

REVENUE PROTECTION STRATEGIES & INITIATIVES AT BUFFALO CITY MUNICIPALITY

PAPER PRESENTED BY:

**MR CHRIS GOWER
CHIEF REVENUE PROTECTION SPECIALIST
BUFFALO CITY MUNICIPALITY
14 June 2010**

1 INTRODUCTION

Revenue Protection at Buffalo City Municipality is presently in its infancy stage. We have a staff complement of sixteen dedicated individuals who are mandated to remove illegal electricity connections investigate problems associated with non-technical losses, investigate departmental fraud and mal-practice, investigate equipment theft and administer the arrears disconnection and reconnection programme.

Buffalo City Municipality has a customer base of approximately 167000 customers, of which 15000 are credit metered and the balance of 152000 customers are prepayment metered. A large percentage (32%) of our total customer base is EBSST customers who receive 50 kWh's per month in free electricity.

2 NON TECHNICAL LOSSES

Non technical losses at Buffalo City Municipality are estimated at a three month moving average of 0.71% (as at end Feb 2010), which equates to some R1.7 million rand per month. Since my employment with Buffalo City Municipality in March 2008 my team have aggressively targeted our large power users and have to-date recovered in excess of R15 million. Some notable "finds" have been the identification of an installed meter which has not been billed for electricity consumption since 1987 (23 years!) and a large individual recovery in excess of R2 million.

On paper, our non-technical losses are exceptionally low. Although I would like to say this figure is correct, in reality, this figure is distorted by the recorded over reading of our credit meters. I can categorically say that this figure is not correct and is in fact much higher.

With reference to the table below, credit metered consumption accounts for approximately 70% of Buffalo City Municipality's total purchases. The balance is made up of prepayment sales at 21%, EBSST Sales at 2%, street lighting at 1.5% and technical losses estimated at 5%. From these figures, one can deduce a problem in the prepayment metered customer base and it is now our intention to target this area of our business more aggressively.

The Revenue Protection section has set itself a target of recovering an estimated R66 million lost in non billed electricity consumption and electricity theft over the prescription period.

**ANNEXURE A – BUFFALO CITY MUNICIPALITY’S NON TECHNICAL LOSSES
(% per category)**

Month	Eskom Input %	Technical Losses 5%	Street Lighting% (est1.5%)	Credit Sales	Prepay Sales	EBSST Sales	Non Technical Losses
Jan 09	100.00%	5.00%	1.5%	58.23%	21.03%	1.64%	12.60%
Feb 09	100.00%	5.00%	1.5%	76.97%	20.88%	1.75%	-6.09%
Mar 09	100.00%	5.00%	1.5%	61.53%	21.41%	1.59%	8.97%
Apr 09	100.00%	5.00%	1.5%	71.46%	23.01%	1.76%	-2.72%
May 09	100.00%	5.00%	1.5%	58.15%	23.95%	1.64%	9.76%
Jun 09	100.00%	5.00%	1.5%	65.76%	29.40%	1.67%	-3.33%
Jul 09	100.00%	5.00%	1.5%	53.88%	19.11%	1.56%	18.96%
Aug 09	100.00%	5.00%	1.5%	63.79%	23.11%	1.63%	4.96%
Sep 09	100.00%	5.00%	1.5%	67.95%	24.05%	1.76%	-0.26%
Oct 09	100.00%	5.00%	1.5%	56.12%	22.46%	1.63%	13.28%
Nov 09	100.00%	5.00%	1.5%	64.71%	22.75%	1.68%	4.36%
Dec 10	100.00%	5.00%	1.5%	67.24%	26.51%	1.83%	-2.08%
Jan 10	100.00%	5.00%	1.5%	58.46%	23.89%	1.79%	9.36%
Feb 10	100.00%	5.00%	1.5%	73.17%	23.59%	1.88%	-5.14%

3 FACTORS THAT INFLUENCE NON TECHNICAL “LOSSES”

There are numerous factors which influence non technical losses at Buffalo City Municipality. The obvious ones are data base errors, faulty electrical installations illegal connections and meter tampering.

