



# POWER INFORMATION TECHNOLOGY COMPANY



## TENDER DOCUMENT

### FOR

FEATURE COMPARISON OF IN-HOUSE DEVELOPED SOFTWARE'S WITH  
OFF THE SHELF SYSTEMS / SOFTWARE'S AVAILABLE IN THE MARKET  
LIKE (ORACLE, SAP, INDRA ETC.)

TENDER NO. PITC/G-224(117)/04-2025

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**ABRIDGMENT**

|                        |  |
|------------------------|--|
| 1. Recipient:          | CEO (PITC)   |
| 2. Venue:              | PITC Conference Room, Lower Ground, Building # 3, Aiwan-E-Iqbal Complex, Edgerton Road Lahore. |
| 3. Pre-Bid Meeting     | 18-04-2025 (11:00 AM)  |
| 4. Closing Date& Time: | 06-05-2025 (11:00 AM)  |
| 5. Opening Date &Time: | 06-05-2025 (11:30 AM)  |
| 6. Type                | Single Stage One Envelope  |
| 7. Bid Money:          | 2% of the total value of quoted cost   |
| 8. Bid Security        | 10% of the total value of quoted cost after award of contract to successful bidder             |
| 9. Bid Document Fee    | Rs. 5,000/-  |

**SERVICES REQUIRED:**

PITC required services of renowned consultancy firms to conduct a comprehensive feature comparison exercise of the following in-house developed software solutions against globally recognized and industry-leading alternatives:

**LOT-A: Integrated Billing System (IBS)**

**LOT-B: Customer Complaint Management System (CCMS)**

**LOT-C: Meter Data Management Software (MDM)**



Sealed quotations are invited from the potential dealing consultancy firms / companies for feature comparison of the following in-house developed software solutions against globally recognized and industry-leading alternatives:

1. **Integrated Billing System (IBS)**
2. **Customer Complaint Management System (CCMS)**
3. **Meter Data Management Software (MDM)**

This initiative aims to objectively evaluate the functional scope, system architecture, performance benchmarks, scalability, security posture, and overall competitiveness of PITC's solutions in comparison with international best practices and commercial off-the-shelf (COTS) systems.

The bidder will quote as per BOQ and "TORs"

- |   |                     |
|---|---------------------|
| 1. <b>Integrated Billing System (IBS)</b>             | <b>Annexure-I</b>   |
| 2. <b>Customer Complaint Management System (CCMS)</b> | <b>Annexure-II</b>  |
| 3. <b>Meter Data Management Software (MDM)</b>        | <b>Annexure-III</b> |

## 1. INSTRUCTIONS TO THE BIDDER

- 1.1 Quoted rates should be firm and final inclusive all type of applicable taxes.
- 1.2 The bidding process will be **single stage one envelope** (PPRA 36(a)). Bidders are required to submit technical and financial proposals in single sealed envelope. Firms will be evaluated on the basis of criteria as per para-7 of this RFQ.
- 1.3 The bidders shall furnish 2% bid money as a part of their tenders in form of Bank Draft or Pay Order in favour of CEO (PITC), WAPDA House, Lahore, to be enclosed in the envelop of financial bid. The same will be released to the unsuccessful bidder.
- 1.4 Competent Authority reserves the right to accept or reject any offer without assigning any reason. The offer received incomplete or not in accordance with the conditions/specifications/TORs will not be entertained. The proposal offered is likely to be ignored if: -
  - i) The proposal is unsigned (all pages should be signed).
  - ii) It is received after the time and date fixed for its receipt.
  - iii) Offer is ambiguous or conditional.
  - iv) The offer is from a firm who is blacklisted by PEPCO, WAPDA or any other government organization, or is in litigation with any government organization or is defaulter in any previous order and/or contract.
  - v) The offer is unsolicited.
  - vi) The bid is not accompanied with bid money.
- 1.5 The tender proposals prepared by the bidders should comprise of the following documents:-
  - i) Covering letter.
  - ii) Receipt of tender document cost and bid money.
  - iii) Bill of quantities provided with tender document duly filled, signed and stamped.
  - iv) All certificates as per clause-4.

## 2. TERMS AND CONDITIONS

- 2.1 This is fixed time assignment to be completed within Six (06) weeks from date of assignment.
- 2.2 The quoted price must be firm, final, inclusive of all taxes, transportation charges etc. in Pak Rupees.
- 2.3 The purchaser is not bound to accept the lowest offer not fulfilling the requisite criteria. The reasons for rejecting the lowest or any offer shall not necessarily be communicated.
- 2.4 Price will remain valid for at least 15 days from the date of opening of bids.



