SAP® Mobile On-Site Billing by PROLOGA
User Manual

Document History

Before you start the implementation, make sure you have the latest version of this document. You can find the latest version at the following location: SAP Waste and Recycling Applications by PROLOGA

The following table provides an overview of the most important document changes.

Version	Important Changes
1	Initial version
2	Minor changes
3	The content of this document has been changed to reflect the new SAP Gateway functionality that comes with Support Package 3. If you are using add-on 7.0 with Support Package 1 or 2 or if you do not use the SAP Gateway functionality please open a message for component XX-PART-PLG-UTL-OSB to request the corresponding version of this user manual.
8	Links updated

Table 1: Most important document changes

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1 Introduction

SAP® Mobile On-Site Billing by PROLOGA will support and optimize your business processes regarding the meter reading and billing & invoicing on site at the customer location. For that process all required data are downloaded from *SAP® for Utilities* into the Mobile On-Site Billing solution transmitting the data to the mobile devices. On site at the customer location the meter reading result will be captured. Based on the connectivity available the billing and invoicing process will be performed Online in communication with the SAP backend or Offline on the PDA.

The deep integration into *SAP for Utilities* enables a reliable and accurate process of reading, billing and invoicing on site, using the same validation, billing and invoicing rules as defined in the backend system and synchronized into the Mobile On-Site Billing solution.

SAP® Mobile On-Site Billing by PROLOGA supports a series of mobile devices. Installed in your company these units form the interface between meter reader and your *SAP®* backend system.

The content of this document has been changed to reflect the new SAP Gateway functionality that comes with Support Package 3. If you are using add-on 7.0 with Support Package 1 or 2 or if you do not use the SAP Gateway functionality please open a message for component XX-PART-PLG-UTL-OSB to request the corresponding version of this user manual.

1.1 Basic system structure of the SAP® Mobile On-Site Billing by PROLOGA

The *SAP® Mobile On-Site Billing by PROLOGA* does not only maintain your data in the *SAP®* system, even more supports the data flow between the PDAs of the meter readers and the backend system whereas the illustrated system structure (see Figure 1) is recommended.

The PROLOGA software can communicate with a wide range of HTTPS-enabled mobile devices: PDAs, smartphones, on-board computers of transport vehicles and many more.

These mobile devices send their data via HTTPS (and thus securely) via the company´s firewall. Your PDA regularly connects via GPRS[1], WLAN[2] or UMTS[3] to an SAP Web Dispatcher, which is installed independently. Instead of an SAP Web Dispatcher, also some other kind of reverse proxy can be used. As soon as the systems are connected, the PDA transmits all stored data to the *SAP®Mobile On-Site Billing by PROLOGA*. In order to guarantee a secure data transmission, the communication is protected via SSL[4] encryption.

The *SAP® Mobile On-Site Billing by PROLOGA* forwards the data via RFC[5] to the *SAP® ERP backend system*. As soon as the PDA transmitted the data, the *SAP® Mobile On-Site Billing by PROLOGA* checks if there is information to be provided in return for the PDA. In this case, these data are transmitted to the SAP Web Dispatcher which will then forward it to the PDA.

After successful transmission of the data the connection will be closed.

[1] GPRS – General Packet Radio Service
[2] WLAN – Wireless Local Area Network
[3] UMTS – Universal Mobile Telecommunications System
[4] SSL – Secure Socket Layer
[5] RFC – Remote Function Call

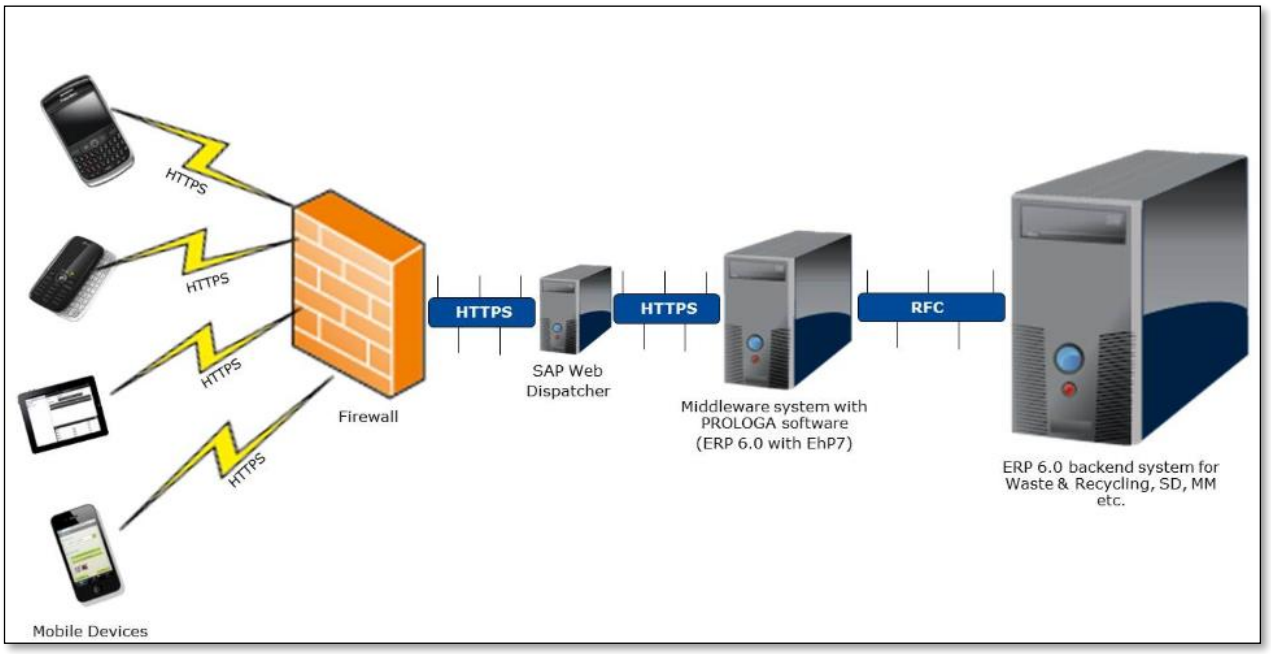

Figure 1: Overview communication between PDA and the SAP® system

1.2 Object version system of the SAP® Mobile On-Site Billing by PROLOGA

The *SAP® Mobile On-Site Billing by PROLOGA* is a perfect tool to manage your daily meter reading operation. The component provides the "Object Version System". This system provides a consistent and real time data exchange between the mobile devices and the PROLOGA Software.

After the successful login on the PDA – that actually means the SAP User of the meter reader- the communication is going to begin.

At first, the version of the object will be checked both of PDA and back end side. In case the device has the current version the meter reader is ready to work, but if not the PROLOGA middleware software send the missing information for the device. The biggest advantages of this system are PDA independency and the provided up-to-date working information.

How is it work? This solution based on a central version system:

- After the object was provided, the number of the version (Tour/Object) will increase
- Any time, when the position of the object will be modified, the object version increases

The version of the sub-object is always in relation with the parent object. For example: the meter reading order is the sub-object of the meter reading tour. If the meter reading order was moved to other Tour, it will get his properties and the version number will be synchronized.

1.3 Scope of the SAP® Mobile On-Site Billing by PROLOGA

The *SAP® Mobile On-Site Billing by PROLOGA* may support you in the following processes:

Order processing, assessment and resource planning

- Assigning of order and tour data to meter readers
- Transmission of order data and possibility to print documents at the location of the meter reader

- Confirmation of reading and billing data and capturing of field data
- Return information of processing status

Operational data acquisition:

- Capturing time and position of performance
- Displaying and assessing meter reader performance
- Displaying all data on a digital map

Sending and receiving information

- Bi-directional connection between meter reader and operational headquarters

1.4 SAP® Mobile On-Site Billing by PROLOGA - Components

The *SAP® Mobile On-Site Billing by PROLOGA* is integral part of the *SAP® Waste and Recycling* and comprises of the following components:

Operational route-planning

The component provides you with an overview of all daily meter reading ad billing orders. You are able to allocate and transmit orders and items to a meter reader. Different symbols illustrate the current processing status of an order or order item (e.g. *new*, *completed, and confirmed*).

Confirmation of reading and billing data

Reading and billing data captured on the tour are automatically sent to the SAP® system after completing a reading / billing order. Additionally, the *SAP® Mobile On-Site Billing by PROLOGA* provides several masks and other tools to monitor, check, and book/confirm data resulting from such a transmission.

Administration

Here you may monitor the data connection between the SAP® system and the PDAs. Additionally, you may check how many meter readers are currently online. Moreover, an overview of data packages to be transmitted as well as of problems occurred is given. Therefore, in case of a system failure is assumed or data are missing, you should check this transaction at first.

2 Definition of Terms

DB	Database
Drag&Drop	In computer graphical user interfaces, drag-and-drop is the action of (or support for the action of) clicking on a virtual object and dragging it to a different location or onto another virtual object. In general, it can be used to invoke many kinds of actions, or create various types of associations between two abstract objects.
GPRS	General Packet Radio Service
HTML	Hypertext Markup Language
ID	Identification
MAC - Address	Media Access Control - Address (Unique identifier of a network adapter within a network)
PDA	Personal Digital Assistant
RFC	Remote Function Call
SSL	Secure Socket Layer
UMTS	Universal Mobile Telecommunications System
WLAN	Wireless Local Area Network
XML	Extensible Markup Language
MR	Meter Reader
MRO	Meter Reading Order
MRT	Meter Reading Tour

3 Meter Reader Management

(Transaction */N/WATP/MOB_MRMAN – Meter Reader Management*)

In this transaction you can manage your meter reader. Therefore it is possible to assign meter reader to one or more meter reading centers (MRC). First of all, the meter reader needs to be activated. The following paragraphs describe the process of several cases.

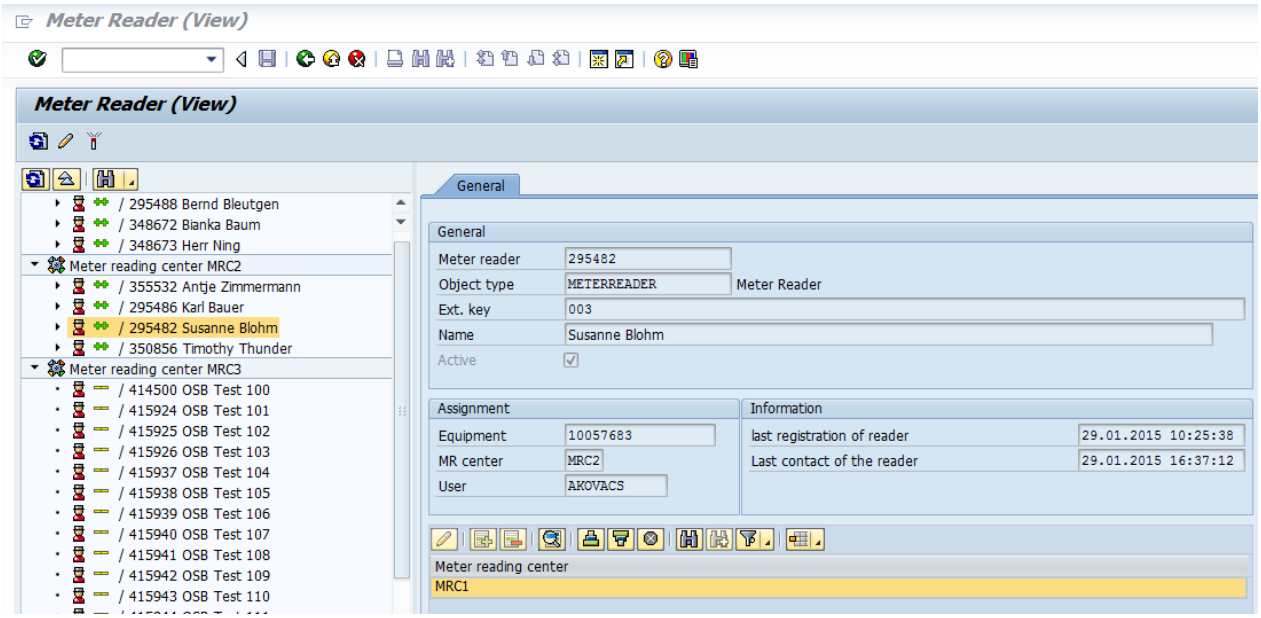

Figure 2: Transaction for Meter Reader Management

3.1 Activation or deactivation of meter reader

At first, mark a meter reader on the left side and press the  (Edit/Display) button. Now it is possible to edit the fields for this meter reader on the right side.

