Frequently Asked Questions: Eskom

Technical Questions

What do all the words and acronyms mean?

For a detailed description please look at SANS1524-0 (Obtainable from the SABS <http://www.sabs.co.za> .) Many of the acronyms can also be found in the General Definitions <http://www.prepayment.eskom.co.za/terms.asp> document.

Why don't you use tamper detection in meters?

We have found that such detection is difficult to manage and provide little benefit. If tamper detection is used, the meter also enters into tamper mode when maintenance personnel opens it to test or correct a fault. The technician must then obtain a token from the vending machine to clear the tamper condition before the meter can operate again. This process is complex and very difficult to control for such a large installed base.

In any case, if a meter is tampered to obtain free electricity, it will be easy to bypass the whole meter, whether it is in a tampered state or not.

Eskom instead rely on proper sealing of meters with very strict procedures in place and the meters are designed such that all tamper will be easily visible to allow prosecution of trespassers. A tamper detection will be useful if the meter can transmit a signal in real time to a remote station but such technology is still prohibitive for the very low energy consumption of rural customers and communication to the rural areas are unreliable or non-existent.

Why do you only use disposable tokens?

The advantages of disposable tokens are that they are very cheap to produce (a few cents) while reusable tokens like smart cards are relative expensive. If a reusable token is lost, it will take long to replace and will be expensive as the infrastructure required to replace such tokens does not exist in the remote electrification areas. The disadvantage of disposable tokens is that you cannot easily transfer more than one token to the meter.   This feature is useful if you have complex tariffs or want to configure the meter automatically when the customer inserts the token. Eskom currently does not have complex tariffs that require this functionality.

Return information on the reusable token is not always a large benefit since a customer that tampers with the meter will in any case not bring the token back to buy electricity.

One big advantage of reusable tokens would be the possibility to keep the meter configuration on the token. This will ensure that you will always vend a token that will work in the meter. This option is currently under investigation as part of STS2.

Why did you standardise on a proprietary meter arrangement/enclosure?

Most of the Eskom electrification is done with overhead electrification networks and the supply enters the meter from the top or the rear. The popular BS footprint with entry from the bottom is not well suited to this arrangement.

To prevent tamper with the supply cable, we use a stiff concentric cable with the armour shielding acting as the neutral conductor. It is very difficult to bend and connect this cable in the small spaces provided by typical BS type meters with covers.

Even with terminal covers fitted over the terminals it is often possible to push thin stiff wires into the terminals of the BS type meters next to the existing wires to obtain free electricity.

The proprietary plug-in type meter make installation and replacement of faulty meters very quick and easy as it is not necessary to change the wiring. The plug-in American type footprint achieves similar advantages but the round type is expensive and impractical to manufacture and the enclosure is too small to accommodate the stiff supply cable.