- 2.5 If the bidder fails to perform the services within Six (06) Weeks, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 2% of the value of the Services, supplied beyond stipulated delivery schedule.
- 2.6 Satisfactory report shall be issued by CEO (PITC) or its representative.
- 2.7 The bidder will sign non-discourse agreement and integrity pact with PITC

### 3 Schedule of Services

The Services shall be required to be completed within Six (06) weeks after the issuance of Work Order.

### 4 Evaluation Criteria

Bidder as a part of his bid shall provide the following depending upon applicability: -

- 4.1 A list showing the location of head office along with those of branch offices.
- 4.2 A list of clients to whom the bidder has done or been doing same nature business during last 3 years along with their Names, Addresses and Phone Numbers.

### 5 Evaluation Formula

- 5.1 Single stage one envelope procedure is opted in evaluation of the bids, The total points for bid evaluation are 100.
- 5.2 The bidder will be declared technically qualified if score of technical factors is 70% or more. The technical factors are defined at clause-7.
- 5.3 The contract will be awarded to those technically qualified firm who will be financially lowest.

### 6. Terms of Payment

Payment of the equipment supplied shall be made directly by consignees within thirty days, from the date of receipt of invoice, on production of following documents:

- Invoice having NTN.
- Services provided working satisfactory certificate.
- Feature Comparison Report
- Sales Tax Invoice (if not exempted) or attach exemption certificate.
- Non-payment certificate.

### 7. TECHNICAL EVALUATION FORMULA

The Technical responsiveness will be determined by evaluating the following factors.

| Sr.#     | Factors  | Max. Score |
|----------|--|------------|
| <b>A</b> | <b>Mandatory Factors</b>   |            |
|          | Registration/Incorporation/Business Certificate  |            |
|          | Valid Necessary Tax Registrations  |            |
|          | Undertaking to the effect that bidder is not blacklisted and rendered ineligible for corrupt and fraudulent practices by any Government (Federal, Provincial or Local) or a public-sector organization/Division/Ministry |            |
| <b>B</b> | <b>Bidder</b>  |            |
| I.       | Company profile  | 30         |
|          | i. Type of Company<br>Pvt. Limited = 10 marks<br>Partnership = 07 marks<br>Proprietary = 05 marks  | 10         |
|          | ii. Age of Company (2 Marks per year)  | 10         |
|          | iii. Experience with WAPDA/PEPCO/NTDC/PITC/DISCOs/KESC   | 10         |
| II.      | <b>Financial Business:</b>   | 30         |



|      |  |      |      |               |                  |                                  |
|------|--|------|------|---------------|------------------|----------------------------------|
|      | A list of clients to whom the bidder has done or been doing same nature of business ( <b>consultancy services on technology solution evaluation</b> ) during last 3 years along with their Names, Addresses, Phone Numbers.<br>List is to be provided bifurcating in following slabs: <div style="margin-left: 20px;"> <input type="checkbox"/> Less than 5.0 million (30 marks)<br/> <input type="checkbox"/> 5.0 million to 7.0 million (20)<br/> <input type="checkbox"/> Above 7.0 million (10) </div> |      |      |               |                  |                                  |
| III. | <b>Qualified staff for the requested service from the firm (attach list).</b><br>experience >= 03 years per person 15 points<br>experience <= 03 years and >2 years per person 10 points<br>experience <= 02 years and >1 years per person 5 points  |      |      |               |                  | 40                               |
|      | S.No   | Name | Post | Qualification | Total Experience | Experience with present employer |
|      |  |      |      |               |                  |                                  |
|      | <b>Total</b>   |      |      |               |                  | <b>100</b>                       |

### **BILL OF QUANTITIES**

Potential bidders may submit bids against all LOTS or LOTS relevant to their expertise.

| SERVICE DESCRIPTION  |  | Charges (Inclusive of all Taxes) PKR |
|--|--|--------------------------------------|
| Acquisition of consultancy services for a comprehensive features comparison exercise of the following in-house developed software solutions against globally recognized off the shelf and industry-leading alternatives: |  |                                      |
| <b>LOT-A</b>   | <b>Integrated Billing System (IBS) placed at Annexure-I</b>                |                                      |
| <b>LOT-B</b>   | <b>Customer Complaint Management System (CCMS) ) placed at Annexure-II</b> |                                      |
| <b>LOT-C</b>   | <b>Meter Data Management Software (MDM) ) placed at Annexure-III</b>       |                                      |

## “Annexure-I”

### LOT-A: INTEGRATED BILLING SYSTEM (IBS)

Power Information Technology Company (PITC) is a leading service provider in Pakistan's energy sector, delivering critical technology-driven solutions to the nation's power distribution companies (DISCOs). Among its core offerings are the Billing, Advanced Metering Infrastructure (AMI), and Customer Care and Management System (CCMS) Services.