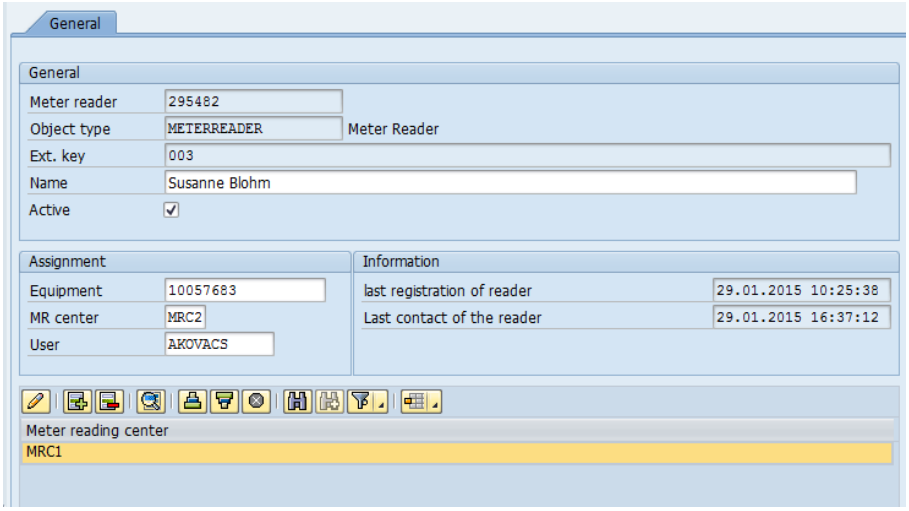

Figure 3: Meter Reader activation/deactivation

To be able to activate a meter reader, you need to follow the following steps: write your SAP user account in the field of "User".

Figure 4: Field for user name

Mark the field "Active" as it is shown below and save your work by pressing the save button:

Figure 5: Field for activation/deactivation

3.2 Assigning the meter reader to a meter reading center

The process is the same as we have seen before: switch to "edit" mode by using the (Edit/display) button.

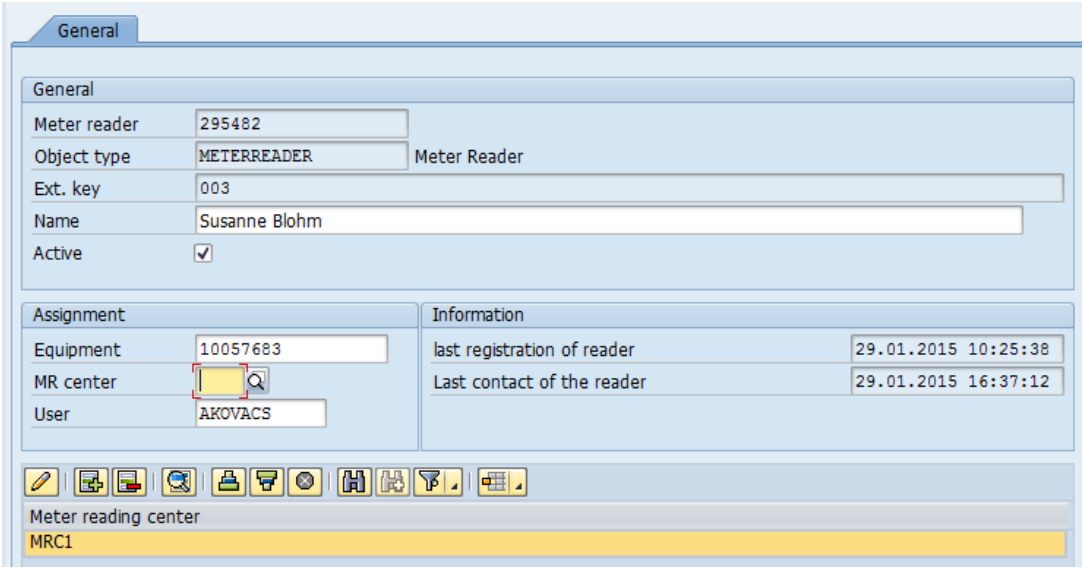

Figure 6: Edit meter reading center for a meter reader

Under the "General" tab you can find the field "MR center". Here you have the opportunity to settle the meter reading center to a meter reader. If you know the correct name of the MRC, you can write it directly. If you do not have the opportunity to search it: click on the icon next to the text box or press the "F4" button on your keyboard.

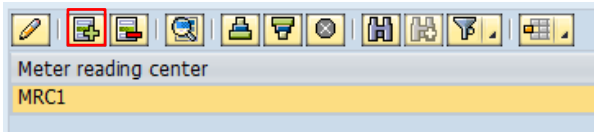

Figure 7: Additional meter reading center

To add more MRCs to the meter reader, press the marked button (shown on figure 7). If you are ready save your work by pressing the *save* button.

Every meter reader has to have an SAP user, equipment and a meter reader number.

4 Operational route planning

(Transaction */N/WATP/TP_SHORTTERM – Operational route planning*)

The operational route planning is based on tours and orders, whereas the tours are allocated to meter readers. If orders are directly assigned to meter readers without existing tours, new tours will be created.

4.1 Planning groups

(Transaction */N/WATP/TP_PLNGRP_MSK – Planner group*)

Planning groups are defined to determine planning areas in operational route planning.

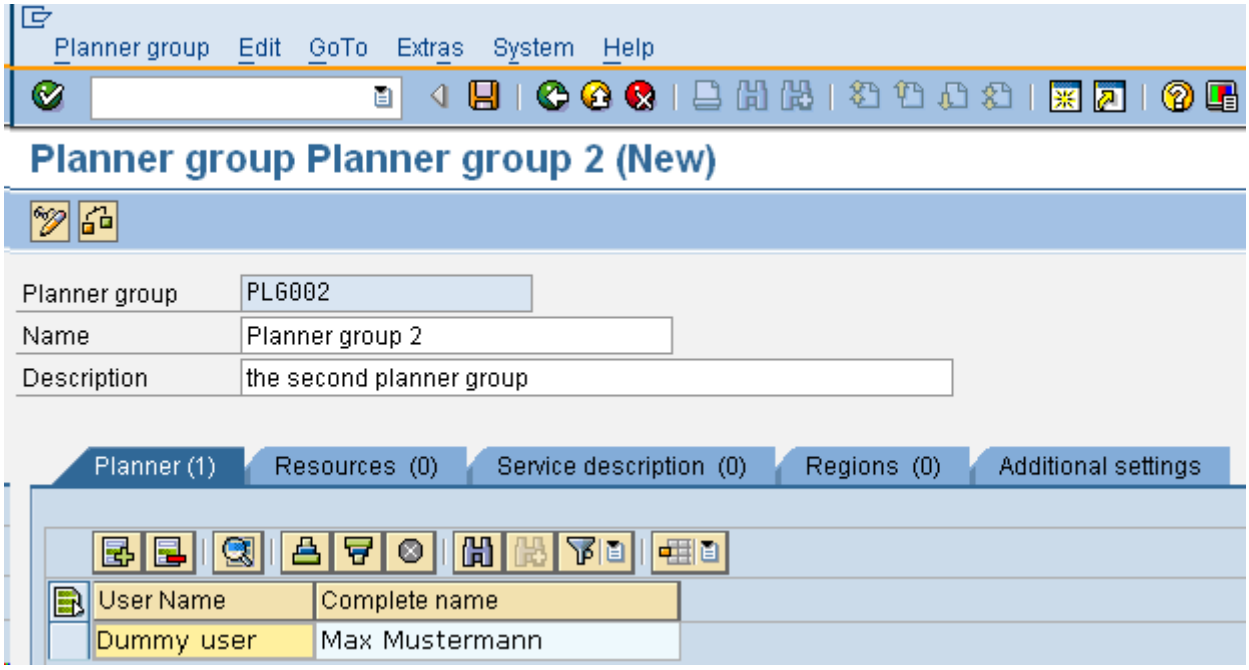

Figure 8: Create planner group

The following data can be recorded for a planning group:

- Planner: user assigned to this planning group
- Vehicle types: vehicle types to be planned
- City: cities to be planned
- Street: streets to be planned
- Regional structure: regional structure to be planned
- Plant: plants to be planned
- Service area: service areas to be planned
- Service type: service types to be planned
- Personnel: available personnel
- MR Center: Meter Reading Center to be planned

If one of the criteria is not defined in the planning group, all objects of this criterion are displayed.

When entering individual criteria, e.g. service area, other criteria are implicitly be demarcated (e.g. service types).

Setting up planning groups helps to structure the operational route planning. When defining parameters in the register *Additional settings* you can overwrite standard settings for operational planning (Transaction */WATP/TP06*).

4.2 Configuration

(Transaction */N/WATP/TP06 - CONFIGURATION*)

Additional settings (customization) regarding the navigation tree of the operational route planning are available:

- number of work days that are to be displayed
- applied calendar
- number of calendar days
- changing the start date to the due date when starting the operational route planning

Further settings concern the positioning of the date in the navigation tree and entering a planning group may be mandatory when starting the operational route planning.

Further information regarding the Customization of the *operational route planning* is available at the related customization guide.

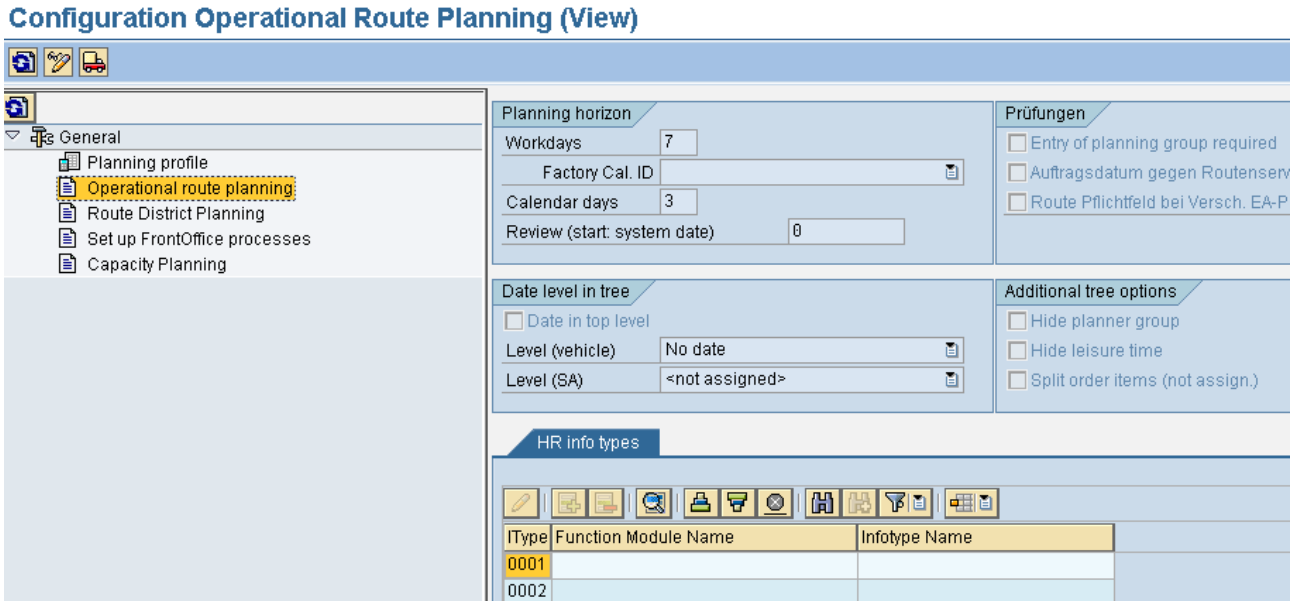

Figure 9: Configuration of operational planning

4.3 Planner group and due date (starting transaction)

(Transaction */N/WATP/TP_SHORTTERM – Operational route planning*)

After starting the operational route planning you need to choose the planner group and the due date.

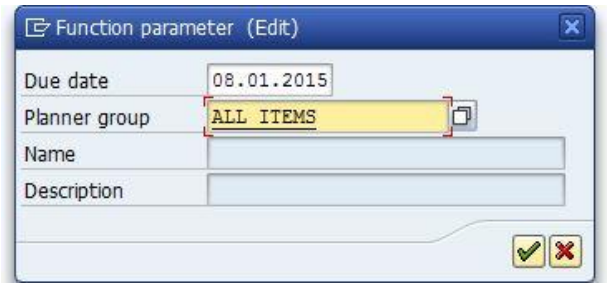

Figure 10: Choosing planner group and due date

The planning group defines which orders to display and plan with their corresponding items (tour, service area, service types, meter reading centers etc.) is.

The due date defines which orders are to be displayed in the operational route planning.

