

**AN ASSESSMENT OF THE SYSTEM OF BILLING FOR BASIC  
SERVICES IN THE NELSON MANDELA BAY MUNICIPALITY**

BY

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## **DECLARATION**

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In accordance with Rule G4.6.3, I hereby declare that the above-mentioned thesis is my own work and that it has not previously been submitted for assessment to another University or for another qualification.



N.D. Ntenge

**DATE:** April 2018

## **DEDICATION**

This work is dedicated to my late father

Mlindeli Elphus Dunga.

## **ACKNOWLEDGEMENTS**

Lord Almighty what a wonderful God You are, You are merciful and faithful to me from day one, thank you for giving me strength throughout my studies.

To my supervisor Professor R.S. Masango, thank you so much for your patience, advise, guidance and support. It was a wonderful journey.

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My one and only daughter Aluncedo, and my two sons, Lithemba and Lufefe, you are the reason why I live. I thank God Almighty for blessing me with such beautiful, souls.

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## **ABSTRACT**

The study focussed on the system of billing for basic services in the Nelson Mandela bay Municipality. The role of the municipality in the provision of basic services to the community and how communities are supposed to be billed for the basic services is explained. The research problem has also been identified and explained. The study reviewed the literature on the system of billing for basic services. In that processes, municipal by-laws, relevant books and internet sources were consulted.

The researcher used qualitative research methodology: face to face and telephonic interviews were used during the research. 4 meter readers from the NMBM as well as 3 meter readers from each of the 3 contractors were interviewed. The researcher also interviewed 15 consumers whose accounts have been billed on estimations, 2 pre-billing and 2 post billing clerks as well as one administration worker from each of the three contractors. The Assistant Director of Meter Services and the Director of Revenue Management and Customer Care were also interviewed.

Research findings revealed that meter readers were trained and only a few felt that they needed more training in meter reading. Various challenges were revealed by meter readers as the causes of the incorrect billing of consumers' accounts. Incorrect meter linkage and inaccessibility of water and electricity meters to meter readers were also reasons for the unending queues on the enquiry counters in the Nelson Mandela Bay Customer Care Centres.

It has been highly recommended that the NMBM review the meter reading function and ensure that every meter reader is highly trained and equipped with the equipment needed to perform the function. It has also been recommended that those electricity meters that are inside houses, be placed outside or in an accessible place. The keys can be given to meter readers with a spare key to be kept by the owner of the property. All water meters should be placed outside the yard so that they are easily accessible to the meter readers at any given time.

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## **LIST OF ABBREVIATIONS**

AMR:	Automatic Meter Reading
CBS:	Consolidated Billing System
HTT's:	Hand-Held Terminals
IVR:	Interactive Voice Response
NMBM:	Nelson Mandela Bay Municipality
RMCC:	Revenue Management and Customer Care

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 INTRODUCTION AND BACK GROUND**

This study seeks to assess the billing system for basic services at the Nelson Mandela Bay Municipality (NMBM). Section 153(a) of the Constitution of the Republic of South Africa it is stated that a municipality must structure and manage its administration, budgeting and planning processes to give priority to the basic needs of the community and promote the social and economic development of the community. As the sphere of government closest to the people, a municipality must render basic services to its community. Local governments are the spheres of government which are closer to communities and they play a critical role in democracy.

Municipalities are expected to be self-funding and they raise money from three sources, being water, electricity and rates. In the Nelson Mandela Bay Municipality water and electricity meters are supposed to be read monthly by meter readers so that the consumer can be billed correctly and according to what he or she has consumed. The pre-billing and post-billing sections in Metered Services deal with the submitted readings and rectification of the accounts. The Infrastructure and Engineering department as well as Water Works department must work hand in hand with the meter reading section in Metered Services so that the NMBM bills the consumers accurately. The consumer should pay the required amount to the municipality. If they do not, the municipality may charge interest on the consumer's account, or terminate or suspend its services. The purpose of this study is to assess the system of billing for basic services in the Nelson Mandela Bay Municipality from 2013 to 2015.

#### **1.2 PROBLEM STATEMENT**

The billing for municipal services which includes water and electricity is a matter which tends to raise concern for some Nelson Mandela Bay Municipal residents. This is due to incidents of incorrect billing of consumer's account, or high and low estimations on consumer's accounts, which in some instances is due to incorrect meter reading information provided by meter readers in the billing system. In some cases one consumer may be billed for two meters and other consumers are billed for meters that

do not belong to them. This scenario sometimes leads to the termination and suspension of services by the municipality due to non-payment of accounts by consumers. The errors in the billing system lead to numerous complaints from municipal residents about municipal bills for the basic services. Should the situation not be resolved, municipal residents may become disgruntled about municipal service delivery. The aim of the study is to assess the system of billing for services in the Nelson Mandela Bay Municipality hence the problem to be addresses in this study is:

*What is the effectiveness of billing for basic services in the Nelson Mandela Bay Municipality?*

### **1.3 OBJECTIVES OF THE STUDY**

The objectives of the study were:

- To analyse the Nelson Mandela Bay Municipality's system of billing for basic services.
- To assess the respective roles of the various role-players in the Nelson Mandela Bay Municipality's system of billing for basic services.
- To investigate and analyse factors influencing the billing for basic services in the Nelson Mandela Bay Municipality.
- To investigate the challenges facing the system of billing for basic services in the Nelson Mandela Bay Municipality.