Recognizing the rapid evolution of enterprise software solutions, PITC expresses its interest in features benchmarking of in-house developed billing system, CCMS and MDM against industry-standard platforms such as Oracle Utilities, SAP IS-U, and Indra's energy solutions etc. PITC seeks to identify opportunities for innovation, enhance the robustness of its billing system, and align its technological framework with global best practices, ensuring continued service excellence for Pakistan's power distribution sector.

The current IBS application (IBS ecosystem) comprise of 10 decentralized and distributed applications and providing DISCOs with the following automated billing system feature(s).

| Sr. | Application Name                          | Application Feature   |
|-----|---|---|
| 1.  | <b>Integrated Billing System (IBS)</b>    | Responsible for Billing of All Tariffs Notified by NEPRA  |
|     |   | Provision of Billing at CC/Circle/Division Level  |
|     |   | Corporate Billing Facility  |
|     |   | Relational Database Design of IBS   |
|     |   | Integration with level 1 Application  |
|     |   | Deployed at MPLS Connectivity   |
|     |   | Integration with Legacy Cobol System Using Text Files   |
|     |   | Initial Take-up Procedure for Data Migration from other systems   |
|     |   | Desktop Modules for Fast Data Entry, Cash Scanning  |
|     |   | Barcode Base Scanning of Paid Bills   |
|     |   | Text Files Bills Integration with NADRA/Banks for Online Payments   |
|     |   | IBS can be Integrated with ERP, SAP, GIS and new Connection System.   |
| 2.  | <b>Electricity New Connection (ENC)</b>   | Online New Connection, Change of Name, Change of Tariff & Load extension Application submission with required documents.  |
|     |   | Online tracking of the Application status.  |
|     |   | Easy access (web base application) & working methodology for Officers & related staff hence promoting the 'Ease of Doing Business' motives of Ministry of Energy.                               |
|     |   | Demand Notice's Online Payment integration with Bank's Payment Gateway (i.e.; Bank Alfalah etc.)  |
|     |   | Live Dashboards/Reports for Management's various levels   |
|     |   | SMS alerts as Application moves along various stages.   |
|     |   | API base (JSON) integration and file base (csv) data export mechanism for Sending data to Revenue Officer for billing   |
| 3.  | <b>Mobile Meter Reading System (MMRS)</b> | Android based mobile meter reading application for meter reading staff. It is kept as risk mitigation plan if smart meter due to technical glitch or communication issue does not send reading. |
|     |   | Meter reading along with meter picture which is encrypted and is in Base 64.  |
|     |   | Provides an option to update the tenant information if there is change  |