4.4 Screens in operational planning

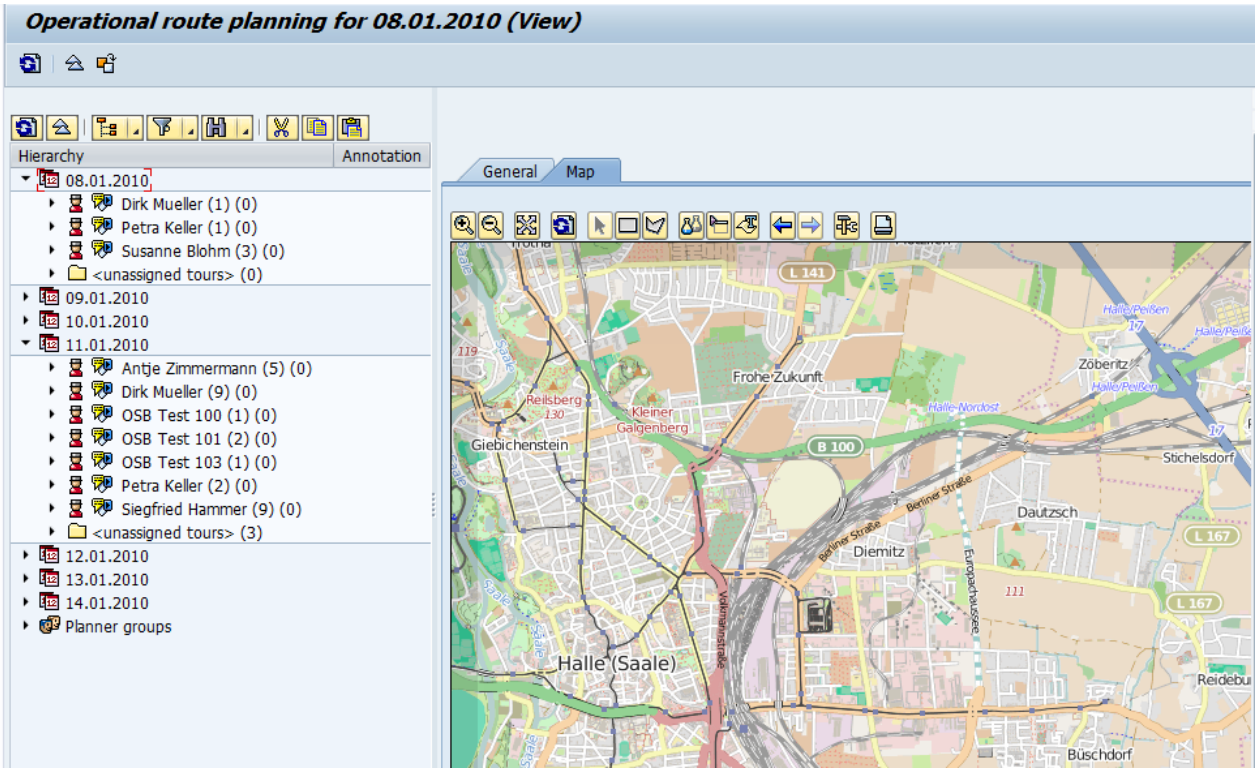

Figure 11: Operational route planning - Screen

In the upper screen part you will find the menu bar providing several functions for the operational route planning.

Figure 12: Operational route planning - Menu bar

Below the menu bar you will find the standard transaction bar…

Figure 13: Operational route planning - Standard transaction bar

…followed by the function bar of the operational route planning.

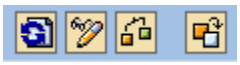

Figure 14: Operational route planning - Function bar

Some buttons are only displayed if available.

On the left- hand side of the screen the navigation tree is displayed.

Every meter reader needs to have an active SAP user account.

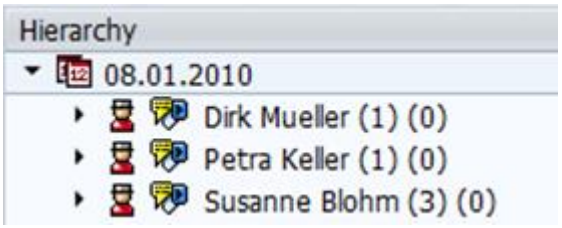

Figure 15: Operational route planning - Navigation screen

On the right-hand side you will find two tabs. One tab provides general information while the other displays the map. This part of the screen is called “mask”.

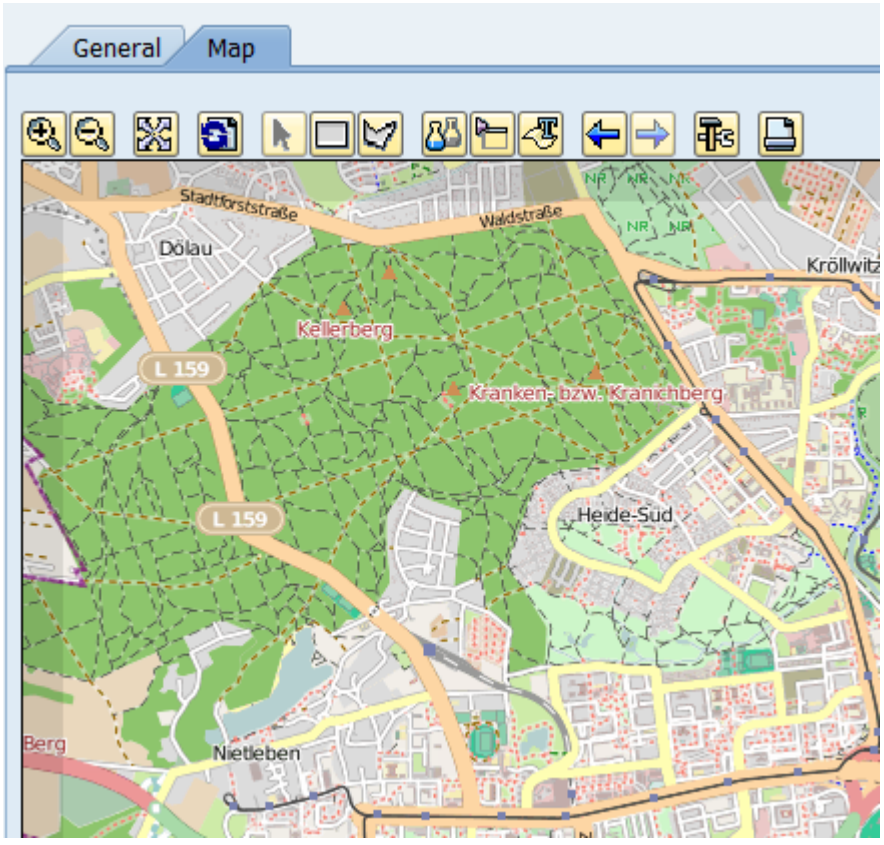

Figure 16: Operational route planning - Mask

4.5 Functions of the menu bar

Menu Item *Planning*:

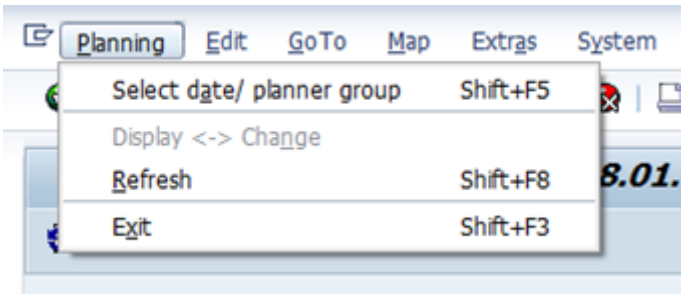

Figure 17: Operational route planning - Menu - Planning

Select date/planner group

When using this function you are able to reselect the due date or the planning group. The start screen opens.

Refresh statistic

To show old tours respectively tours without changes in their content on the displayed date.

Exit

Leave the operational route planning.

4.6 Functions of the function bar

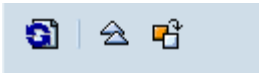

Figure 18: Operational route planning - Function bar

Updates display of data records after changes

Close all nodes:

Notwithstanding the selected node, all nodes of the navigation tree are closed.

Select date/ planning group:

With this function you are able to reselect the key date or the planning group. The start screen is opened.

4.7 Functions in the function bar of the navigation tree

Figure 19: Operational route planning - Function bar of the navigation tree

Updates display of data records after changes

Close all nodes:

Notwithstanding the selected node, all nodes of the navigation tree are closed.

 Orders can be filtered by postal filter criteria.

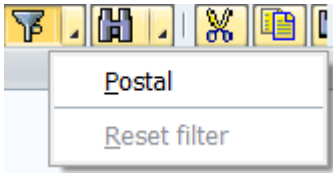

Figure 20: Operational route planning – Filter

 *Search function*:

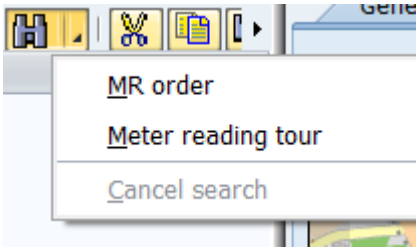

Figure 21: Operational route planning - Search

You can search for various Objects in the navigation tree.

4.8 Objects displayed in the navigation tree

In the navigation tree various objects are displayed on several levels.

The layout of the objects at each level depends on the configuration of the tour planning area (see document: *SAP_Dispatching_&_Planning_Operational_Planning_by_PROLOGA_Configuration_Guide_7.0.pdf*) and can differ from the presentation described here.

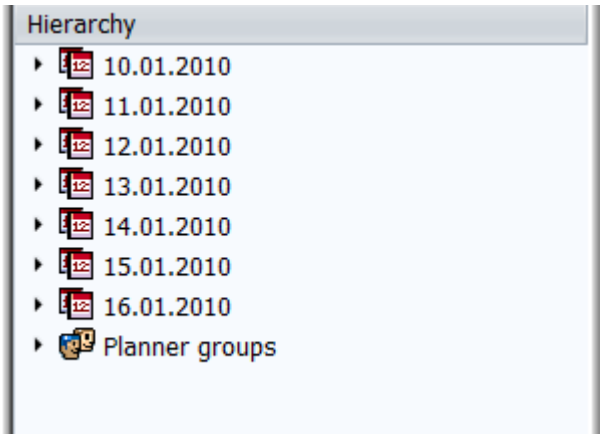

Figure 22: Operational route planning - Hierarchy in the navigation tree I

The main node displays the dates that orders are scheduled created and downloaded.

Under *planner groups* all available planner groups are displayed.

Figure 23: Operational route planning - Hierarchy in the navigation tree II

The first child node displays the meter readers.

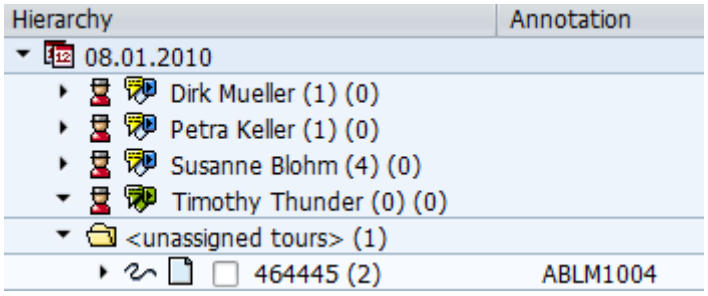

Figure 24: Operational route planning - Hierarchy in the node <not assigned> I

The first child node of the *<not assigned>* node lists the tours not assigned to meter readers yet.

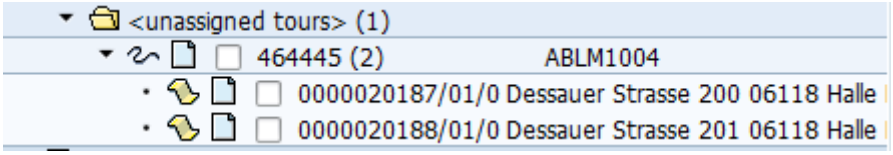

Figure 25: Operational route planning - Hierarchy in the node <not assigned> II

The second child node of the *<not assigned>* folder lists the orders of the tour not assigned to meter readers yet.

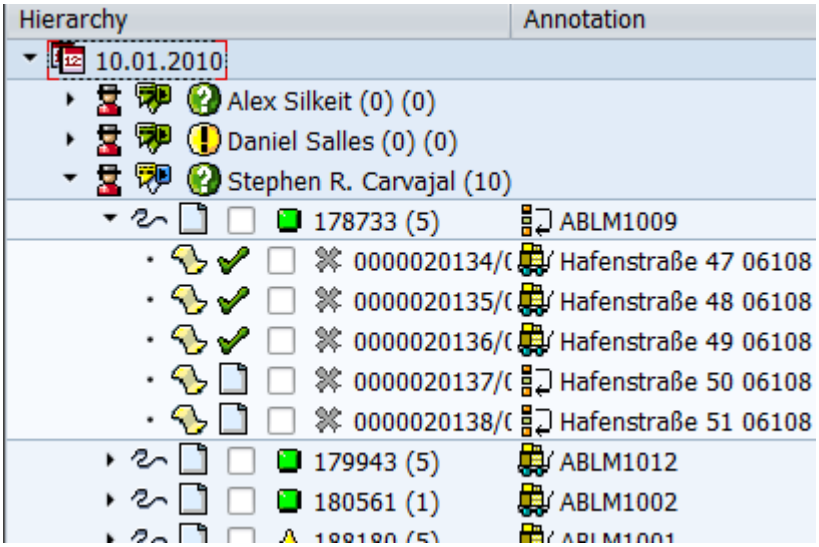

Figure 26: Operational route planning - Hierarchy below the meter readers

The third child node lists – if available – the tours whereas the fourth child node displays the orders.

4.9 Context menu of the navigation tree

A context menu is a list of functions displayed next to the mouse pointer when you click the right-hand mouse button. The context menu displays the currently available functions. To select a function from the list, you either click on the function or press the corresponding function key on the keyboard.

4.9.1 Context menu – Meter Readers or not assigned

Either one of the nodes meter reader or *<not assigned>* is selected in the navigation tree.

