



**SOFTWARE REQUIREMENTS FOR A MODEL BILLING SYSTEM
FOR THE UTILITIES TECHNICAL SERVICES DIRECTORATE**

WASREB/TSD/ER/1/2014-15

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July 2017

Software Requirements for a model billing system for the Utilities

ITEM NO	REQUIREMENT
A	Operating Environment
1	Multi-User Environment: The system should allow for accessibility of more than 5 users concurrently.
2	User customizable for automation to support ease of implementation and enhanced reliability

3	Integrated alert system for database updates, management actions and electronic mail & SMSs
B	Database
1	The database to be Open Database Connectivity (ODBC) compliant
2	The system to be able to run on the latest version of any enterprise database management system
3	Central data warehouse for use by all business applications, and has to be secure
4	Capability to roll back and forward the status of the system if errors are encountered, and include database recovery facilities
5	Capability to archive transactions to media based archives based on organization/system administration rules
6	Automatic daily backups both in house and offsite
C	Customer Information
1	Ability to maintain and review all customer account information about accounts: Customer profile and ability to generate statements (date, transaction details, debit/credit status and account balance), Payment details, Billing details, Meter Reading details, Connection details, Events, Meter Movements.
2	Automated communications with customers (email/sms), attach files to customers, track time spent with customers, and assign tasks to other users or departments.
3	Ability to capture GIS coordinates of the water connections and sewer connections. Capturing of GIS coordinates is mandatory for new connection set up.
4	Ability to access and save sanitation conditions of customer e.g. type of toilet, existence of septic tank and sewer line etc.
5	Ability to capture the sub-location details where the new connection will be made.
D	Billing and Bill Processing and Meter Reading
1	Ability of the system to manage utility billing processing cycle and generation of statements that are related to water billing.
2	Ability to bill customers from the approved tariff
3	Ability to bill sewer only customers

4	Ability to print a Billing Summary report per category, per company, per scheme (Water/Sewer/ meter rent in Kes/ m3, Consumption in m3, number of bills per water only, sewer only and water & sewer only
5	Ability to send/query bills via SMS, email and websites
6	Ability to prepare a meter reading cycle, meter reading book and capture meter reading anomalies for example meter stuck, absent customer and print report
7	Ability to prepare manual bill, edit periodical bill and to carry out whole billing
8	Ability to bill water tankers/Exhauster and other services invoices/bills for non-customers
9	Ability to produce of draft bills, bill controls before actual bills are generated. Exception or variance reports needs to be generated
E	Collection and debt recovery
1	Revenue , debt management, disconnection/reconnection capabilities
2	The system to receive payments from online, mobile service providers, banks etc
3	Can be able to accept non customers payments of prepared bill/invoices e.g. exhauster invoice and keep the history
4	Ability to track/group each non water bill payment by type (survey fees, reconnection fees, meter testing fee) not as miscellaneous
5	Ability to capture non online receipts by their respective dates and types
6	Ability to produce reports on collection and collection efficiency
7	Ability to notify customers payment of their balances on payments done by other modes via sms e.g. m-pesa, eft and Posta etc.
8	Ability to produce an age analysis report going backwards to six months
9	Ability to generate disconnection analysis basing on amount, number of bills not paid
10	Ability to incorporate part-time payment for those with large debts
11	Ability to capture the details of disconnection of a customer in the system i.e who disconnected, the date and type of disconnection method

12	Ability to capture the details of reconnection of a customer in the
	system i.e who reconnected and the date
F	Customer Service
1	Automatically issue service orders in response to a variety of events, including billing exceptions and collections activity.
2	Capability to manage customer complaints/compliments, and keep detailed history by pending status or any other criteria.
3	To be able to capture customer applications including new accounts, change of details, disconnection/reconnection, change of owner, termination / allocation of service. Generate quotation for new installation and recoverable works, and work orders.
4	Paperless authorization of financial transactions (online validation) in activities such as adjustments and complaints handling
G	Meter Management
1	Capability to track detailed meter inventory information through realtime updates.
2	Capability to capture meters' technical information including (Make, serial, size, number of dials, location history, Installation date, meter maintenance history, etc.).
3	Ability to issue, install and remove meters of a customer and keep the history
4	Allow a customer to be issued a meter only via the system and have only one meter per account
H	Integration with other systems and devices, Web and other interfaces
1	Ability to integrate with a wide range of meter reading devices e.g Psion, Radix, Itron etc. including smart phones.
2	Integration with financial, procurement and other systems either internally, through ODBC or standard flat files
I	Process automation and Scheduling (Integrated Workflows)
1	The system to provide the ability to automate repetitive tasks to reduce work effort.
2	Scheduling of key processes to run automatically at particular times and dates.
J	Security and Auditing

1	Maintain a reliable security policy and audit trail configure rules for individual users/user groups.
K	Reporting
1	Comprehensive reporting tools to help manage customer service, revenue stream and business processes.
2	Embedded, easy-to-use report builder requiring no third-party software.
3	Loaded with pre-configured reports, which can be modified, saved and shared.
4	Export/ import capability for reports to a spreadsheet, text, word, or any other format.
5	Ability to print processed payment transactions between defined periods.
6	Provide management reports and query facilities on progress of customer service.
7	Ability to print customer statements defined by period and re-print issued invoices with the correct period dates.
L	UFW
1	Management of NRW (Non Revenue Water) by use of master meters located in zonal areas and linked to billings
2	Reports on NRW monthly per master, zonal areas and Company as a whole
3	Ability to capture new master meters and link each master meters to particular customers
4	Ability to capture daily master meter reading
M	Job cards
1	Ability to create job cards from customer complaints
2	Ability to create job cards for internal works
3	Ability to create job cards for new connection installation
4	Ability to create job cards from meter reading anomalies
N	GIS
1	The software to have a GIS enabled map of the service area, pipe network and infrastructure
2	Query functions of customers via GIS enabled maps i.e. display customer details on a map in the system

3	GIS enabled; mapping of reconnection/ disconnection list, meter status report, large customers, consumer complaints based on complaint category, etc.
O	Help Module
1	Help module. This is besides system documentation which should be comprehensive and incorporated in the system
P	General Features
1	Search and filters