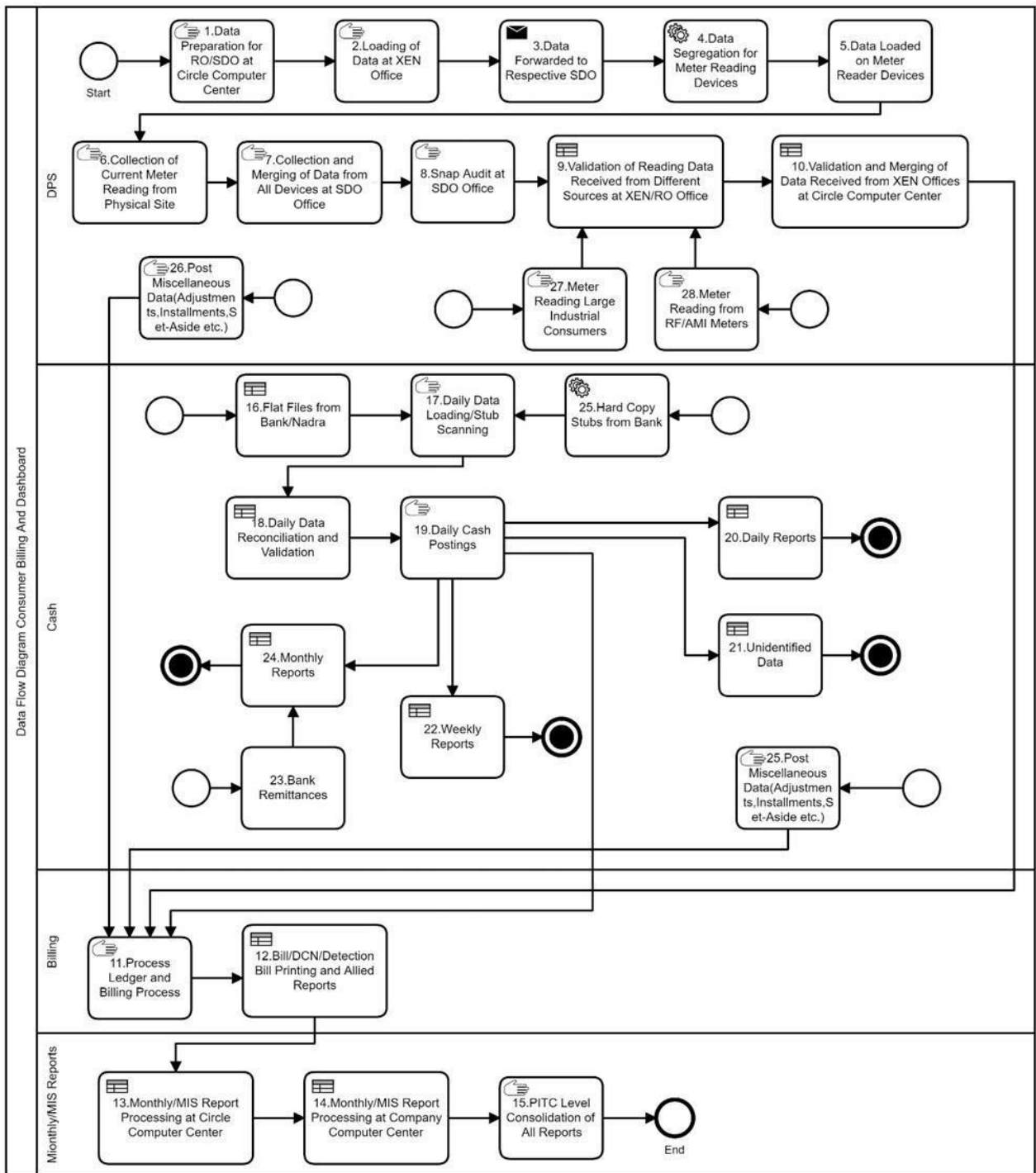


|     |                                    |   |
|-----|------------------------------------|---|
|     |                                    | Offers an option for door to door survey foe cleansing of data  |
| 4.  | <b>Consumer Profile (CP)</b>       | Provide Basic, Billing, Adjustment Meter Consumption Information to Field Offices   |
|     |                                    | Application Provide Historical Data   |
|     |                                    | Historical Data Provide Consumer Wise   |
|     |                                    | User Rights Assigned Level Wise Users Like (CC, Circle, Subdivision and Division)   |
|     |                                    | API Integration with Other Applications to Provide Data on Consumer Profile Application to Field Offices.   |
| 5.  | <b>Monthly/Daily Dashboard</b>     | Billing and Recovery (From different Angles e.g. Billing Month, Calendar Month, Due Date Wise etc.)   |
|     |                                    | Arrears analysis reports  |
|     |                                    | Line Losses Reports   |
|     |                                    | Performance Reports w.r.t Bill Adjustments, Defective meters, Meter replacement etc.  |
| 6.  | <b>Snap Audit System</b>           | Import Data Files and images  |
|     |                                    | Generate report   |
| 7.  | <b>IBS Duplicate Bill</b>          | Bill print, Bill download   |
|     |                                    | API for Roshan Pakistan App   |
|     |                                    | Printing of four snaps on bill  |
| 8.  | <b>Level 1</b>                     | Data loading from text files  |
|     |                                    | Online Data loading   |
|     |                                    | Snap Auditing   |
|     |                                    | Process Miscellaneous Transactions  |
|     |                                    | General Pre Billing   |
|     |                                    | MDI Pre Billing   |
|     |                                    | Un-posting Process of Miscellaneous Transactions  |
|     |                                    | Export Data to text files   |
|     |                                    | Export data to tables by DB link  |
|     |                                    | Change Main Date process  |
|     |                                    | DB Backup   |
|     |                                    | Delete main date and Meter reading  |
| 9.  | <b>Consumer Information System</b> | CIS_MR Application is used to load the TVX files in IBS System created from LEVEL-1 Application   |
|     |                                    | It also includes meter reading forms which is used for meter reading entry and meter reading corrections  |
|     |                                    | In the file menu there are two options for change password  |
|     |                                    | Meter Reading Menu have entry form menu   |
|     |                                    | Meter Reading Entry Selection Form, Select the Batch and the concerned Division   |
|     |                                    | The application supports several data loading forms of miscellaneous transactions i.e. CP-21C,CP-34C,CP- 136, CP137,CP-52, CP-138,CP-93,cp-52,CP-52T, CP-136D |
| 10. | <b>IBS PC Bill Application</b>     | Upload of General Batches from live oracle database to local SQL Server database  |
|     |                                    | Upload of Industrial Batches from live oracle database to local SQL Server database   |
|     |                                    | Upload of Code Tables from Oracle Server  |
|     |                                    | Provision of Selected Bills Uploading for General Consumer Batch wise   |