I have also previously mentioned the over averaging of our credit meters. If meters are not timeously and accurately read, then our Finance staff estimate an account for billing. In most cases where accurate meter reading data is unavailable, consumption for these meters is over averaged. The net result of this is that we get a very positive consumption “gain” in this sector, until an accurate meter reading is obtained and a credit passed. Although this problem does not result in non technical losses, this practice does dramatically influence the monthly recorded non technical loss statistics (+/- 25%). When meters are over averaged, the loss report looks good but when actual readings are physically taken, we often get un-realistic losses for that month, which are sometimes adjusted to look more in sequence with the “norm”.

Where tampering is identified and relevant back dated consumption charges billed, this extra billed consumption is not being reflected in our Finance Department’s monthly consumption stats and are presently being excluded in Council reported non-technical loss statistics. If these stats are not being reflected on monthly consumption reports, how do we know that we are winning in our revenue protection campaign?

With reference to our large power user customer base, our existing Revenue Protection staff are lacking in some technical skills. To solve this problem, a changed organogram has been recommended and accepted. This is presently being implemented and will see Revenue Protection acquiring the skills of four qualified electricians and two additional senior supervisory staff.

Illegal connections are on the increase. In Duncan Village alone there are approximately 22 000 illegally connected electricity supplies. We are not alone in this trend with many of the other municipalities voicing their concerns about illegal connections being on the increase. How can we endeavour to supply our legal customers and comply with various NRS specifications if our installed network capacity is constantly overloaded? We cannot and consequently fail in our service delivery campaign. This failure results in the political backlash from pressurised politicians, who are at the cold front in sorting out community problems.

With Eskom's recent tariff hikes, meter tampering is also on the increase. A lack in our operating budget to inspect electrical installations has also compounded this problem. If no penalty action is taken against illegal electricity users then illegal electricity consumption will escalate. This will and has affected our service delivery to the paying customers.

4 ILLEGAL ELECTRICITY SERVICES

When the Electricity Act was repealed in early 2009, Buffalo City Municipality had the unfortunate circumstance of not having any enforceable Bylaws in place to cater for illegal electricity connections. To solve this predicament, new Electricity Bylaws were promulgated in December 2009 which now enables Revenue Protection to have a platform on which to make arrests and to enforce the law.

What is our action plan to reduce illegal electricity services? The obvious plan of action is to legalise service connections to areas where the customers do not have security of tenure. In fact, the Buffalo City Executive Council has been proactive in this regard and has agreed in principal to this approach. Our Electricity Planning section is presently conducting a feasibility study on how to run a new electricity network into highly populated shack areas.

Our Housing Department is also faced with the problem of having only planned to formalise some 5000 of the 22000 existing shacks. Approximately 17 000 shack owners will have to be relocated and this in itself will be a political challenge. Unfortunately the formalisation and relocation strategies are long term solutions to the problem at hand.

The short term solution is to introduce a penalty system and to enforce this approach. The emphasis of this approach is enforcement. To support this, I would like to quote Mr Ian Davies from Campbell Davies Consulting, in his recent article (March 2010) in the Energize magazine relating to the problem of non-payment in the TED (Transitional Electricity Distributor) and I quote,

“People who did not pay (for electricity) were not suffering any consequences”.

So, what is Buffalo City's strategy to enforce a penalty system? Having previously worked some 19 years at eThekweni Electricity as one of their Revenue Protection Managers, the previous Electricity Departmental Head, Mr Howard Whitehead suggested that we needed to serve a summons fine on people who were stealing electricity, similar to how a traffic fine is issued. It was his belief that this was a workable solution to the problem at hand.

To adopt this strategy, Buffalo City Municipality are in the process of accepting an Electricity Bylaws fines list. With reference to Annexure B, this fines list covers all aspects of the Electricity Bylaws and covers amongst other items, fines for illegal connections, fines for meter rooms being used as storage areas and fines for businesses with a bad power factor etc.

Numerous consultative meetings have taken place with the East London Chief Magistrate and Chief Prosecutor, along with Buffalo City Municipality's Law Enforcement Department. It has been agreed in principal that Electricity Bylaw fines should be restricted to a maximum amount of R1500 and the minimum should be "reachable", taking cognisance of the circumstances of the offenders to whom we would be serving fines on. It would be fruitless to serve a fine of R1500 on a person who is stealing electricity, knowing full well that the person does not have the capability of paying the fine. We have agreed in principal that a minimum fine of R500 would be enforced on people who steal electricity from an illegally connected electricity service.

