

INFORMATION AND KNOWLEDGE BASE

UTILITY MANAGEMENT

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"No one can make you feel inferior without your consent" – Eleanor Roosevelt

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UTILITY MANAGEMENT

10.1 Introduction

The importance of utility management in governing bodies is totally underestimated. To balance purchased units with the units sold, to ensure differences are resolved and amounts charged to consumers are correct, is of critical importance.

Energy and water saving are exceedingly important in South Africa. A list of savings should be prepared and actioned by the governing body with priority on the big opportunities. Boreholes, water recycling and rainwater harvesting systems are all possibilities to be looked at.

10.2 Basic Control Processes

The following basic overall controls are necessary to ensure that all units purchased are accounted for:

- Ensure that charge for the usage from individuals is correct. Both the units used for the month and unit price as allowed by the local authorities must be correct. Note that consumer tariffs are based on a sliding scale.
- Ensure that the governing body pays the correct amount for bulk usage (in units and price) for a specific period. Comparing prices to the local authority tariffs is important.
- Be satisfied with the units “lost” between bulk purchases and what was recovered from consumers for both water and electricity. A standard percentage loss on bulk purchases needs to be set and actual losses must be compared to the set standard. If it exceeds the standard, the losses must be investigated. One should keep an eye on usage and cost trends over time as part of the overall control process.
- Make sure recovery income and purchases cost of both water and electricity costs are in line with budget.
- Compare bulk unit usage by intake point and service area with the recovered units for that area and ensure the two balances.
- The governing body’s own electricity use must be monitored and reported on. This applies not only to the office and guardhouses but also to streetlights, pools, and borehole pumps.
- Ensure the number of occupational certificates issued by the local authorities are correct as this number is used to determine bulk water prices to the governing body.

Use a simple model for calculating the monthly usage by consumers, balancing purchases and recoveries, invoicing, sharing meter readings and usage figures with consumers as well as insuring that the correct VAT is charged.

Consumer applications for supply of utility services must be a legally binding document that complies with the *Consumer Protection Act*. The agreement should provide for the fact that non-payment of an outstanding utility account can lead to termination of the service.

Profit made on the supply of utility services should be ring-fenced. Remember that major maintenance needs to be done on the infrastructure from time-to-time and a considerable amount of money is required for this.

The maintenance of transformers and other critical equipment must be done on a scheduled basis. Insurers might decide not to pay claims because of neglecting the maintenance programme.

10.3 Detailed Control Processes

Some more specific and necessary water and electricity controls are set out below.

10.3.1 Water Management

The difference between what has been purchased in bulk and what has been recovered from consumers and exceeds the standard loss percentage can only be the result of four occurrences, namely:

- A faulty bulk meter.
- Faulty meters at consumer discharge points.
- Illegal connections.
- Actual water leaks.

The shortfall in the water supply process must be found immediately. To speed up the search it is advisable to divide the premises into sub-areas and to search and that way balance usage for each area on its own. It is important to address the water leaks issue in your governing body immediately. Please refer to chapter 6 of this guide for “The dolomite risk management programme”.

There are water management companies that will monitor water usage on a continuous basis with water loggers and warn the governing body when usage exceeds the set norm.

This could be a very handy tool in the water management process.

10.3.2 Electricity Management

The same water management principles apply to the management of electricity purchases and the sale thereof. Four possibilities exist where the standard loss percentage is exceeded namely:

- Faulty bulk meter.
- Faulty meters at consumer discharge points.
- Illegal connections.
- Leaks (so called high resistance faults).

The shortfall in the electricity supply process must be found straightaway. To speed up the search it is advisable to divide the premises into sub-areas and to balance each area on its own.

If used the three-phase supply system must be balanced from time-to-time to reduce the peak of a specific phase and in this way reduce the kVA peak charge.

10.4 Time-of-Use Systems

Time-of-use rates for electricity have been introduced to bill users at differential rates for their electricity used during specific times of the day. A day is divided in “peak,” “standard” and “off-peak” periods. Winter and summer rates are also different. This recovery method is justified on the basis that expensive electricity generated during peak periods should be paid for by the consumer. The time-of-use system gives consumers an opportunity to manage and spread their use of energy more effectively and thereby lower their electricity cost.

10.5 Types of Recording and Invoicing Systems

The following utility usage recording and payment systems can be used on their own or in combination.

10.5.1 The Manual Method

The manual method of reading meters physically at month-end is an outdated system but is still the most prevalently used. Various technologies can be used to speed up the meter readings and capturing of the readings at month-end.

10.5.2 Prepaid Bulk Meters

The governing body is charged in advance by the local council and cost is deducted from available funds as the utility is used. The prepaid account must be always in funds.

10.5.3 Prepaid End-user Meters

These meters are popular in most complexes and especially where properties are rented out. Users top up their prepaid account and use the utility as they go. Regular topping-up is important to ensure an uninterrupted supply.

10.5.4 Smart Meters

A smart meter is an advanced digital meter that records how much electricity is consumed at any point in time. The meter can be either prepaid or be managed on a post-usage payment system. These meters have built-in intelligence and one can *inter alia* manage this utility account from a PC or smart phone and look at the usage on an hourly, daily, or monthly basis. One can also validate the electricity bill. This system is critical for managing your “time-of-use” electricity consumption. Readings can be automatically transferred to a central control and invoicing point which makes billing so much easier.

Different controls are required for each of the above-mentioned systems and updated as upgrades are introduced.

10.6 Outsourcing

The decision to outsource the utility function should not be taken lightly. From what has been said above on the importance of control of income and expenses, the decision made must be a well-considered one.

The following points are important when the decision is being made to outsource:

- The unit price of the utility charged to the consumers will most probably increase. The outsourced company needs to make its money somewhere and the local authority rate schedules provide for these higher prices.
- A report on the controls as set out in this part of the guide must be submitted monthly to management to ensure the appropriate steps, if necessary, are taken.
- Ensure that the outsourced company does in fact pay the utility accounts promptly. Too many governing bodies have been defrauded by companies not paying the utility accounts.

- A reasonable management fees must be agreed on up-front.
- The change to outsourcing must be financially justified. Remember, in most cases the utility-related operating cost is fixed, and no real savings will come from it.

10.7 Other Aspects

Here are a few other utility-related matters that the governing body may consider looking into:

10.7.1 Alternative Energy Options

Assorted options to replace traditional electricity supply methods need to be investigated continuously. That is not only for the governing body as such but options for the residents as well. Please update the aesthetic rules on alternative energy supply systems.

10.7.2 Internal Electricity Grid

Where the governing body is the distributor of electricity within the estate of complex the grid can be used to distribute privately generated electricity (by owners of the governing body). The distribution network can be used to “buy” electricity generated by the governing body and residents and “sell” it on to other residents. The necessary calculations to justification the project must be done and the buying and selling rates must be established. The right technical solutions from a professional firm must obtained and installed.

10.7.3 Own Water Use

For governing bodies that have legal water rights from bore holes the use of this water for both irrigation purposes and human consumption should be investigated. There are excellent technical solutions on the market for both possibilities and a huge amount of savings can be obtained.