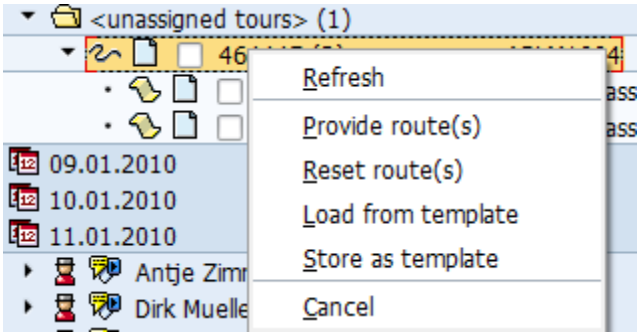

Figure 27: Operational route planning - Context menu – not assigned node

Update/ Refresh:	The data being displayed under tis node are updated
Provide route(s):	Activate the route
Reset route(s):	Deactivate the route
Load from template:	Load saved route
Store as template:	Save the route
Cancel:	Leave the context menu.

The pop-up menu can contain other menu items as a function of activated additional functions or plugins.

4.9.2 Context menu – Tour

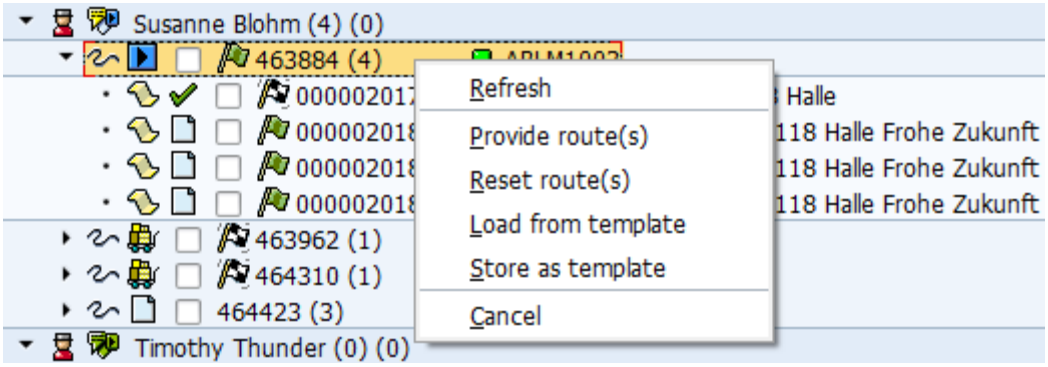

Figure 28: Operational planning - Context menu - tour

Update/ Refresh:	The data being displayed under this node are updated
Provide route(s):	Activate the route
Reset route(s):	Deactivate the route
Load from template:	Load saved route
Store as template:	Save the route

Cancel: Leave the context menu.

Context menu – Tour - Symbols: Action / Completed flag

 The green flag icon shows, that everything is OK. The tour is ready to start.

 The red flag icon shows, that the tour was stopped.

 The checkered flag shows, that the tour was finished successfully.

4.9.3 Context menu – Order

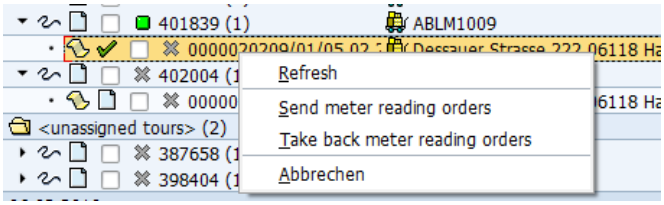

Figure 29: Operational route planning - Context menu - Service type

Update/ Refresh:
The data being displayed under this node are updated.
Send meter reading orders:
Activate meter reading order and send to the PDA
Take back meter reading orders:
Deactivate meter reading order and recall from the PDA
Cancel:
Leave the context menu.

Symbols:

 The green icon, next to the address, represent that the order was confirmed via PDA.

 The yellow triangle icon, next to the address, represents the failure of the order confirmation via PDA.

 The red light shows, that a problem has appeared.

4.10 Functions of the navigation tree using Drag&Drop

Select orders or tours to assign them to a meter reader. Press the left mouse button and move the object to its new position. Then drop the object. This function is called Drag & Drop.

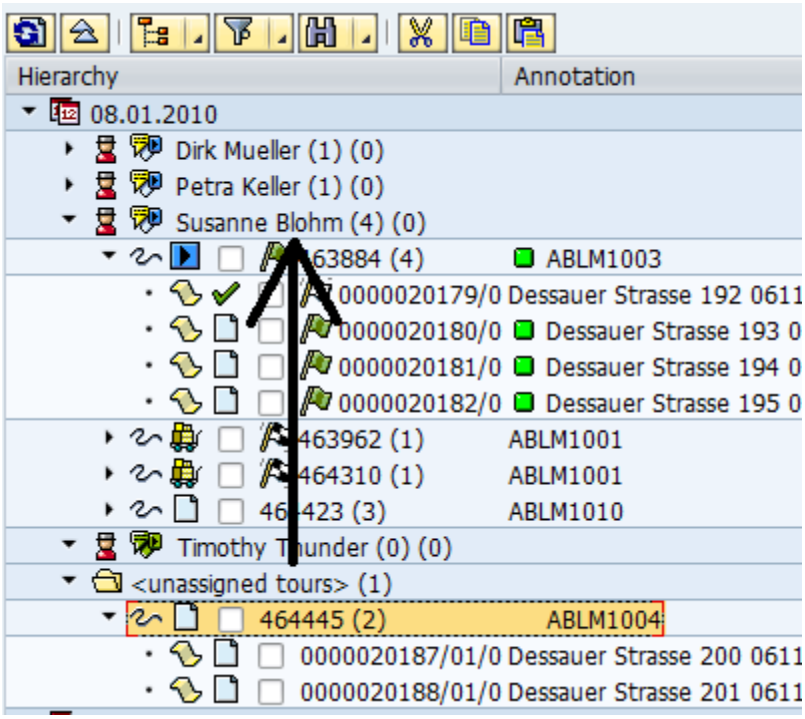

Figure 30: Operational route planning – Drag & Drop

The *Drag&Drop* function can be substituted with the shortcuts for cut & paste. Press *CTRL + X* to cut an object and *CTRL + Y* to assign it to its new position.

4.11 Map functions

Open the map on the *Map* tab of the mask.

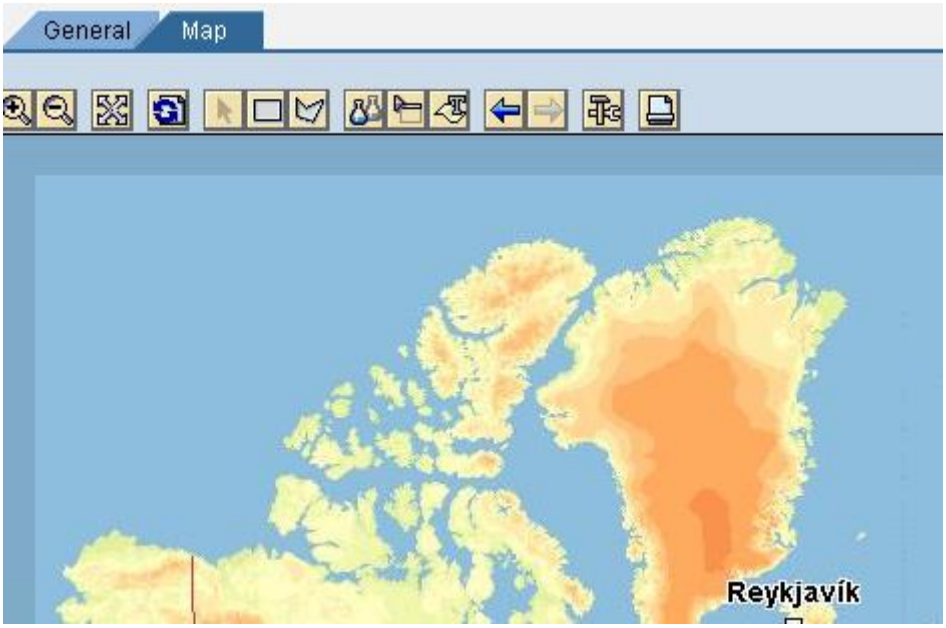

Figure 31: Operational route planning - Map

4.11.1 Map functions of the function bar

 Minimizes the current map section in defined steps, i.e. a smaller area of the map showing more detail is displayed. The center of the section remains the same.

 Expands the current map section in defined steps, i.e. a larger area of the map showing less detail is displayed.

 The maximum Sector of the map is displayed.

 The data on the map are updated.

The functions described in the following (*Mouse: zoom* and *Selection*) can only be activated one at a time. You can switch between both functions.

 *Mouse: zoom*:

In order to zoom into a map section, draw a rectangle with theleft mouse button heed down. The chosen part will be displayed in the map area.

An activated *Mouse: zoom* is depicted by the following button. 

 *Selection:Rectangle*:

If this function is used, a quadrangle is drawn which selects the objects in this area.

If you additionally press the keys *ALT*, *CTRL*, or *SHIFT* you can achieve the following effects:

ALT

Delete objects from selection

SHIFT

Add objects to selection

CTRL

Reverse selection (selected objects are deselected and vice versa)

An active *Selection* function is displayed by the following button. 

Selection: Polygon:

If you draw a polygon on the map, the objects within this polygon are selected. For additional functions see Selection (rectangle).

An active *Selection* function is displayed by the button. 

Grey-in map:

The map is displayed in a grey scale. This function is only supported by the operating system Windows and the Internet Explorer.

Display objects as points:

The container symbols are displayed as colored points on the map. The color matches the color of the route district.

Back:

The previous map position is displayed.

Next:

The next map position – if available – is displayed.

Settings:

Map related technical settings can be defined. (e. g. size of the map window)

Print map section:

The current map section including all displayed objects is printed.

4.11.2 Functions on the map

Regardless of the mouse mode (Zoom or Selection) the mouse pointer changes if positioned on an order item. With a single click the object or order item is selected. If the *ALT*, *CTRL* or *SHIFT* keys are pressed additionally, you can achieve the following effects:

ALT

Delete objects from selection

Shift

Add objects to selection

CTRL

Revers selection (selected objects are deselected and vice versa)

Differing from the selection mode only single objects or order items can be selected.

4.12 General function – information screen

On the right-hand side you will find the General information provider tab. The necessary figures will be presented in 3 levels:

- Meter reader level
- Tour level
- Meter reading order level

4.12.1 General Function – Meter reader level

To be able to select a meter reader, just double click on his/her name on the list under the selected date.

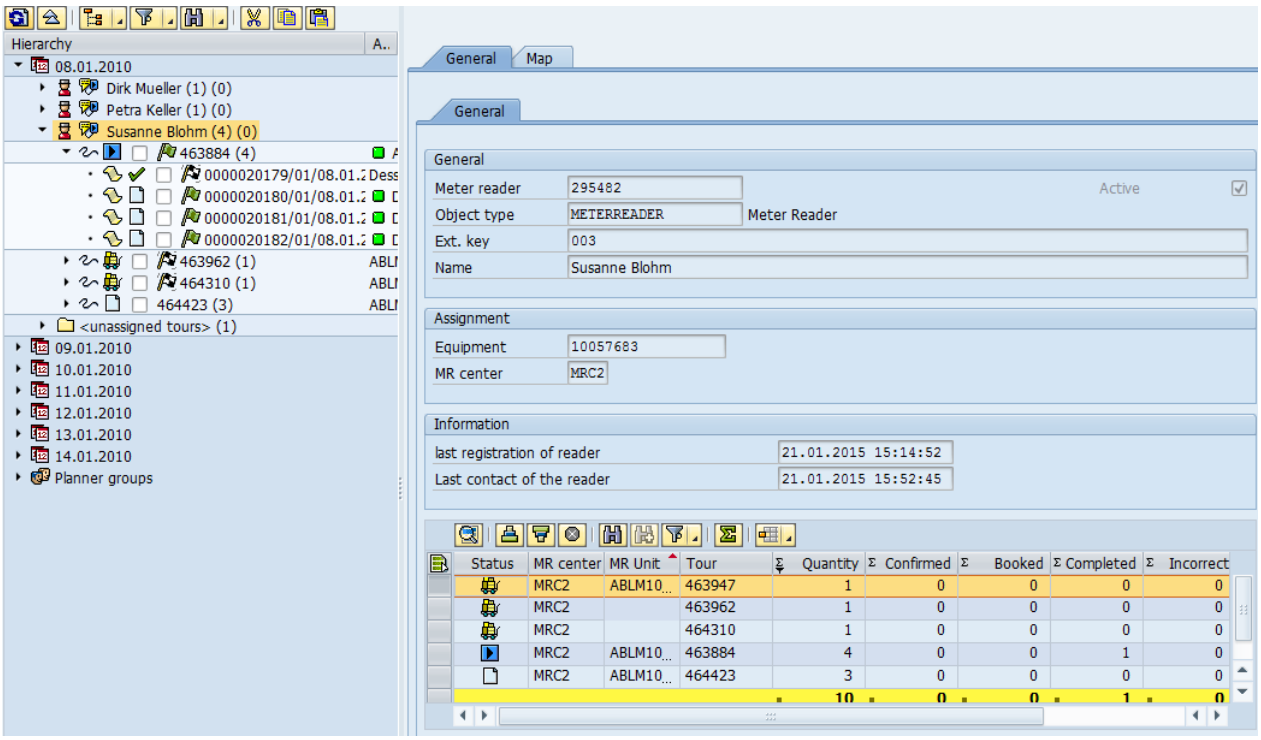

Figure 32: General Information of the meter reader

Screen details

General Field:

- Meter reader ID
- Object type
- Ext. key
- Name

Assignment Field:

- Equipment
- MR center

Information:

- Time of last registration of reader
- Time of last contact of the reader
- Tour status,
- Meter reading center,
- Meter Reading Unit

- Tour ID
- Meter Reader
- Equipment
- BC-Status
- BC-Transmission status
- ∑ Orders total
- ∑ Orders confirmed
- ∑ Orders booked
- ∑ Orders done
- ∑ Orders with booking error
- ∑ Orders On-site Billing on-line
- ∑ Orders On-site Billing off-line

Predefined filter for tours:

- All tours
- Tours still open
- Tours still open with booking error

4.12.2 General Function – Tour level

After the meter reading tour is marked, the screen will provide the following information and functions:

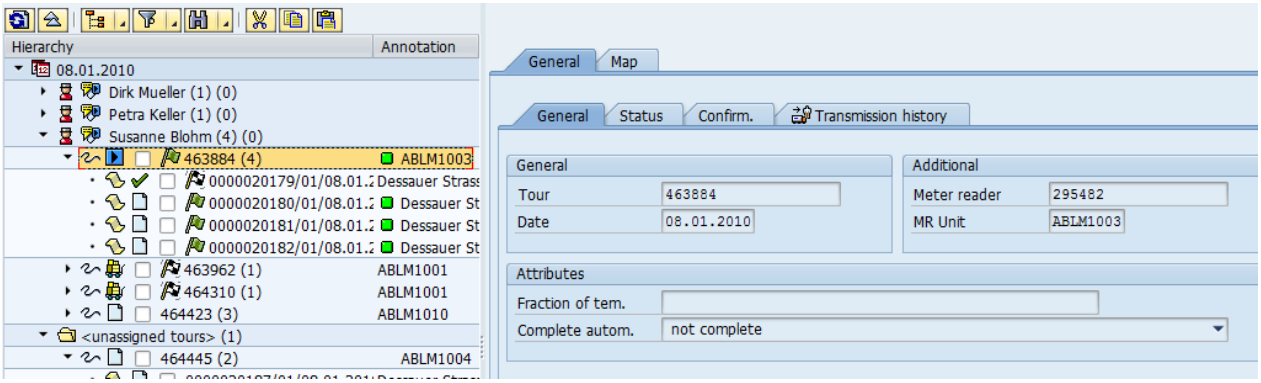

Figure 33: General information of tour level

General Function – available information of the "General" tab

General

(MRT level/ General/ Transmission history/ General)

- Tour: MOB Tour number
- Date: MOB Tour date
- Meter reader ID
- MR Unit
- Fraction of template: MOB Meter Reading tour template description/ name of fraction
- Complete automatic: MOB complete meter reading tour settings

Status tab

(MRT level/ General/ Transmission history/ Status)

Status of the meter reading tour can be:

- CREATED

- IN PROCESS
- CLOSED

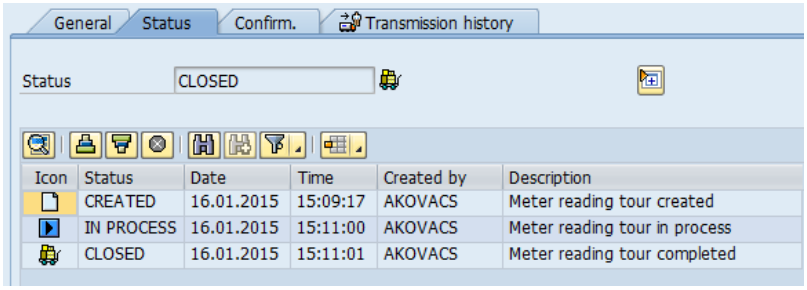

Figure 34: Status of Meter reading Tour

Other available information is the date and time of the tour, the name of the User, who created the tour and the description of the process status.

Transmission history tab

(MRT level/ General/ Transmission history)

This mask is going to provide the tour management information between the backend and PDA (is shown on picture below). Here you are able to follow the history of the object.

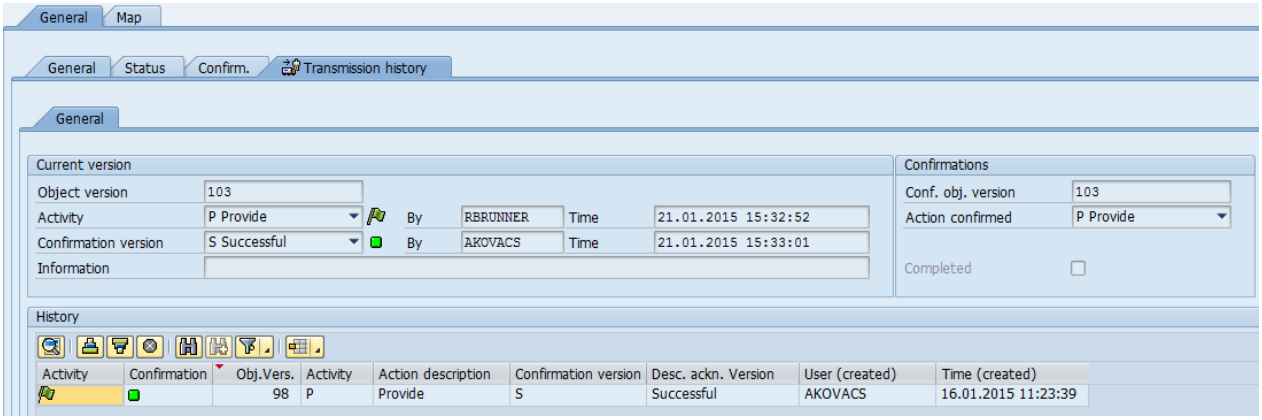

Figure 35: Transmission history

Current version:

- The latest version of the object
- Activity: activity in CCS side (can be either "Provide" or "Recall" by "User" at "Time")
- Confirmation version: Activity in the PDA side ("Successful" or "Failed" by "User" at "Time")
- Information: additional information
- Confirmation object version
- Action confirmed (provide or recall)
- Completed (yes or no status)

The so called "Object" can be a meter reading tour or a meter reading order. During distributing the tours and meter reading orders, they will change their position many times. This mask is going to help you to be able to follow this activity. The object number will increase any time, when it will be changed.

History: data exchange list of meter reading tours

- Activity (symbol)
- Confirmation of from the PDA
- Object version

- Activity (in this case: provided)
- Confirmation version
- Desc. Ackn. Verion
- Created by Username
- Time of creation

This field represents a historical view of the meter reader exchange activities that belongs to the marked meter reading tour. For example: if the tour was taken back from a meter reader and over handed to another meter reader, this field shows the events, represented in historical view.

4.12.3 General Function - Meter reading order level

If the meter reading order was selected on the hierarchy, all necessary information is available, like: position, invoice and billing information, results and milestones of data exchange process and many more.

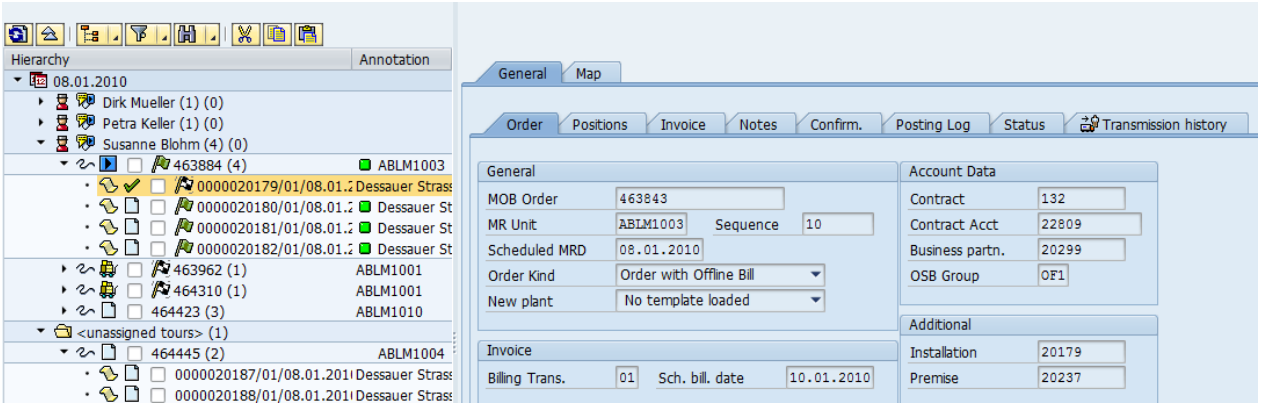

Figure 36: Meter reading order level overview

4.12.3.1 General Function – MRO level- Order tab (starting screen)

General Field

- MOB order
- MR unit and Sequence
- Scheduled meter reading date
- Type of the meter reading order
- New Plant

Invoice Field

- Billing Transaction
- Scheduled Billing Date

Account Data Field

- Contract Number
- Contract Account Number
- Business partner ID
- OSB Group

Additional Information (Technical information) Field

- Installation

- Premise

4.12.3.2 General Function – MRO level- Positions tab

(Meter Reading Tour level/ General/ position)

Total overview of technical information of the device is available for the users. It has a 2 level hierarchy structure (as it is shown below):

- At first the list of the registers within the device
- Secondly the technical information of the register

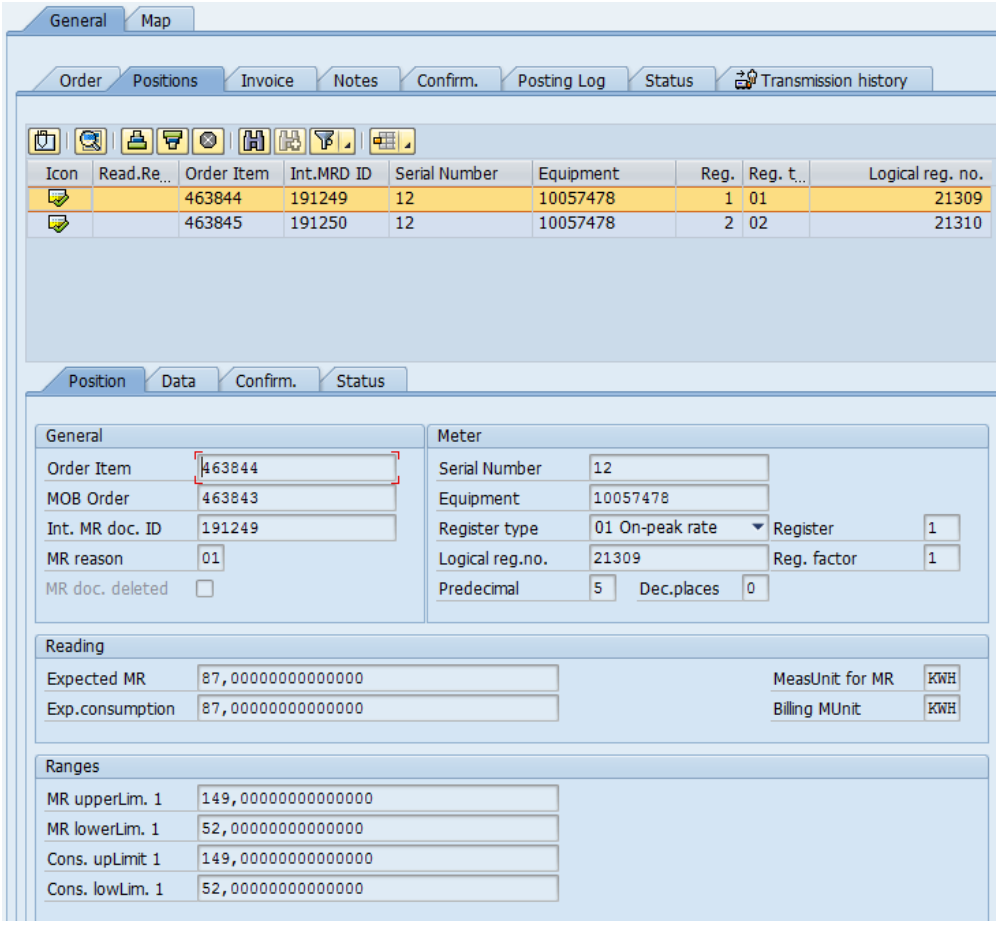

Figure 37: Technical information of the position in MRO level

General Field:

- Order item
- MOB Order
- The meter reading document (ID)
- MR reason
- MR doc. Deleted

Meter Field:

- Serial Number of the device
- Equipment
- Register type and Register
- Logical register number and MOB Register factor

- Number of decimal places of register

Reading Field:

- Expected Meter reading value and measuring unit for meter reading
- Expected consumption value and Billing Measuring unit

Ranges:

- MR upper limit
- MR lower limit
- Consumption upper limit
- Consumption lower limit

General Function – MRO level- Confirmation tab

(General/ Position/ Confirmation)

Received information about meter reading orders will be presented in detail-oriented form.

