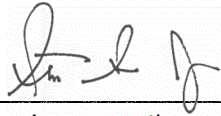


Guam Power Authority

Standard Operation Procedure


Title/Description: Mobile Workforce Management System (MWMS)
Procedure No.: SOP-172
Effective Date: 3/13/2024
Supersedes: n/a
Procedure Owner: SPORD


Prepared by: 
Christian Chargualaf, Engineer I

Reviewed by: 
Anselmo Manibusan Jr., T&D Manager

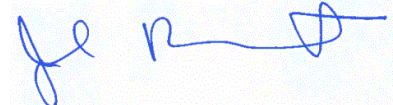

Melvyn K. Kwek, Chief Information Technology Officer


Roel A. Cahinhinan, P.E., SPORD Manager (*Acting*)

Concurred by: 
Jennifer G. Sablan, P.E., AGM-Operations


John J. Cruz, Jr., P.E., AGM-Engineering and Technical Services


Tricee P. Limtiaco, AGM-Administration

Approved by: 
John M. Benavente, P.E., GENERAL MANAGER

1 PURPOSE

This Standard Operating Procedure (SOP) is intended to provide guidelines for incorporating Mobile Workforce Management System (MWMS) applications and tools into our existing process for meter investigations, disconnections, re-connections, removals, exchanges, and installations.

2 SCOPE & APPLICABILITY

This procedure applies to all divisions involved in the activities and operations of the following Customer Information System (CIS) (Oracle Customer Care and Billing (CC&B)).

Below are the different Field Activity (FA) types under GPA's current CC&B System. After each FA is its code used in CC&B, the MWMS will be used for the following CC&B FA types:

2.1 Meter Exchange – M-EXC

- A. Exchanging of all meter form factors.
 - i. To include regular meter to net meter conversion

2.2 Meter Exchange with Charges – M-EXCCR

- A. Same as Meter Exchange – M-EXC but with applicable charges. This FA is typically for when a customer requests a meter exchange, which requires payment.
 - i. Possible Chargeable examples
 - a. Bench test
 - b. Repeated Meter Exchange
 - c. Vandalism

2.3 Meter Investigation – MTRINVEST

- A. Performing an investigation on a meter to verify the accuracy of reads, meter health status, inspect for signs of tampering, or verifying communication status. Usually, this FA could lead to another FA depending on the investigation findings (i.e. if investigation findings conclude that the meter has a blank display, the FA may later require a Meter Exchange FA).

2.4 Meter Install – M-INSTL

- A. When a newly installed meter needs to be assigned to an account for an existing premise.
 - i. NI4 (Reconnect without meter)

2.5 Meter Removal – M-UNINST

- A. Removal of existing meter from an inactive/terminated account or as requested by the customer.

2.6 Meter Removal Due to Theft – M-REM

- A. Removal of existing meter due to defective meter and/or tampering.

2.7 Meter Reconnect – M-RECON

- A. Meter reconnection for the following Meter Form Factors: 4S 5S 9S 16S 25S 36S. This FA is typically for disconnected delinquent accounts that have reconciled payment settlements and are ready for reconnection of service or new tenants. (Note: 2S and 12S meters can be remotely reconnected.)
 - i. NI5 (Reconnect with meter)

2.8 Meter Reconnect with Charges – M-RECONP

- A. Same as a Meter Reconnect – M-RECON but with applicable charges. This FA is associated with postpaid or commercial accounts which require a reconnection fee to restore meter service.
 - i. NI4s and NI5s

2.9 Disconnect Due to Nonpayment – M-DISOFF

- A. Delinquent Meter disconnection for the following Meter Form Factors: 4S 5S 9S 16S 25S 36S. This FA will occur as a result of an arrears on a customer's unpaid bill. Disconnect Field Activity work orders are generated after 46 days unpaid from a bill issue date of presentation. (Note: 2S and 12S meters can be remotely disconnected.)
 - i. NI4s and NI5s

2.10 Meter Turn Off – M-OFF

- A. Meter disconnection for the following Meter Form Factors: 4S 5S 9S 16S 25S 36S. This FA is to officially disassociate the meter from the customer's account under CC&B. This FA is associated with a customer moving out of a premise. The meter will stay at the premise, but the service is isolated or the meter booted. (Note: 2S and 12S meters can be remotely disconnected.)

2.11 Meter turn on - M-ON

- A. Meter reconnection for the following Meter Form Factors: 4S 5S 9S 16S 25S 36S. This FA type occurs when a new customer moves into a premise with an existing meter. This FA is to officially associate the current meter with the new customer's account under CC&B. (Note: 2S and 12S meters can be remotely reconnected.)