|     |                                  |   |
|-----|----------------------------------|---|
|     |                                  | Provision of Selected Bills Uploading for Industrial Consumer Batch wise  |
|     |                                  | Multithreaded user interface  |
|     |                                  | Printing of consumers bills through batch / circle / division / sub division wise Reference No / Bill No Department Wise                          |
|     |                                  | Provision of direct printing and PDF creation   |
|     |                                  | Client Server and local connectivity run in both modes.   |
| 11. | <b>Month End Reporting (MND)</b> | MIS/MND Data Preparation/Processing/Reports   |
|     |                                  | Provide Historical Data and Current Billing Month Data.   |
|     |                                  | Application Integration with CP and Billing System.   |
|     |                                  | Generate All Level Reports like (Consumer Level, Feeder Level, Govt. Level, Private, Region, Sub Division, All Pakistan Level and Company Level). |
|     |                                  | Show Errors in red on Interface and Exception Recording.  |





## “Annexure-II”

### LOT-B: CUSTOMER COMPLAINT MANAGEMENT SYSTEM (CCMS)

The customer complaint management system (CCMS) is implemented within PITC call centre having 118 and 8118 short codes. The customers interact with an IVR (interactive voice recording) in 7 languages and can access the information required. The customer can register complaint using 8118 SMS option or sending email at [ccms@pitc.com.pk](mailto:ccms@pitc.com.pk), register via web portal at [ccms.pitc.com.pk](http://ccms.pitc.com.pk) or walk in flow or using Mobile App (Smart) for complaints registration in DISCO complaint center/ field operation one window office.

#### 1. Complaint Handling Process:

##### 1.1 Complaint Logging:

- Calls land on (118 short code) and will be replied by call center agent with automated call management software.
- Complaint is registered in the database using web based solution.
- Customers can register using 8118 SMS short code “14 digit reference No.+ Issue”
- Customer can lodge complaint using web portal
- Customer can use Mobile App (Smart) for complaints registration and tracking
- Customer can walk in to Complaint Center / Facilitation Center where staff enters complaint in CCMS
- An automated Ticket No. is generated and sent via SMS to customer

##### 1.2 Complaint Assignment:

- Complaint registered in system automatically lands in respective SDO offices of DISCOS.
- TAC will assign the complaint to Lineman
- CCMS automatically also sends an SMS to the concerned TAC/officer (phone nos. provided by DISCO and registered in the system).
- Assigned complaints are also available on the dashboard of the concerned office/sub-division
- An SMS is also sent to complainant.

##### 1.3 Complaint Resolution:

- Concerned TAC/office mark the complaint “Resolved” after working on the complaint as per allocated time using portal account in CCMS application
- Concerned TAC may also mark the complaint as resolved via SMS to 8118 (TicketNo.+R)
- Concerned TAC can also mark the complaint “On Hold” in case there is a delay in resolution because of any legitimate reason.

#### 2. Call Centre(Back Office) 118:

118 back office agent is configured with an open-source ASTERISK calling solution where IVR is configured with 7 local regional languages (Urdu, English, Punjabi, Pashto, Balochi, Sindhi, Saraiki) with following IVR (interactive voice recording) system features.

| IVR - IPCC       | Options | multilingual              |
|------------------|---------|---------------------------|
| Main Menu        | 1       | Bill Information          |
|                  | 2       | Load shedding Information |
|                  | 3       | Self-Complaints           |
|                  | 4       | Theft Reporting           |
|                  | 5       | Track Complaints          |
|                  | 0       | Call Center Agent         |
|                  | *       | Repeat Menu               |
| Sub Key Features | (3)     | Self-Complaints           |
|                  | 1       | Power Outage              |

|  |   |                   |
|--|---|-------------------|
|  | 2 | Power Fluctuation |
|  | 3 | Excess Billing    |
|  | 0 | Call center       |
|  | * | Repeat Menu       |

### 3. CCMS Application:

CCMS is centralized in house developed CRM which provide full scale automated complaints redressal.

