounts		
Affidavit (No Blacklisting)		
Integrity Pact		
Bid Security		



## Annexure – N: Reports

The following reports, among others, shall be required as part of the assignment. During the discovery phase, the exact list of reports and their formats shall be finalized in consultation with the Client prior to development. However, the list shall not be limited to the following:

### Anx-N.1. MAIN TOTAL REPORT (Reference Wise) Sample

MAIN TOTAL REPORT (Reference Wise)																																												
<table border="1" style="width:100%"> <tr> <td colspan="15">INPUTS:</td> </tr> <tr> <td colspan="3">i) DATE: From: To:</td> <td colspan="3">ii) TIME: From: To:</td> <td colspan="3">iii) DISCOs: FESCO, GEPCO, IESCO, LESCO, MEPCO, ALL</td> <td colspan="3">iv) Circle: List of Circle, Div. and Sub-Div. OR</td> <td colspan="3">v) Sub-Div: List of Ref. Nos. OR All Ref. Nos.</td> </tr> </table>															INPUTS:															i) DATE: From: To:			ii) TIME: From: To:			iii) DISCOs: FESCO, GEPCO, IESCO, LESCO, MEPCO, ALL			iv) Circle: List of Circle, Div. and Sub-Div. OR			v) Sub-Div: List of Ref. Nos. OR All Ref. Nos.		
INPUTS:																																												
i) DATE: From: To:			ii) TIME: From: To:			iii) DISCOs: FESCO, GEPCO, IESCO, LESCO, MEPCO, ALL			iv) Circle: List of Circle, Div. and Sub-Div. OR			v) Sub-Div: List of Ref. Nos. OR All Ref. Nos.																																
RESULTS:																																												
Sr#	Ref. No.	DISCO	WAPDA A	WAPDA A	WAPDA A SUB-	Name & Address			Dept. Name	Dept. Code	Sanctioned	Installed Load	Verification	SIM No.																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15																														
PEAK time KWH Consumption			OFF-PEAK time KWH Consumption			TOTAL KWH Consumption																																						
AMI Meter No.	Average KWH Consumption per Day	Average KWH Consumption per Day	Average KWH Consumption per Day	Average KWH Consumption per Day	Average KWH Consumption per Day	Average KWH Consumption per Day	Average KWH Consumption per Day	Frequency (Hz)																																				
16	17	18	19	20	21	22	23	24	25	26	27	28	29																															
PEAK time KVARH Consumption			OFF-PEAK time KVARH Consumption			TOTAL KVARH Consumption																																						
AMI Meter No.	Average KVARH Consumption per Day	Average KVARH Consumption per Day	Average KVARH Consumption per Day	Average KVARH Consumption per Day	Average KVARH Consumption per Day	Average KVARH Consumption per Day	Average KVARH Consumption per Day	Load AMI	AMI PF (Power Factor)																																			
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44																														
PEAK Time KW LOAD			OFF-PEAK Time KW LOAD			TOTAL KW LOAD																																						
Minimum Load	Time & Date of Min. Load	Maximum Load	Time & Date of Max. Load	Average Running Load	Minimum Load	Time & Date of Min. Load	Maximum Load	Time & Date of Max. Load	Average Running Load	Minimum Load	Time & Date of Min. Load	Maximum Load	Time & Date of Max. Load	Average Running Load																														
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59																														