2.12 Meter turn on with charges - M-ON CH

- A. Same as a Meter turn-on, but with charges. This FA type is when a postpaid or commercial customer is moving into a premise with an existing meter. This FA is to officially associate the existing meter with the customer's account under CC&B. A meter turn-on for postpaid and commercial customers requires new connection charges.

3 DEFINITIONS

- 3.1 Mobile Workforce Management System (MWMS): The combination of software and hardware (mobile devices, routers, etc.) that connects field work with office work to improve data gathering and operations efficiency.
- 3.2 Workspace (WS): Clevest web-based software access on a GPA-owned computer. This software is used to relay information between CC&B and a mobile Workbook device.
- 3.3 Workbook (WB): Clevest mobile workforce app installed on a GPA-owned mobile device. This device is used to complete, update, and send FA information back to Workspace.
- 3.4 Field Activity (FA): A single activity or type of work that needs to be performed on a meter as indicated in a Meter Shop “work order.” See *Section 2, Scope & Applicability*, to see different CC&B categories for each FA type. In WS, it’s called Host Order Number.
- 3.5 Problematic Order: A field activity with outstanding issues that need to be resolved before it can be completed.
- 3.6 Order: In WS, the FAs are given an ID.
- 3.7 Acknowledge: When selecting an Order (FA) in WB, it will require the user to click on ACK to begin the fieldwork. The ACK is an abbreviation of acknowledge.

4 SYSTEM

The Mobile Workforce Management System (MWMS) will work in tandem with the following GPA operating systems and hardware either directly or indirectly as part of the MWMS general functionality:

Main Software: Clevest Mobile Workforce

- 4.1 Clevest Mobile Workforce Management User Interface
 - A. Via Workspace web-based software
 - B. Via Workbook mobile device application software
- 4.2 Supporting Systems
 - A. Customer Care and Billing (CC&B)
 - B. Robotics Processing Automation (RPA)
 - C. GIS (ESRI)
 - D. Command Center (Advanced Meter Infrastructure) (AMI)

4.3 See *Appendix II* for swim lane workflow charts

4.4 Any METERS (Metershop, Customer Services, and RPA create FAs)

4.5 Hardware

A. Mobile Router

B. To ensure Mobile Router security, only vetted GPA Equipment shall be used. The currently approved equipment to be connected to the Mobile Routers are as follows:

i. Panasonic Toughbook Handheld Device – Model FZ-N1.

ii. Model No. FZ-VZSUN110U

4.6 Dell Rugged Extreme Tablet Network Access

A. Devices will have access to mobile routers

5 GENERAL

FAs are created in CC&B and pushed into Workspace. In WS, the supervisor assigns FAs to WB users. In Workbook, users complete FAs. Completed WB FAs are updated in WS and completed into CC&B. Problematic FAs are updated in WS for review. See *Section 7* for more details.

6 RESPONSIBILITIES

6.1 Transmission & Distribution (T&D) Meter Shop

T&D Meter Shop shall be responsible for the following:

A. Ensure to download all FAs and updates if necessary at the office (Shop).

B. Executing and completing FAs with accurate and complete data via the Workbook app on the appropriate device.

C. For any FA, indicate the present hazards, socket issues, and any evidence of tampering through the Workbook App.

D. Reporting persistent issues on Workbook and Workspace that cannot be resolved to GPA Helpdesk.

E. Use of Workbook Device follows the rules and guidelines for digital devices.

F. Review and Solve problematic FAs via Workspace, as appropriate.

G. Scanning the old and new meter serial numbers using the device.

H. Maintaining and Preparation of Panasonic Devices.

I. Confirm Panasonic battery has adequate charge (+50%) for a series of work.

- i. Ensure Panasonic devices can connect to the Mobile Routers in Meter Shop official vehicles and report any issues on connectivity to IT
 - ii. Ensure Panasonic device chargers are ready available
- J. Bring proper equipment to the job site (i.e. tools, umbrella, etc.).

6.2 Customer Services Division

Customer Services Division shall be responsible for the following:

- A. Upload the host file to Command Center.
- B. Verifying FAs completed via MWMS are correctly reflected onto the Command Center.
 - i. Net Meter Status
 - ii. Book and Route
 - iii. Service Location ID
 - iv. Latitude/Longitude
 - v. Seal Number
- C. Reporting any verified inconsistencies between CC&B and Workspace to Metershop.
 - i. Meter Exceptions
- D. Creating FAs when necessary.
- E. Coordinating and working with T&D Metershop regarding completing aging FAs or any unsolved Problematic FAs.

6.3 Information Technology (IT)

IT shall be responsible for the following:

- A. Installing the Clevest App and ensuring software updates are applied.
- B. Inform Metershop devices need to be refreshed.
- C. Providing technical support for Clevest Workbook, Workspace, hand-held device, and the mobile routers.
- D. Configuring devices and the mobile routers with network access.
 - i. Inform Metershop personnel their passwords will be expiring
- E. Inform Metershop of any network access changes.
- F. Creating and managing Clevest support tickets.