The complaints registration, resolution and tracking will be systematically structured as:

- Customer complaints reach Utility company offices through multiple registration channels
- Immediate allocation of complaint to staff by TAC
- Complaint resolution spontaneous update and feedback to customer
- Visibility to consumer with live status of complaint resolution
- Monitoring by Director Complaints at DISCOs on KPIs for strict accountability

The customers at Utility company can register complaints and get information (billing, load shedding) via

- Calling 118 Interactive Voice Recording (IVR) in 7 regional languages
- Sending SMS to 8118 and email to <https://ccms.pitc.com.pk>
- Via web portal <https://ccms.pitc.com.pk/complaint>
- Walk in customer handling at Utility company
- Power Smart mobile Apps [single click] complaint registration and consumer visibility on complaints resolution
- Emergency calling, customer call will be connected by agent to safety department for immediate mobilization of Utility company teams to minimize or stop the potential damage
- Customer can register complaint if there is a complaint type not listed in the system using "Other" option
- Robotic calling feedback from customer upon complaint resolution and reopen if not resolved

The complaints monitoring will be as:

- Monitoring of KPIs (avg. complaint allocation time to lineman, avg. complaint resolution time by field offices as per endorsed timeline of NEPRA and reopen complaints by consumers) through CCMS portal
- KPIs reporting is available on CCMS for Director complaints

### CCMS Features(s):

CCMS application is based on total 16 main features divided into 102 no. of sub features with active functionalities configured in 16 different roles and rights as given:

#### 5.1 Main Features:

| Sr. | Features            |
|-----|---------------------|
| 1   | Dashboard           |
| 2   | System              |
| 3   | Organization        |
| 4   | Print Complaints    |
| 5   | Safety Complaints   |
| 6   | Tier-1 Complaints   |
| 7   | All Complaints      |
| 8   | Messaging           |
| 9   | Reports             |
| 10  | Performance Reports |
| 11  | Ministry Reports    |
| 12  | FCC Module          |
| 13  | CCMC Reports        |



|    |                    |
|----|--------------------|
| 14 | Feeder Module      |
| 15 | Phone Book         |
| 16 | Monitoring Reports |

## 5.2 Sub Features:

| Sr. | Sub Features                  |
|-----|-------------------------------|
| 1   | User Management               |
| 2   | Module Management             |
| 3   | Permission Management         |
| 4   | Role Management               |
| 5   | Source                        |
| 6   | Nature                        |
| 7   | Complaint Type                |
| 8   | Manage Tac                    |
| 9   | Manage SMS                    |
| 10  | Verify Customer               |
| 11  | Escalations                   |
| 12  | Blocked IP'S                  |
| 13  | Api Configuration             |
| 14  | Imports                       |
| 15  | Agent Manager                 |
| 16  | EOps Control                  |
| 17  | Organization Type             |
| 18  | Unit                          |
| 19  | Complaints                    |
| 20  | Total Complaints              |
| 21  | Total Reopen                  |
| 22  | Source Report                 |
| 23  | Type Report                   |
| 24  | All                           |
| 25  | Search                        |
| 26  | New                           |
| 27  | Pending                       |
| 28  | Onhold                        |
| 29  | Resolved                      |
| 30  | Closed                        |
| 31  | Reopen                        |
| 32  | Bulk Resolve                  |
| 33  | SMS                           |
| 34  | Chat                          |
| 35  | Chat History                  |
| 36  | Sms Template                  |
| 37  | Feeder SMS Broadcast          |
| 38  | Complaints Status Summary     |
| 39  | Category Wise Summary Reports |



|    |   |
|----|---|
| 40 | Average Handle Time Report                              |
| 41 | Escalation wise Resolved Report                         |
| 42 | Complaints Status Summary Reopened                      |
| 43 | Summary Reports   |
| 44 | Monthly Cases Reports                                   |
| 45 | Subdivision Wise Escalated Summary Report               |
| 46 | Complaints Status Detailed                              |
| 47 | Complaint Nature Wise DISCO's Status                    |
| 48 | Subdivision Wise Complaint Type Summary Report          |
| 49 | Complaint Category Wise DISCO's Status                  |
| 50 | Disco Wise Complaint Sources Report                     |
| 51 | Category Wise Quaterly Resolved Report                  |
| 52 | Agent Reports   |
| 53 | Complaint Type Reopened Summary Report                  |
| 54 | CCMS 8118 SMS Monthly History                           |
| 55 | Login History   |
| 56 | Reopened Complaints Analysis                            |
| 57 | Performance Daily Report                                |
| 58 | Escalation Guide  |
| 59 | Dashboard Complaints                                    |
| 60 | Dashboard All Complaints                                |
| 61 | Dashboard Agent Progress                                |
| 62 | Complaints Summarized DISCO's                           |
| 63 | Complaints Status Summary DISCO's                       |
| 64 | Complaints Progressive Summary DISCO's                  |
| 65 | Complaint Nature Wise Sources Resolution Summary Report |
| 66 | Complaints Percentage Summary DISCO's                   |
| 67 | Complaint Nature Wise Summary DISCO's                   |
| 68 | Complaint Category Wise Summary DISCO's                 |
| 69 | Sub Division Wise Complaints Resolved Summary           |
| 70 | Sub Division Wise Complaints Resolved Details           |
| 71 | Ministry Dashboard                                      |
| 72 | Top Management Dashboard                                |
| 73 | Complaints Summary Dashboard                            |
| 74 | Agents Detail Dashboard                                 |
| 75 | Nature wise Reopen Complaints                           |
| 76 | Monitoring Report (FCC)                                 |
| 77 | FCC Monitoring & Search                                 |
| 78 | Complaints Status                                       |
| 79 | Resolved Complaints                                     |
| 80 | Pending Complaints                                      |
| 81 | Once Reopen Cases                                       |
| 82 | Redressed Reports                                       |
| 83 | Login History Report                                    |
| 84 | Consumer Information                                    |