### Anx-N.2. MONTHLY Reference wise Report

MONTHLY Reference wise Report																																												
<table border="1" style="width:100%"> <tr> <td colspan="15">INPUTS:</td> </tr> <tr> <td colspan="3">i) MONTH: From: To:</td> <td colspan="3">ii) DISCOs: FESCO, GEPCO, IESCO, LESCO, MEPCO, ALL</td> <td colspan="3">iii) Circle: List of Circle, Div. and Sub-Div. OR select</td> <td colspan="3">iv) Division: List of Ref. Nos. OR All Ref. Nos.</td> <td colspan="3">v) Sub-Div: List of Ref. Nos. OR All Ref. Nos.</td> </tr> </table>															INPUTS:															i) MONTH: From: To:			ii) DISCOs: FESCO, GEPCO, IESCO, LESCO, MEPCO, ALL			iii) Circle: List of Circle, Div. and Sub-Div. OR select			iv) Division: List of Ref. Nos. OR All Ref. Nos.			v) Sub-Div: List of Ref. Nos. OR All Ref. Nos.		
INPUTS:																																												
i) MONTH: From: To:			ii) DISCOs: FESCO, GEPCO, IESCO, LESCO, MEPCO, ALL			iii) Circle: List of Circle, Div. and Sub-Div. OR select			iv) Division: List of Ref. Nos. OR All Ref. Nos.			v) Sub-Div: List of Ref. Nos. OR All Ref. Nos.																																
RESULTS:																																												
Sr#	Ref. No.	DISCO	WAPDA CIRCLE	WAPDA DIVISIO	WAPDA SUB-	Name & Address			Dept. Name	Dept. Code	Sanctioned	Installed Load	Verification Date	SIM No.																														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15																														
AMI Meter No.	Month	KWH			KVARH			MDI																																				
		Peak KWH Consumption	OFF-PEAK KWH Consumption	TOTAL KWH Consumption	Peak KVARH Consumption	OFF-PEAK KVARH Consumption	TOTAL KVARH Consumption	PEAK HOURS MDI (KW)	Date & Time of MDI	OFF-PEAK MDI (KW)	Date & Time of MDI	TOTAL TIME MDI (KW)	Date & Time of MDI																															
16	17	18	19	20	21	22	23	24	25	26	27	28	29																															
	Load AMI	AMI PF (Power Factor)	Load Factor (AMI)	Frequency (Hz)																																								
	30	31	32	33																																								



### Anx-N.3. DAILY Report (Reference wise)

DAILY Report (Reference wise)														
<b>INPUTS:</b>														
i) DATE:		iii) DISCOs:					iv) Circle:		List of Circle, Div. and Sub-Div. OR select					
From: _____		FESCO					v) Division:		List of Ref. Nos. OR All Ref. Nos.					
To: _____		GEPCCO					vi) Sub-Div:							
		IESCO												
		LESCO												
		MEPCO												
		ALL												
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPDA CIRCLE	WAPDA DIVISIO	WAPDA SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctio ned	Installed Load	Verificat ion Date	SIM No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AMI Meter No.	Date	KWH			KVARH			MDI				TOTAL 24-Hours		
		Peak KWH Consum	OFF-PEAK KWH	TOTAL KWH Consum	Peak KVARH Consum	OFF-PEAK KVARH	TOTAL KVARH Consum	MDI (KW)	Time of MDI	MDI (KW)	Time of MDI	MDI (KW)	Time of MDI	
16	17	18	19	20	21	22	23	24	25	26	27	28	29	
	Load AMI	AMI PF (Power Factor)	Load Factor (AMI)	Frequen cy (Hz)										
	30	31	32	33										

### Anx-N.4. Hourly Report (Reference wise)

Hourly Report (Reference wise)														
<b>INPUTS:</b>														
i) DATE:		iii) DISCOs:					iv) Circle:		List of Circle, Div. and Sub-Div. OR select					
_____		FESCO					v) Division:		List of Ref. Nos. OR All Ref. Nos.					
		GEPCCO					vi) Sub-Div:							
		IESCO												
		LESCO												
		MEPCO												
		ALL												
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPDA CIRCLE	WAPDA DIVISIO	WAPDA SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctio ned	Installed Load	Verificat ion Date	SIM No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AMI Meter No.	Time (Hour)	KWH			KVARH			MDI			Load AMI	AMI PF (Power Factor)	Load Factor (AMI)	
		KWH Reading	M.F.	KWH Consum	KAVRH Reading	M.F.	KVARH Consum	MDI (KW)	M.F.	MDI Recorde				
16	17	18	19	20	21	22	23	24	25	26	27	28	29	