G. Payment for annual software maintenance invoice.

H. Integration resolutions.

6.4 Engineering GIS Division

Engineering GIS Division shall be responsible for the following:

A. Providing GIS URL of map displays for MWMS.

- i. Providing updated GPA IWPS mapping data relevant to physical asset locations needed for Clevest Workbook and Workspace applications operation. URL is the following <https://fadgisweb1.gpaupd.local/GPACustomerService2017-test/>. Engineering GIS will notify IT if the URL changes

B. Creating and updating tile package files (tpk files) on ESRI ArcGIS to make basemaps for the MWMS mapping feature. TPK files will be created monthly and submitted to the following GPA shared folder: \\GPA-CLEVESTPROD-TEST\GPA_shared.

6.5 Internal Audit Office (IAO) RPS

IAO shall be responsible for the following:

A. During an FA, if it shows evidence of tampering and vandalism, Metershop will contact IAO for investigation.

6.6 Strategic Planning & Operations Research Division (SPORD)

SPORD shall be responsible for the following:

A. Coordinating with IT regarding any software updates/upgrades.

B. Managing MWMS contract renewals.

C. Assisting Metershop with Problematic FAs.

7 PROBLEMATIC FIELD ACTIVITIES

- 7.1 If an FA is determined to be Problematic, it will be held in a review state in Workspace and be resolved upon supervisor or authorized personnel review.
- 7.2 Actions on Problematic FA's:
 - A. Review FA and associated pictures, make corrections, and complete FA.
 - B. Make appropriate resolution action and reassign FA.
- 7.3 Problematic FAs examples. See *Appendix IV*.

8 MWMS WORKBOOK HANDLING AND CARE

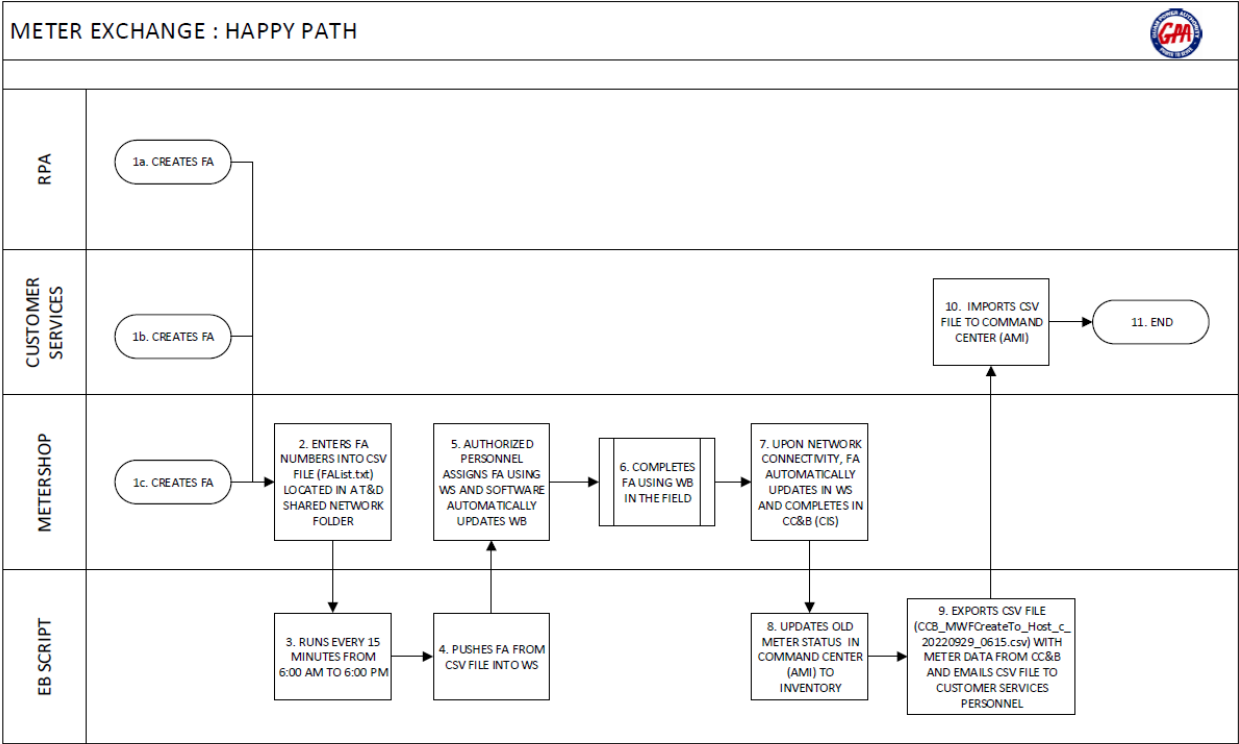
- 8.1 General handling and care by the Field Technician will follow the same guidelines as other GPA officially issued devices as per *SOP-167 Laptop and Mobile Devices*.
 - A. Inventory accountability of the MWMS Workbook devices will be handled by T&D – Meter Shop.
 - B. Requesting additional devices/accessories and reporting damaged devices.