|     |                             |
|-----|-----------------------------|
| 85  | Complaints Status CCMC      |
| 86  | Complaints Category wise    |
| 87  | Complaints Location wise    |
| 88  | Load Shedding               |
| 89  | PTW                         |
| 90  | FIs type                    |
| 91  | FIs Unit                    |
| 92  | Type                        |
| 93  | Contacts                    |
| 94  | Additional SMS Number       |
| 95  | Total Complaints            |
| 96  | Total Reopen                |
| 97  | Source Report               |
| 98  | Type Report                 |
| 99  | Subdivision Wise Reopen     |
| 100 | Monitoring Report           |
| 101 | Mean Time Report            |
| 102 | Mean Time Report (Detailed) |

**“Annexure-III”****LOT-C: METER DATA MANAGEMENT (MDM) SOFTWARE**

The MDM is a core component of the AMI system, responsible for managing vast amounts of metering data while ensuring its accuracy, integrity, and security. It provides:

- Real-time data collection, storage, and analysis for precise energy consumption monitoring.
- Support on-demand smart meter operations, including remote connect/disconnect, tariff updates, enhancing operational efficiency and customer responsiveness.
- Anomaly detection and predictive analytics to optimize energy usage, detect fraud, and improve grid performance.
- Encryption and authentication protocols to ensure secure data handling and compliance with industry standards.

This software facilitates integration of data of multiple MDCs designed on common standard. It also facilitates different reporting and analytics. The purpose of this software is to make sure that every MDC based on a specific standard named “Universal Data Integration Layer” can be used using this centralized tool. The ultimate objective of MDM is to ensure integration of multiple vendors on common standard and pave the way forward for integration of Central Software with multiple MDCs.

**MDM Feature(s) List**

The list of MDM feature(s) are as under:

| Sr. | MAIN FEATUTE                 |   | SUB FEATURES                | SECONDARY SUB-FEATURES                               |
|-----|------------------------------|---|-----------------------------|--|
| 1   | Layout of User Interface     | 1 | Utility company Hierarchy   |  |
|     |                              | 2 | Customer & Meter Info       |  |
|     |                              | 3 | Load Profile & Billing Data |  |
|     |                              | 4 | Menu Bar                    |  |
|     |                              | 5 | Search Bar                  |  |
|     |                              | 6 | Reporting                   |  |
|     |                              | 7 | Critical Pane               |  |
| 2   | Access Management            | 1 | Role Management             | Create New Role                                      |
|     |                              |   |                             | View, Edit and Delete Role                           |
|     |                              |   |                             | Search Roles   |
|     |                              |   |                             | Export Roles to PDF, Excel, and CSV file format      |
|     |                              | 2 | User Creation               | Create User  |
|     |                              |   |                             | Clear, Session, View User, Edit User and Delete User |
|     |                              |   |                             | Search User  |
|     |                              |   |                             | Export User to PDF, Excel, and CSV file format       |
| 3   | Customer Pane Filters        | 1 | Filter Transformer wise     |  |
|     |                              | 2 | Filter Tariff wise          |  |
|     |                              | 3 | Filter Meter Type wise      |  |
|     |                              | 4 | Filter Manufacturer wise    |  |
|     |                              | 5 | Filter Batch wise           |  |
| 4   | Customer Status              |   |                             |  |
| 5   | Meter Status                 |   |                             |  |
| 6   | Global Search                |   |                             |  |
| 7   | Customer & Meter Information |   |                             |  |