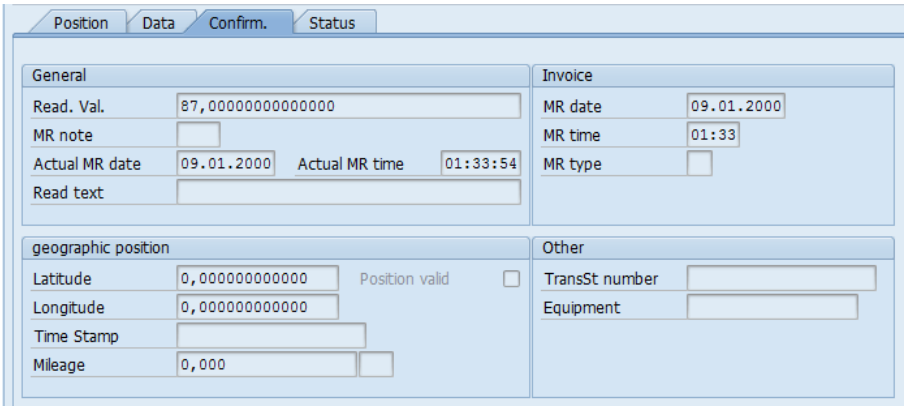

Figure 38: Detailed information of Meter reading in MRO level

General Field:

- Meter reading result
- MR note
- Actual MR date and time
- Read text

Geographic Position Field:

- Latitude
- Longitude
- Time Stamp
- Mileage

Invoice Field:

- MR date
- MR time
- MR type

Other Field:

- Transmission status number
- Equipment

General Function – MRO level- Status tab

(Meter reading order level/ General/ Position/ Status)

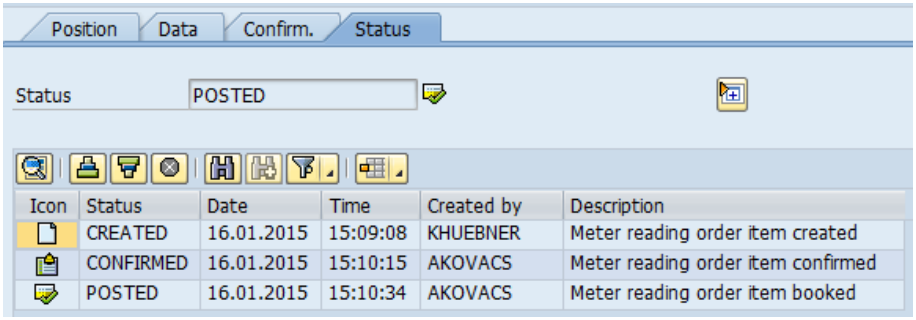

Figure 39: Status information

This screen gives for the user information about the last meter reading order status and a historical view of status changes.

4.12.3.3 General Function – MRO level- Invoice tab

(Meter reading order level/ General/ Invoice/ Invoice)

This function can be used to have a total overview of invoice information. The details are the following:

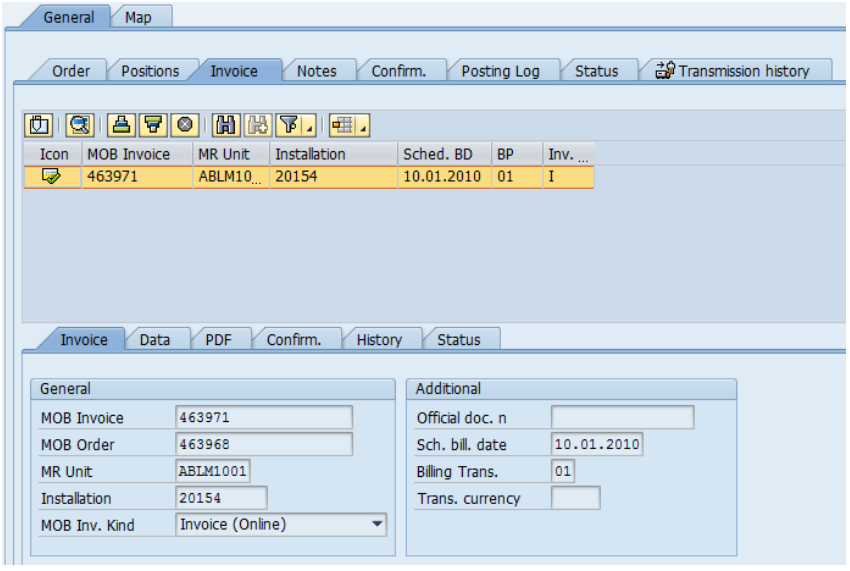

Figure 40: Total invoice overview in MRO level

General Field:

- MOB Invoice
- MOB Order
- MR Unit
- Installation
- MOB invoice Kind

Additional Field:

- Official document number
- Scheduled billing date
- Billing transaction
- Transaction currency

Invoice Tab – Confirmation Tab

(Meter reading order level/ General/ Invoice/ Confirmation Tab)

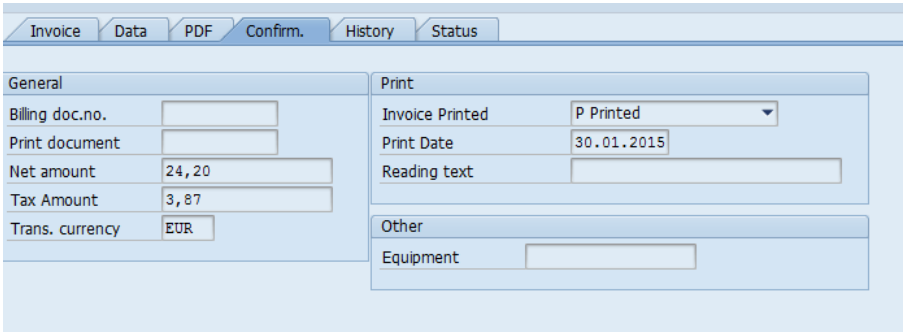

Figure 41: Overview of billing information

General Field:

- Billing document number
- Print document number
- Amount
- Transaction currency

Print Field:

- Status of Invoice Printing
- Print Date
- Reading Text

Other Field:

- Equipment

Invoice Tab – History Tab

(Meter reading order level/ General/ Invoice/ History Tab)

In case of online invoice, the printed document´s information will be shown.

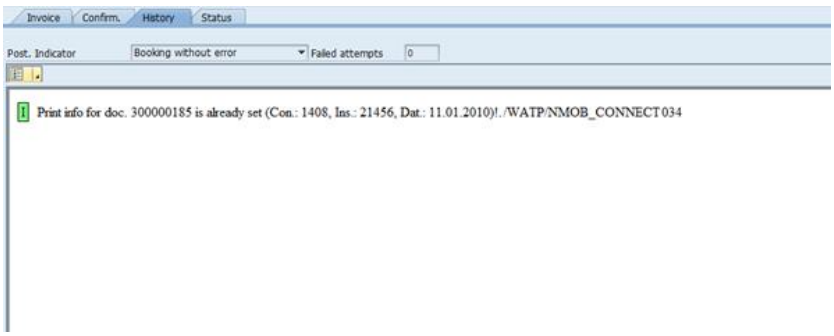

Figure 42: Invoice history

Invoice Tab – Status Tab

(Meter reading order level/ General/ Invoice/ Status Tab)

This sub-mask is the status overview of the meter reading order.

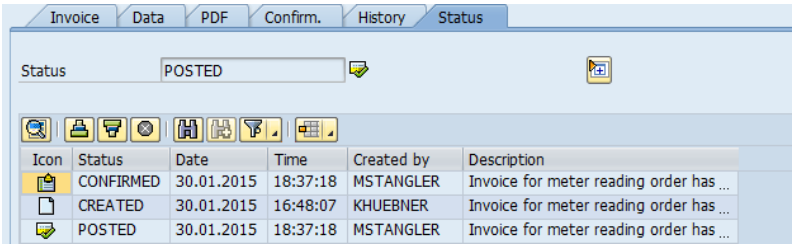

Figure 43: Meter reading order status

4.12.3.4 General Function – MRO level – Confirmation

The following sub-mask is going to give you a feedback about the meter reading result of the meter reading order.

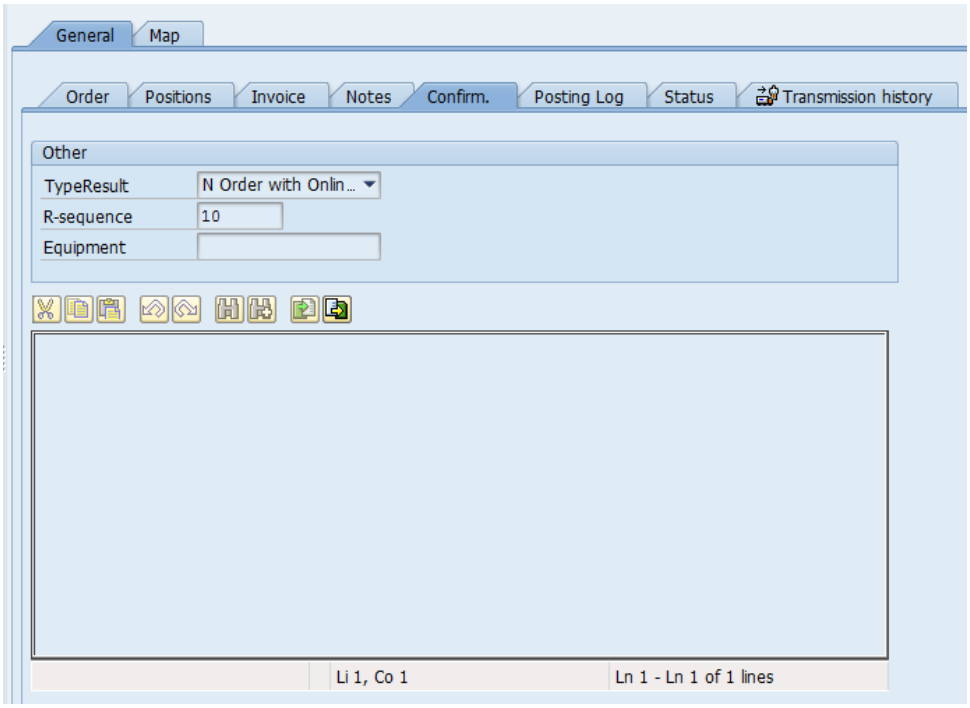

Figure 44: General function – Confirmation

The following information is given:

TypeResult: the type of the invoice
R-sequence: order of the read measures
Equipment: ID of the meter reader

4.12.3.5 General Function – MRO level – Posting Log

The Posting Log is the data exchange information provider. The whole communication process will be detailed represented here. Step by step, the communication between the PROLOGA software and the mobile device.

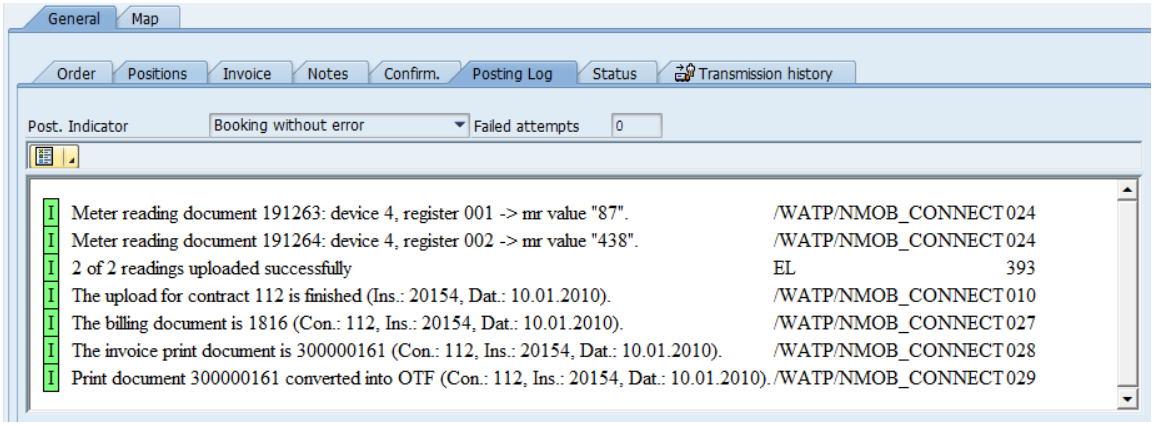

Figure 45: Displaying milestones of data BLOPs flow

The "Posting Log" can be different in developer view, where the XML code will be shown.

4.12.3.6 General Function – MRO level – Status

This screen will inform you about the meter reading order status.