## Anx-N.5. MONTHLY Comparison with DISCOs

MONTHLY Comparison with DISCOs														
<b>INPUTS:</b>														
i) MONTH: _____			iii) DISCOs: _____			iv) Circle: _____		List of Circle, Div. and Sub-Div. OR select						
From: _____			FESCO			v) Division: _____		List of Ref. Nos. OR All Ref. Nos.						
To: _____			GEPCC			vi) Sub-Div: _____								
			IESCO											
			LESCO											
			MEPCO											
			ALL											
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPDA CIRCLE	WAPDA DIVISIO	WAPDA SUB-	Name & Address			Dept. Name	Dept. Code	Sanctio ned	Installed Load	Verificat ion Date	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Opening Balance	Current Assessment	Bill Adj.	Payment by Consumer	Payment through ED	Payment at Source	Progressive Surcharge	Closing Balance	Set Aside	Subsidy	Net Receivables	SIM No.	AMI Meter No.	Month	
15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Load AMI	AMI Power Factor	Consumption as per AMI Meter				Consumption as per DISCO Billing				Excessive Billing				Load Factor AMI
		PEAK KWH	OFF-PEAK	TOTAL KWH	MDI	PEAK KWH	OFF-PEAK	TOTAL KWH	MDI	PEAK KWH	OFF-PEAK	TOTAL KWH	MDI	
29	30	31	32	33	34	35	36	37	38	39	40	41	42	43



## Anx-N.6. REAL TIME, LATEST EVENT GENERATED REPORT

REAL TIME, LATEST EVENT GENERATED REPORT														
<b>INPUTS:</b>														
i) DISCOs:					ii) Circle:					List of Circle, Div. and Sub-Div. OR				
FESCO					iii) Division:									
GEPCO					iv) Sub-Div:									
IESCO					vi) Ref. No.					List of Ref. Nos. OR All Ref. Nos.				
LESCO														
MEPCO														
ALL														
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPD A DIVISIO	Name & Address			Deptt. Code.	Deptt. Name	Sanctio ned Load	Installe d Load	Verifica tion Date	Date of Latest Event	Time of Latest Event	SIM No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PEAK time KWH Reading				OFF-PEAK time KWH Reading				TOTAL KWH Reading						
Last Reading	2nd Last Reading	M.F.	Consumption in Last Interval	AMI Meter No	Last Reading	2nd Last Reading	M.F.	Consumption in Last Interval	Last Reading	2nd Last Reading	M.F.	Consumption in Last Interval		
16	17	18	19	20	21	22	23	24	25	26	27	28		
PEAK time KVARH Reading				OFF-PEAK time KVARH Reading				TOTAL KVARH Reading						
Last Reading	2nd Last Reading	M.F.	Consumption in Last Interval		Last Reading	2nd Last Reading	M.F.	Consumption in Last Interval	Last Reading	2nd Last Reading	M.F.	Consumption in Last Interval		
29	30	31	32		33	34	35	36	37	38	39	40		
PEAK Time Kw MDI				OFF-PEAK Time Kw MDI				TOTAL Kw MDI						
Last Reading	M.F.	MDI Established in Last			Last Reading	M.F.	MDI Established in Last			Last Reading	M.F.	MDI Established in Last		
41	42	43			44	45	46			47	48	49		

## Anx-N.7. ELECTRICITY AVAILABILITY REPORT (MONTHLY)

ELECTRICITY AVAILABILITY REPORT (MONTHLY)														
<b>INPUTS:</b>														
i) MONTH					ii) DISCOs:					iii) Circle: List of Circle, Div. and Sub-Div. OR				
From: _____					FESCO					iv) Division:				
To: _____					GEPCO					v) Sub-Div:				
					IESCO					vi) Ref. No.				
					LESCO					List of Ref. Nos. OR All Ref. Nos.				
					MEPCO									
					ALL									
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPD A	WAPD A	WAPD A SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctio ned	Installe d Load	Verifica tion	SIM No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AMI Meter No	MONTH	RED PHASE			YELLOW PHASE			BLUE PHASE			ON HOURS	OFF HOURS		
		ON Hours	OFF Hours	%age of Availability	ON Hours	OFF Hours	%age of Availability	ON Hours	OFF Hours	%age of Availability	INTER VAL	INTER VAL		
16	17	18	19	20	21	22	23	24	25	26	27	28		