|    |                                |   |  |   |
|----|--------------------------------|---|--|---|
| 8  | Metering Data Reads            | 1 | Instantaneous Data                     |   |
|    |                                | 2 | Load Profile Data                      |   |
|    |                                | 3 | Daily Reads                            |   |
|    |                                | 4 | Monthly Billing Reads                  |   |
|    |                                | 5 | Event / Alarm Reads                    |   |
| 9  | On Demand Operations           | 1 | On Demand Data Read                    |   |
|    |                                | 2 | On Demand Parameter Read               |   |
|    |                                | 3 | Write Request Commands                 |   |
|    |                                | 4 | Write Request of Sanction Load Program |   |
| 10 | Bulk Operations                |   |  |   |
| 11 | Critical Pane                  |   |  |   |
| 12 | GIS Mapping                    |   |  |   |
| 13 | Workflow Functionality         | 1 | Workflow Operations                    | Service Connection Order (SCO)                    |
|    |                                |   |  | Create APMS Unit                                  |
|    |                                |   |  | Meter Change Order (MCO)                          |
|    |                                |   |  | Temporary Disconnection Order-TDCO                |
|    |                                |   |  | Transfer Customers                                |
|    |                                |   |  | Disconnection Order to Removal Equipment (DCO-RE) |
|    |                                |   |  | Permanent Disconnection Order-PDCO                |
|    |                                |   |  | Reconnection Order - RCO                          |
|    |                                |   |  | Change Attributes                                 |
|    |                                | 2 | Workflow Management                    | Cancel SCO  |
|    |                                |   |  | SCO Management                                    |
|    |                                |   |  | MCO (AMR~AMR) Management                          |
|    |                                |   |  | TDCO Management                                   |
|    |                                |   |  | DCO-RE Management                                 |
|    |                                |   |  | PDCO Management                                   |
|    |                                |   |  | RCO Management                                    |
|    |                                |   |  | TransferCustomer Management                       |
|    |                                |   |  | Change Attributes Management                      |
| 14 | Energy Auditing                |   |  |   |
| 15 | Multi Lingual Support          |   |  |   |
| 16 | Multiple Devices Compatibility | 1 | Generating Monthly billing             |   |
|    |                                | 2 | Analyzing and Adding estimated billing |   |
| 17 | Billing and VEE                | 1 | Generating Monthly billing             |   |
|    |                                | 2 | Analyzing and Adding estimated billing |   |
| 18 | Gateway Management             | 3 | MDC Communication Management           | Create MDC Communication Profile                  |
|    |                                |   |  | Manage MDC Communication Profile                  |
|    |                                |   |  | Assign MDC Communication Profile                  |
|    |                                | 4 | Meter Reading Group                    | Create Meter Reading Group                        |
|    |                                |   |  | Manage Meter Reading Group                        |
|    |                                |   |  | Events Alarms Management                          |
|    |                                | 5 | Jobs Summary                           | Scheduled Jobs Management                         |
|    |                                |   |  | On Demand Jobs Management                         |
| 19 | Organization Tabs              | 1 | Performance Summary                    |   |





|    |                          |   |                                |  |
|----|--------------------------|---|--------------------------------|--|
|    |                          | 2 | Connected MDCs                 |  |
|    |                          | 3 | General Summary                | Communication Summary (General)            |
|    |                          | 4 | Tariff Summary                 | Communication Summary (Detailed)           |
|    |                          | 5 | Workflow Status                |  |
|    |                          | 6 | Geographical Information (GIS) |  |
|    |                          |   |                                |  |
| 20 | Smart Analytics & Report | 1 | System Reports                 | Basic Reports                              |
|    |                          |   |                                | Work Flow Reports                          |
|    |                          |   |                                | Reconciliation Reports for Energy Auditing |
|    |                          |   |                                | Communication Reports                      |
|    |                          |   |                                | System Health Reports                      |
|    |                          |   |                                | Comparison Reports                         |
|    |                          |   |                                | Custom Reports                             |
|    |                          |   |                                | Dynamic Reporting Templates                |
|    |                          |   |                                | System Logs Reports                        |
|    |                          |   |                                | AMI Dashboard Reports                      |
|    |                          |   |                                | Customer List                              |
|    |                          |   |                                | Customer Status Report                     |
|    |                          |   |                                | Critical Alarms Report                     |
|    |                          |   |                                | Stopped Meters Report                      |
|    |                          |   |                                | Mute Meters Report                         |
|    |                          | 2 | Reports Template               | Template Creation                          |
|    |                          |   |                                | Report Availability in Menu                |
|    |                          |   |                                | Report Execution                           |

The MDM support the business and operational processes in line with the prevalent Commercial Procedures (CP) such as:

- CP2: New Connection
- CP3: Temporary Disconnection
- CP4: Permanent Disconnection
- CP5: Reconnection
- CP6: Meter Reading
- CP7: Meter Change
- CP8: New Connection (Revenue Office)
- CP9: Meter Change (Billing Control Section)
- CP10: Billing
- CP13: Temporary Disconnection (Revenue Office)
- CP14: Permanent Disconnection (Revenue Office)
- CP15: Reconnection (Revenue Office)