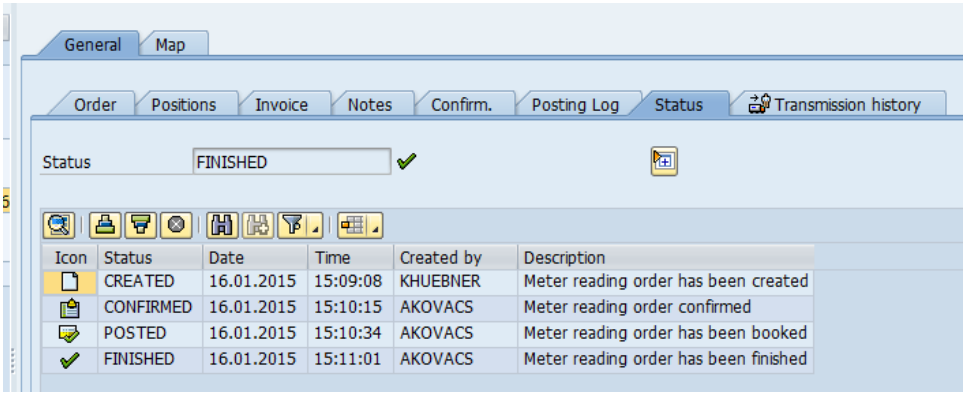

Figure 46: Status of meter reading order

If you need more information just press the  (expand/ reduce) button.

4.12.3.7 General Function – MRO level - Transmission history

(Meter reading order level/ General/ Transmission history)

The Transmission history is the perfect tool to keep an eye on the tour management activities. Here you have the opportunity to follow the changes of the meter reading tour and also get a feedback from the meter reader.

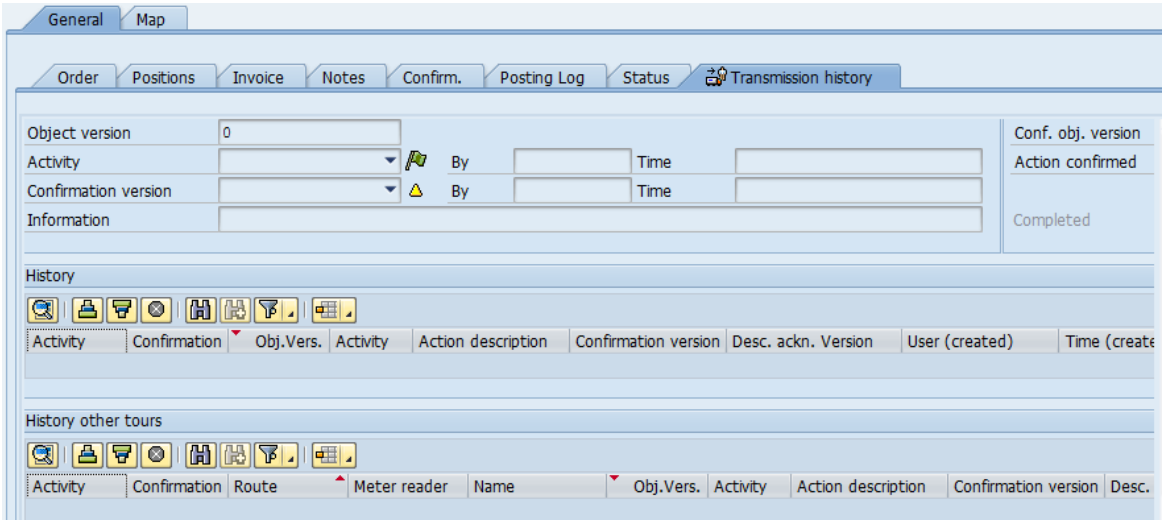

Figure 47: General Function – Transmission history

Object version: is the current version of the object, in our case that actually means the tour.
Activity: Tour distributor activity (CCS side)
Confirmation version: confirmation activity from PDA side.

After the tour was providing in CCS side and caught successfully by the PDA. The mask provides the following information:

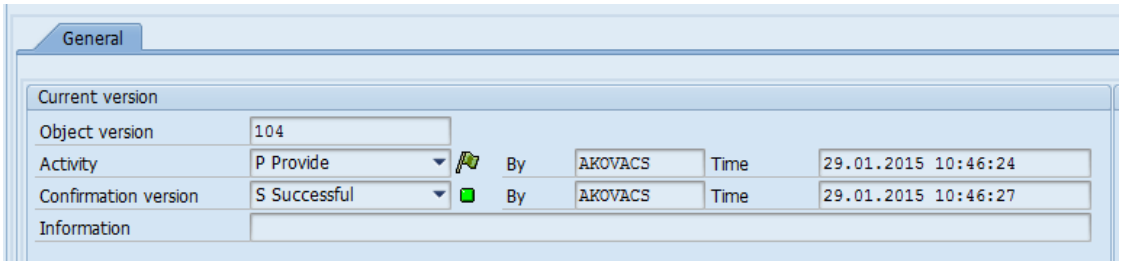

Figure 48: Overview of recent object status

History Field:
Activity: Status of the activity
Confirmation: Object confirmation status via PDA
Object version: Latest version of the object
Activity: Short form of the activity in CCS side
Action description: Description of the activity in CCS side
Confirmation version: Confirmation type by PDA (short form)
Desc.ackn. Version: Confirmation type by PDA

User (created): Tour distributer USER name
Time (created): Tour distribution time

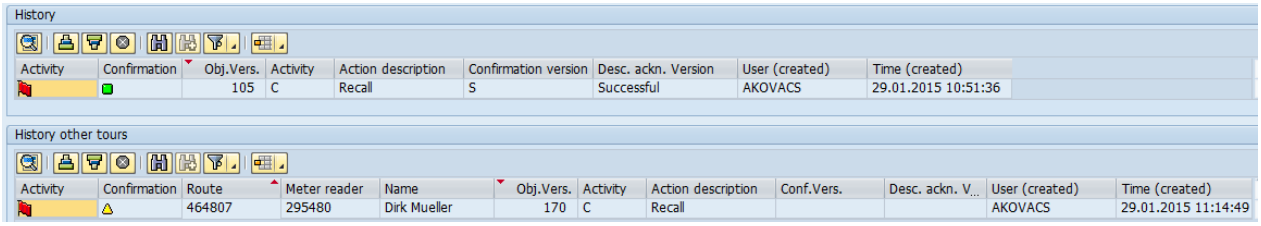

Figure 49: Object Version System – Historical View

History Field:

Activity: Status of the activity
Confirmation: Object confirmation status via PDA
Route: Tour ID
Meter reader: Meter reader
Object version: Latest version of the object
Activity: Short form of the activity in CCS side
Action description: Description of the activity in CCS side
Confirmation version: Confirmation type by PDA (short form)
Desc.ackn. Version: Confirmation type by PDA
User (created): SAP USER name of Tour distributer
Time (created): Tour distribution time

History Other Tours Field:

This field represents a historical view of the meter reader exchange activities that belongs to the marked meter reading tour. For example: if the tour was taken back from a meter reader and over handed to another meter reader, this field shows the events.

5 Tour Overview

(Transaction */N/WATP/MOB_TOUROVIEW – Daily Tour Overview*)

To overview the progress and completion status of the tours and orders a transaction "daily tour overview" will be available. Within this transaction all tours are listed for all planner groups (meter reading center) assigned to the dispatcher and date.

Note: Only tours with changes in their content are shown. To show old tours respectively tours without changes in their content on the displayed date use this function.

Menu: "Meter Reading Tours" → "Refresh statistic". Use this function only for old data/date.

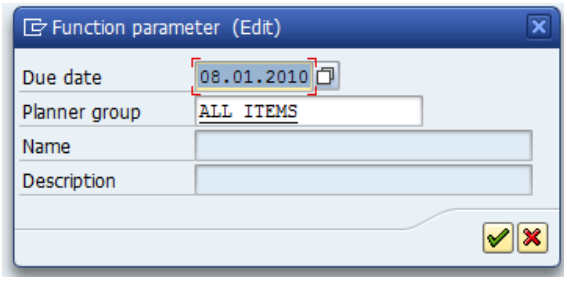

Figure 50: Menu for the complete displaying of data

5.1 Screen Details

The screen will provide the following information and functions:

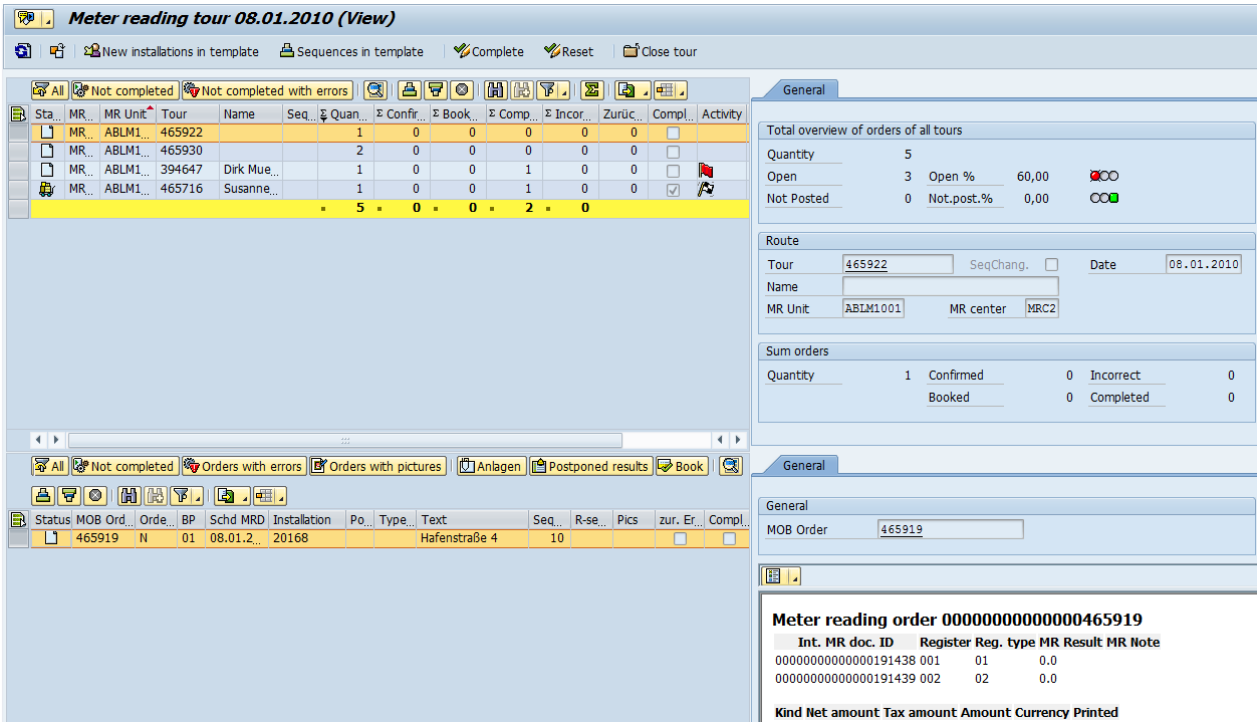

Figure 51: Daily Tour Overview

5.1.1 Screen Details - Total overview tours:

- Total count of tours

- Count tours in status open
- Percent tours in status open
- Graphical indicator for % tours in status open
- Count tours not booked
- Percent tours not booked
- Graphical indicator for % tours in status not booked

5.1.2 Screen Details - List of tours:

- Tour status,
- Meter reading center,
- Meter Reading Unit
- Tour ID
- Meter Reader
- Equipment
- BC-Status
- BC-Transmission status
- ∑ Orders total
- ∑ Orders confirmed
- ∑ Orders booked
- ∑ Orders done
- ∑ Orders with booking error
- ∑ Orders On-site Billing on-line
- ∑ Orders On-site Billing off-line

Predefined filter for tours:

- All tours
- Tours still open
- Tours still open with booking error

Depending on the selected tour above the list of orders of that tour will be listed below.

5.1.3 Screen Details - List of orders:

- Order status
- Order ID
- Order type
- Billing reason
- Scheduled Meter Reading Date
- Installation
- Booking error
- BC-Status
- BC-Transmission status

Predefined filter for orders:

- All orders
- Orders still open
- Orders still open with booking error
- Orders with pictures

Detail view for orders:

- Form displaying confirmation data

Available function:

- Show attachment - "Attachment" button (like photo, external document…etc)
- Booking
- Change result (in case of 2 meter reader sent result about the same connection object)

5.1.4 Screen Details - Functions

Also within the daily tour overview the following functions are provided:

Forward Navigation:

- To tour
- To order

Functions:

Reset tour: with this function the tour status can be changed back.

Complete tour: this function can be used if an error occurred in the upload process to CCS and the tour will be updated manually in CCS. So the tour needs to be completed in MOM.

- If all subsequent orders are confirmed
- If not all subsequent orders are confirmed
- Manual book orders which are not booked yet on tour level
- Manual book separate order which is not booked yet on order level

5.1.5 Screen details – Additional Information provider

This screen provides the additional information about the meter reading, like billing and invoice information, warnings. This field also warns you; if the meter reading has two different sources (see Figure 53). If you do not have a feedback from the meter reader, where the MRO currently is, but you have already received the value from other MR, you have the opportunity to select the other results. Just use the Postponed results (postponed results) button.