A Council report has been tabled for Council to adopt this enforcement strategy and this should be approved by end June 2010. Once approved, all three magisterial districts in the Buffalo City Municipality supply area have to approve the recommended fines list before we can issue the first fine. Once the Buffalo City Municipality has approved this approach, the Chief Magistrate's Office has indicated that it is then merely a formality to implement and should be done within two months. The Revenue Protection Section then has the responsibility to administer the fines list in its entirety.

Prior to the implementation of the first fine being served, an intensive marketing campaign will be conducted in problematic areas. Fines will then be issued to Bylaw transgressors by trained Revenue Protection Peace Officers. In instances where a served fine is not paid by a transgressor and after two previous un-paid fines, it is agreed that the Peace Officer formally escort these people to Court, where magistrates can enforce the law.

This approach is also being adopted by our Storm Water and Sewerage Departments but should not be limited to these Department's alone, as I see this also working for illegal supply water problems.

ANNEXURE B – PROPOSED ELECTRICITY BYLAW FINES LIST

OFFENCE DESCRIPTION	RELEVANT SECTION OF BYLAW/BILL/ACT	FINE AMOUNT (incl. VAT)
A		
Appliance with a rating greater than 15KVA connected to the network without approval	Section 49 of the Electricity Bylaws	R500
D		
Damage to Buffalo City Municipality's installed equipment	Section 41 of the Electricity Bylaws	R500
I		
Using or making an illegal electrical service connection	Section 29/62 of the Electricity Bylaws	R500
Illegal reconnection of a disconnected service	Section 30 of the Electricity Bylaws	R500
Interference with other consumer's equipment	Section 50 of the Electricity Bylaws	R300
F		
Failure to comply with issued notice	Section 7 of the Electricity Bylaws	R200
Failure to register as a new electricity user after a two week grace period has elapsed	Section 44 of the Electricity Bylaws	R500
I		
Improper use of electricity	Section 15 of the Electricity Bylaws	R500
Incorrect power factor at business premises	Section 52 of the Electricity Bylaws	R1000
P		
Property Access to inspect equipment is denied	Section 12 of the Electricity Bylaws	R300
R		
Refusing to provide information	Section 13 of the Electricity Bylaws	R200
Rendering false information	Section 13 of the Electricity Bylaws	R200
Refusal of admittance	Section 14 of the Electricity Bylaws	R200
Restricted access to meter room	Section 47 of the Electricity Bylaws	R200
Resale of electricity without licence or approval	Section 20 of the Electricity Bylaws	R200
S		
Selling or supplying electricity without authority	Section 20 of the Electricity Bylaws	R500
Standby equipment connected to network without authority	Section 39 of the Electricity Bylaws	R500

U		
Use of an electricity supply without having signed a consumer agreement with Buffalo City Municipality	Section 5 of the Electricity Bylaws	R200
Un-kept substation equipment accommodation room	Section 36 of the Electricity Bylaws	R200
Un-kept meter rooms	Section 47 of the Electricity Bylaws	R200
Unlocked meter rooms	Section 47 of the Electricity Bylaws	R200

5 USE OF CCTV TECHNOLOGY IN MAKING ARRESTS

Once the proposed fines list has been adopted, we then need to identify the illegal connectors and for this CCTV technology is being investigated.

The high end solution to this is the use of high definition CCTV monitoring equipment whereby surveillance equipment similar to AVIGILON technology would be used to identify suspects resulting in respective fines being imposed. This technology would be manned or un-manned from a remote site. The advantage of this system is the clarity of the picture used in indentifying suspects. The disadvantage is obviously the cost which is around R200 000 per camera set up.

The low end solution is to install cheap cameras with a DVR recorder at pole top positions in steel enclosures. This camera system will work on motion detection along the line and will record the suspect's image once motion is detected. i.e. when some one places a hook type connection onto our bare copper OHM.

6 SUMMARY

It is envisaged that by implementing a fines list strategy and by enforcing the local Bylaws by imposing "reachable" fines`, that this approach will reduce the illegal connections until the long term solution can be brought to finality. This short term goal will hopefully assist Buffalo City municipality in its service delivery campaign to existing paying customers and will provide other service units with the means to enforce their own Bylaws.

ANNEXURE A – BUFFALO CITY MUNICIPALITY’S NON TECHNICAL LOSSES (GRAPHICAL)