### Anx-N.8. ELECTRICITY SUPPLY AVAILABILITY REPORT (DAILY)

ELECTRICITY SUPPLY AVAILABILITY REPORT (DAILY)														
<b>INPUTS:</b>														
i) DATE:		ii) DISCOs:			iii) Circle:		List of Circle,							
From: _____		FESCO			iv) Division:		Div. and Sub-							
To: _____		GEPCO			v) Sub-Div:		Div. OR							
		IESCO			vi) Ref. No:		List of Ref.							
		LESCO					Nos. OR All							
		MEPCO					Ref. Nos.							
		ALL												
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPD A	WAPD A	WAPD A SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctioned	Installed Load	Verification	SIM No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AMI Meter No	Date	RED PHASE			YELLOW PHASE			BLUE PHASE			ON HOURS	OFF HOURS		
		ON Hours	OFF Hours	%age of Availability	ON Hours	OFF Hours	%age of Availability	ON Hours	OFF Hours	%age of Availability	INTER VAL	INTER VAL		
16	17	18	19	20	21	22	23	24	25	26	27	28		



### Anx-N.9. AMI SYSTEM SHUTDOWN REPORT

AMI SYSTEM SHUTDOWN REPORT																																		
<b>INPUTS:</b>																																		
i) DATE: _____		ii) DISCOs:				iii) Circle:		List of Circle, Div. and Sub-Div. OR																										
From: _____		FESCO				iv) Division:		List of Ref. Nos. OR All Ref. Nos.																										
To: _____		GEPCO				v) Sub-Div:																												
		IESCO				vi) Ref. No:																												
		LESCO																																
		MEPCO																																
		ALL																																
<b>RESULTS:</b>																																		
Sr#	Ref. No.	DISCO	WAPD A	WAPD A	WAPD A SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctioned	Installed Load	Verification	SIM No.																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>AMI Meter</th> <th>Sr. No. of</th> <th colspan="2">SYSTEM SHUT</th> <th colspan="2">SYSTEM</th> <th>SHUT DOWN</th> </tr> <tr> <th>16</th> <th>17</th> <th>DATE</th> <th>TIME</th> <th>DATE</th> <th>TIME</th> <th>22</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td></td> </tr> </tbody> </table>														AMI Meter	Sr. No. of	SYSTEM SHUT		SYSTEM		SHUT DOWN	16	17	DATE	TIME	DATE	TIME	22			18	19	20	21	
AMI Meter	Sr. No. of	SYSTEM SHUT		SYSTEM		SHUT DOWN																												
16	17	DATE	TIME	DATE	TIME	22																												
		18	19	20	21																													

### Anx-N.10. MUTE REPORT

MUTE REPROT																									
<b>INPUTS:</b>																									
i) DATE: _____		ii) DISCOs:				iii) Circle:		List of Circle, Div. and Sub-Div. OR																	
From: _____		FESCO				iv) Division:		List of Ref. Nos. OR All Ref. Nos.																	
To: _____		GEPCO				v) Sub-Div:																			
		IESCO				vi) Ref. No:																			
		LESCO																							
		MEPCO																							
		ALL																							
<b>RESULTS:</b>																									
Sr#	Ref. No.	DISCO	WAPD A	WAPD A	WAPD A SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctioned	Installed Load	Verification	SIM No.											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>AMI Meter</th> <th>Mute Date</th> <th>Mute Time</th> <th>Mute Reason</th> </tr> <tr> <th>16</th> <th>17</th> <th>18</th> <th>19</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>														AMI Meter	Mute Date	Mute Time	Mute Reason	16	17	18	19				
AMI Meter	Mute Date	Mute Time	Mute Reason																						
16	17	18	19																						