ATTACHMENTS

**APPENDIX I:
Related AP/SOP**

- A. SOP-028 Meter Issuance
- B. SOP-078 Meter Removal
- C. SOP-079 Meter Change-Out
- D. SOP-086 Meter Setting
- E. SOP-121 Meter Tampering Illegal Power Hookup Investigating and Reporting
- F. SOP-123 Accountability and Movement of Meters
- G. SOP-167 Laptop and Mobile Devices

APPENDIX II: MWMS PROCOCESS FLOW CHARTS



HAPPY PATH = WORKFLOW WITH NO ISSUES
*RPA = ROBOTICS PROCESS AUTOMATION
*FA = FIELD ACTIVITY
*WB= WORKBOOK (CLEVEST)
*WS = WORKSPACE (CLEVEST)
2. NETWORK T&D SHARED FOLDER = \\gpaupd.local\tad\T&D Operations Library\Meter Shop\FA List\

9. CCB_MWFCreatTo_Host_c_20220929_0615.csv
CONTAINS THE FOLLOWING DATA

Meter Number	Custom1 (Route)Service
Service Location	Address
Billing Cycle	Service City
Seal Number 1	Service State
Seal Number 2	Service Zip
Multiplier	Service Latitude
Demand Multiplier	Service Longitude
Feeder	

APPENDIX III:

MWMS - DEPARTMENT CONCURRENCIES

Department / Representative		Signature
Customer Service (CS)		
James Borja, Utilities Services Administrator		
Richard Bersamin, Assistant Customer Services Manager		
Jamie Pinaula, Customer Service Supervisor		
Engineering		
Vincent Sablan, Manager of Engineer		
Josi Aguon, Engineer Supervisor		
Antonio Gumataotao Jr, Real Estate GIS Supervisor		
Information Technology (IT)		
Rudolpho Manibusan, Computer Technician Supervisor		
Eileen Bihag, Database Administrator		
Internal Audit Office (IAO)		
Arleen Sahagon, Internal Auditor		
Transmission & Distribution – Meter Shop		
Edward Leon Guerrero, Assistant T&D Manager		
Therese Tudela, Meter Electrician Supervisor		
Ronnie Jo Martinez Meter Electrician Leader		

APPENDIX IV:

PROBLEMATIC FIELD ACTIVITIES

- A. Record Mismatch.
 - a. FA Meter Information on File does not match Meter Information on the Field.
- B. Worker indicated Socket Issue.
- C. Worker indicated Tampering or Evidence of Theft.
- D. Worker indicated Hazard Issue.
 - a. Aggressive customer
 - b. Aggressive animal
 - c. Medical conditions
 - d. Provision Hazard
- E. Worker indicated a Skip due to a Gate Lock or inaccessible meter entry. This problem usually derives from the customer building around or enclosing the meter. Workers are unable to gain meter access unless the customer is present to allow entry.

APPENDIX V:

Equipment

- A. To ensure software compatibility, only Clevest Certified Equipment shall be used.
- B. Currently approved equipment for Workbook Application is as follows:
 - a. Panasonic Toughbook Handheld Device – Model FZ-N1.
 - b. Any GPA-issued desktop.
 - c. Any GPA-issued laptop or tablet.
- C. Workspace Browser Support.
 - a. Workspace is a next-generation HTML5, browser-based application that supports Microsoft Edge, Internet Explorer, Google Chrome, and Firefox.
 - b. JavaScript must be enabled on the browser.
 - c. Some browser security standards may affect Workspace Compatibility. Refer to the Workspace User Guide if there be any browser restrictions that is affecting user log-in.
- D. Equipment to be Used for Generating Reports.
- E. To generate reports, the device being utilized must have Microsoft Excel (Office 2007) or later.
- F. Mobile Router.
 - a. Mobile Routers are an extension of GPA Tier II Network that supports MWMS.
 - i. The WB user will have access to GPA supporting systems.
 - ii. Real-time data will be accessible in both delivering and retrieving data. FAs completed will automatically appear in WS for review and the WS user may send out Open FAs to the WB user in the field.
 - b. To ensure Mobile Router security, only vetted GPA Equipment shall be used. The currently approved equipment to be connected to the Mobile Routers are as follows:
 - i. Panasonic Toughbook Handheld Device – Model FZ-N1.
 - ii. Dell Rugged Extreme Tablet- Model Latitude 7220.