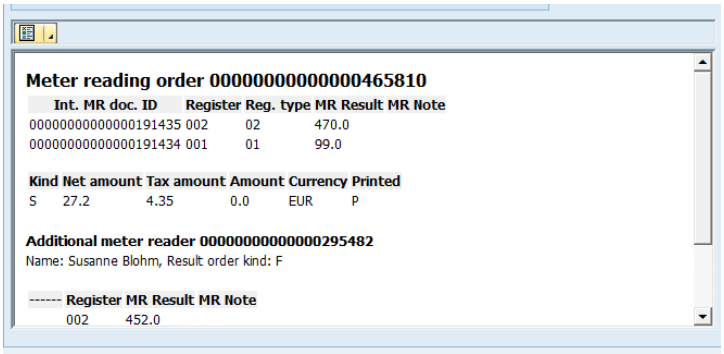

Figure 52: Additional information of meter reading

6 Confirmation of reading and billing data

(Transaction */N/WATP/MOB_TOUROVIEW – Daily Tour Overview*)

To overview the progress and completion status of the tours and orders a transaction "daily tour overview" will be available. Within this transaction all tours are listed for all planner groups (meter reading center) assigned to the dispatcher and date.

Note: Only tours with changes in their content are shown. To show old tours respectively tours without changes in their content on the displayed date use this function.

Menu: "Meter Reading Tours" → "Refresh statistic". Use this function only for old data/date.

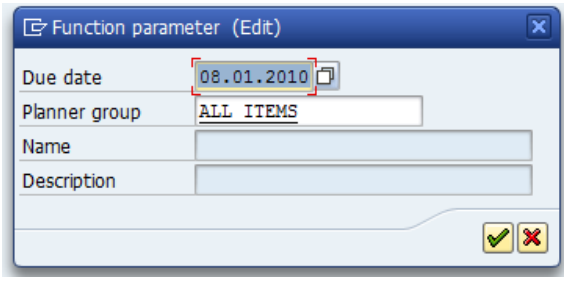

Figure 53: Menu for the complete displaying of data

6.1 Screen Details

The screen will provide the following information and functions:

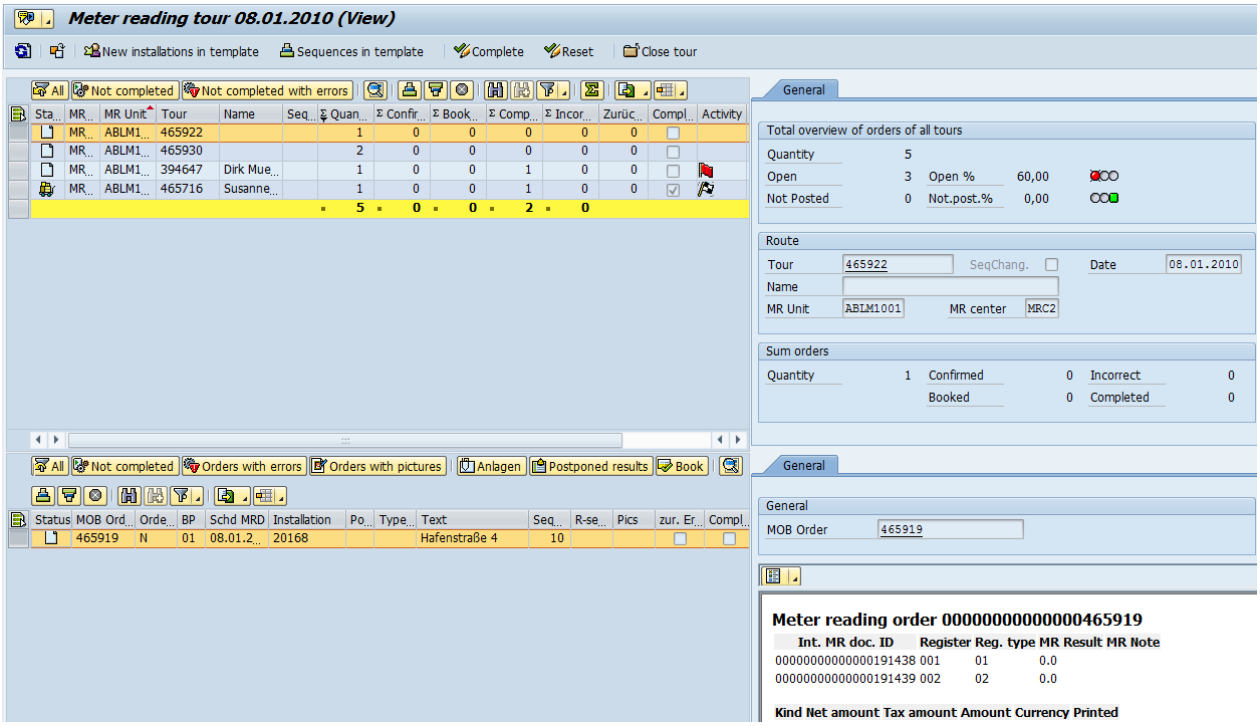

Figure 54: Daily Tour Overview

6.1.1 Screen Details - Total overview tours:

- Total count of tours
- Count tours in status open
- Percent tours in status open
- Graphical indicator for % tours in status open
- Count tours not booked
- Percent tours not booked
- Graphical indicator for % tours in status not booked

6.1.2 Screen Details - List of tours:

- Tour status,
- Meter reading center,
- Meter Reading Unit
- Tour ID
- Meter Reader
- Equipment
- BC-Status
- BC-Transmission status
- ∑ Orders total
- ∑ Orders confirmed
- ∑ Orders booked
- ∑ Orders done
- ∑ Orders with booking error
- ∑ Orders On-site Billing on-line
- ∑ Orders On-site Billing off-line

Predefined filter for tours:

- All tours
- Tours still open
- Tours still open with booking error

Depending on the selected tour above the list of orders of that tour will be listed below.

6.1.3 Screen Details - List of orders:

- Order status
- Order ID
- Order type
- Billing reason
- Scheduled Meter Reading Date
- Installation
- Booking error
- BC-Status
- BC-Transmission status

Predefined filter for orders:

- All orders
- Orders still open
- Orders still open with booking error

- Orders with pictures

Detail view for orders:

- Form displaying confirmation data

Available function:

- Show attachment - "Attachment" button (like photo, external document…etc)
- Booking
- Change result (in case of 2 meter reader sent result about the same connection object)

6.1.4 Screen Details - Functions

Also within the daily tour overview the following functions are provided:

Forward Navigation:

- To tour
- To order

Functions:

Reset tour: with this function the tour status can be changed back.

Complete tour: this function can be used if an error occurred in the upload process to CCS and the tour will be updated manually in CCS. So the tour needs to be completed in MOM.

- If all subsequent orders are confirmed
- If not all subsequent orders are confirmed
- Manual book orders which are not booked yet on tour level
- Manual book separate order which is not booked yet on order level

6.1.5 Screen details – Additional Information provider

This screen provides the additional information about the meter reading, like billing and invoice information, warnings. This field also warns you; if the meter reading has two different sources (see Figure 53). If you do not have a feedback from the meter reader, where the MRO currently is, but you have already received the value from other MR, you have the opportunity to select the other results. Just use the Postponed results (postponed results) button.

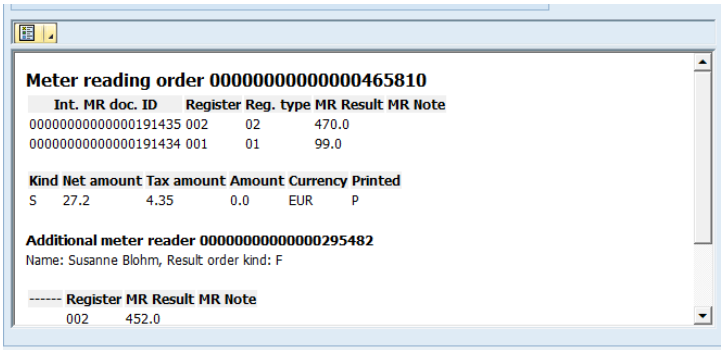

Figure 55: Additional information of meter reading

7 Configuration

(Transaction: /WATP/MOB_CONFIG Configuration of master data)

As we mention before, the communication between the *SAP® Mobile On-Site Billing by PROLOGA* and the *SAP® ERP backend system* works via Remote function calls (RFC). This mask is going to manage the transmission of the data packages between the PDA and the backend.

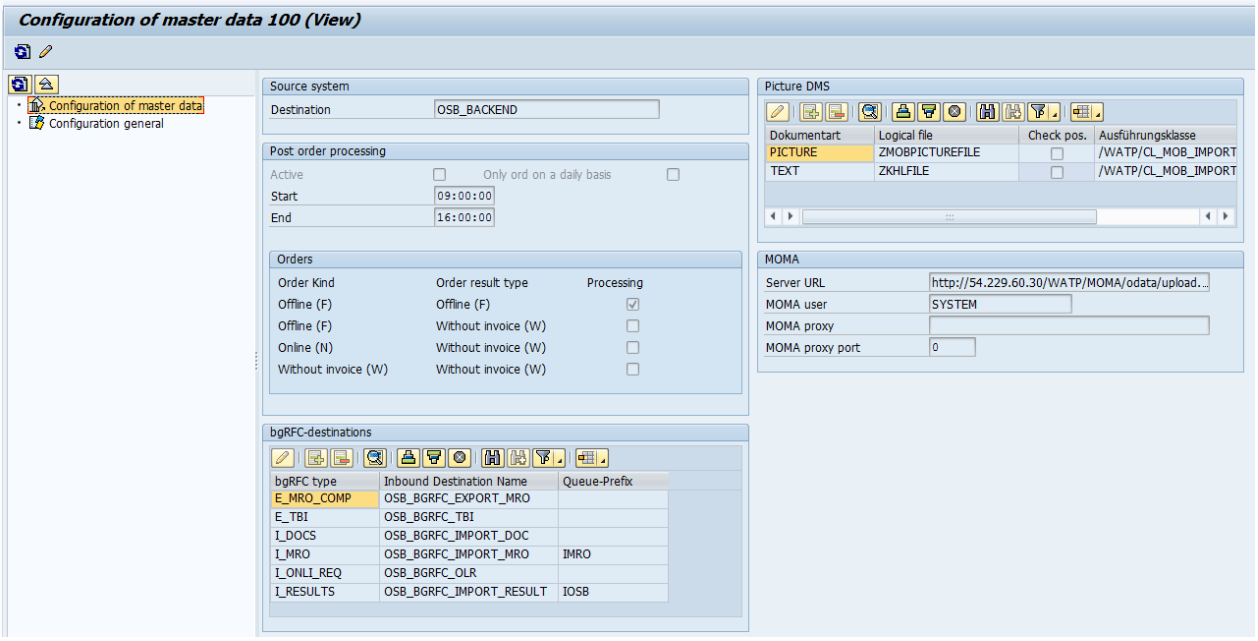

Figure 56: Configuration of master data

7.1 Configuration of master data

This overview can represent only the main information. If you are in need to change these settings, just press the  (Edit/Display) button.

Source system field:

- Destination: RFC destination in middleware system with PROLOGA Software.
- Post order processing field: Starting and finishing time of the billing trigger job.

Orders field:

- Order type for the billing trigger jobs

bgRFC- destinations field

- Type of the RFCs
- RFC queue of the RFCs
- Group of RFC queues

Picture DMS field:

Here you have the opportunity to define the type of the data that come from the PDA side and will be stored in the file system. You can define it specifically by using the transaction SF01.

MOMA Field:

SAP®Mobile Order Management Analytics by PROLOGA, based in HANA® Technology, is a data analysis add-on. Here you can settle the transaction parameters.

7.2 Configuration General

This transaction allows for maintaining of the general configuration settings. Here you can see the type of the import/ export packages and the data transformation details.

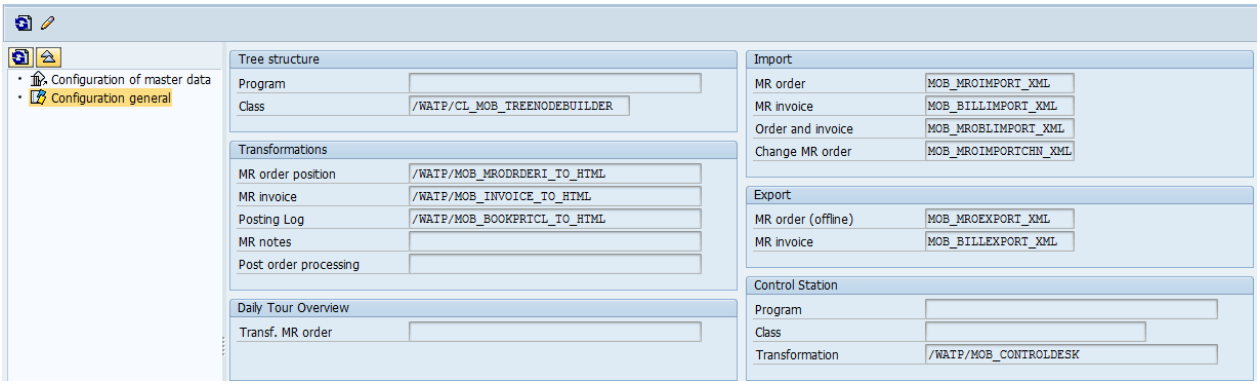

Figure 57: General configuration function

The improper execution of this function may result in loss of data and should only be applied after consulting PROLOGA.

In case you need more information about this topic, you can find further information in the configuration guide (see document: *SAP_Mobile_On-Site_Billing_by_PROLOGA_Configuration_Guide_7.0.pdf*).