### Anx-N.11.MCO REPORTS

MCO REPORTS														
<b>INPUTS:</b>														
i) DATE: _____			ii) DISCOs:			iii) Circle:			List of Circle,					
From: _____			FESCO			iv) Division:			Div. and Sub-					
To: _____			GEPCO			v) Sub-Div:			Div. OR					
			IESCO			vi) Ref. No.:			List of Ref.					
			LESCO						Nos. OR All					
			MEPCO						Ref. Nos.					
			ALL											
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPD A	WAPD A	WAPD A SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctio ned	Installe d Load	Verifica tion	SIM No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			AMI Meter No.	Meter Installat ion Date	All meter Readin gs at the time of	Meter Remov al Date	All meter Readin gs at the time of	Remark s/Reas on						
			16	17	18	19	20	21						

### Anx-N.12.EVENT GENERATED REPOR

EVENT GENERATED REPORT														
<b>INPUTS:</b>														
i) DATE: _____			ii) DISCOs:			iii) Circle:			List of Circle,					
From: _____			FESCO			iv) Division:			Div. and Sub-					
To: _____			GEPCO			v) Sub-Di:			Div. OR					
			IESCO			vi) Ref. No.:			List of Ref.					
			LESCO						Nos. OR All					
			MEPCO						Ref. Nos.					
			ALL											
<b>RESULTS:</b>														
Sr#	Ref. No.	DISCO	WAPD A	WAPD A	WAPD A SUB-	Name & Address			Deptt. Name	Deptt. Code	Sanctio ned	Installe d Load	Verifica tion	SIM No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			AMI Meter No.	Sr No.	Type of Event	Event Date	Event Time	Detail						
			16	17	18	19	20							



### **Anx-N.13. Meter Data and Communication Reports**

- I. **Daily/Hourly Meter Reading Summary Report** — energy consumption, demand, voltage, current, and power factor.
- II. **Meter Communication Status Report** — list of meters successfully polled, missed reads, and communication failures.
- III. **Missing/Estimated Data Report** — identifies intervals where data is missing or estimated.
- IV. **Data Validation, Estimation, and Editing (VEE) Summary Report** — details of all validation checks, estimated values, and manual edits.
- V. **Meter Health and Event Report** — monitors meter status, tamper events, and power outages.

### **Anx-N.14. Energy and Load Analysis Reports**

- I. **Consumer-Wise Energy Consumption Report** — daily, weekly, monthly, and customizable date ranges.
- II. **Load Profile Report** — aggregated load patterns for consumer categories (industrial, commercial, etc.).
- III. **Peak Load and Demand Report** — highlights maximum demand occurrences with timestamps.
- IV. **Power Factor Performance Report** — identifies low power factor consumers.

### **Anx-N.15. Billing and Reconciliation Reports**

- I. **Billing Determinant Report** — total energy (kWh), demand (kW), and reactive energy (kVARh) per billing cycle.
- II. **Reconciliation Report (MDM vs. Billing System)** — compares MDM readings with billing data for accuracy and anomaly detection.
- III. **Revenue Loss and Theft Detection Report** — identifies suspected energy theft, meter bypass, or abnormal patterns.
- IV. **Billing Exception Report** — highlights abnormal or inconsistent billing determinants.

### **Anx-N.16. System Performance and Audit Reports**

- I. **System Availability Report** — uptime statistics of MDM servers, applications, and communication links.
- II. **User Activity and Audit Trail Report** — logs all system user actions for accountability.



- III. **Data Storage and Archival Report** — details stored, processed, and archived data volume.
- IV. **Integration and Interface Health Report** — summarizes data exchange success with AMI, MDAS, EDMS, and billing systems.

### **Anx-N.17. Analytical and Executive Reports**

- **Top 100 Consumers by Load/Demand Report** — identifies major contributors to system demand.
- **Transformer/Feeder Load Balancing Report** — compares aggregated consumption with system input energy.
- **Loss Reduction and Efficiency Improvement Report** — trend analysis over defined periods.
- **Management Dashboard Summary Report** — high-level visual summary for decision-makers.