### **1.4 RESEARCH QUESTIONS**

The research questions for the study are:

- What are the processes followed by the NMBM in billing the consumers for basic services?
- What are the respective roles of the various role-players in the system of billing for basic services?
- What are the factors influencing the billing for basic services?
- What are the challenges encountered in the system of billing for basic services?



## **1.5 LITERATURE REVIEW**

In this study, related and relevant literature such as books, government policies, articles and websites were consulted. The literature review assisted the researcher to describe the billing system and what causes the incorrect billing of accounts in the NMBM. Relevant books on municipal administration and municipal finance, publications, legislations and previous research reports were consulted to determine whether this research topic has been researched before.

Government policies which included, the Municipal Finance Management Act (No. 56 of 2003) (MFMA) and the Constitution of the Republic of South Africa Act (No. 108 of 1996), the Local Government White Paper of 1998, the Revenue Management and Customer Care By-Law 2005, as well as the Local Government Municipal Systems Act,(No. 32 of 2000) and the Water Services Act (No. 108 of 1997) were consulted.

The Constitution of the Republic of South Africa Act (No. 108 of 1996) highlights the objectives of local government which are:

- To provide democratic and accountable government for local communities.
- To ensure the provision of services to communities in a sustainable manner.
- To promote social and economic development.
- To promote a safe and healthy environment.
- To encourage the involvement of the community and community organizations in the matters of local government.

Section 229 of the Constitution of the Republic of South Africa, 1996, deals with municipal fiscal powers and functions, which states that the municipalities may impose rates on property and surcharges on fees for services provided by the municipality. The Water Services Act (No.108 of 1997) affords the right of access to basic water supply and basic sanitation. Sufficient water and an environment not harmful to health or well-being is necessary. Government should ensure that water supply services and sanitation services are provided in a manner that is efficient, equitable and sustainable.

The Municipal Systems Act (No. 32 of 2000) defines municipal services as services which are necessary. These services must be:

- Accessible and equitable
- Financially sustainable
- Provided in a manner that is conducive.

The Constitution provides the right for municipalities to enact by-laws, and the Revenue Management and Customer Care By–Law of 2005 provides that the account holder must pay all amounts due to the municipality as reflected in the municipal account. Because municipalities are expected to raise their own funds, consumer payments are important. The Municipal Systems Act (Act 32 of 2000), chapter 8 provides the mechanisms for provision of municipal services. An external mechanism can be selected, which means a municipality may enter into a service delivery agreement with:

- a municipal entity.
- another municipality.
- an organ of state.
- a community –based organization or other non-governmental organization legally competent to enter into such agreements or,
- any other institution, entity or person legally competent to operate a business activity.

According to the Municipal Systems Act (Act 32 of 2000), when a municipality decides in terms of subsection (2)(b) to explore the possibility of providing the services through an external mechanism it must:

- Give notice to the local community of its intention to explore the provision of the services through an external mechanism.
- Assess the different services delivery option in terms of section 76 (b) taking into account:
  - The direct and indirect costs and benefits associated with the project, including the effect of any service delivery mechanism on the environment and on human health, well-being and safety.

- The capacity and potential future capacity of prospective service providers to furnish the skills, expertise and resources necessary for the provision of the service.
- The views of the local community.
- The likely impact on development and employment patterns in the municipality and
- The views of organized labour.

Fourie, Opperman and Scott (2007:173) argue that the reading of meters is a fundamental link in the metered services operation of municipalities. It is the reading of meters that determines what the consumer will ultimately pay. It is of the utmost importance that this function should at all times be performed in a manner which is open and transparent to ensure that no suspicions or ill-feelings are engendered amongst the community. Fourie et al. (2007:174) highlight the steps of meter reading. The steps of meter reading include:

- Meter-reading timetables.
- Meter-reading periods.
- Meter-reading routes.
- Meter-reading sheets and
- Capture of meter-reading.

Municipalities are supposed to be self-funding and they may impose tariffs for water and electricity. Fourie et al. (2007:167) provide that in terms of Section 74 of the MSA, the council of a municipality must adopt and implement a tariff policy and the levying of fees for the services provided by a municipality itself or by way of service delivery agreements. Section 75 of the same Act requires a municipality council to adopt by-laws to give effect to the implementation and enforcement of its tariff policy. The consumer should be charged for the right meter and the reading must be taken monthly by the meter readers so that the consumer can be billed and charged correctly with the right tariff. Fourie et al. (2007:177) also state that an approved table of tariffs and charges for each service must be kept on the municipality's database, and must be updated as each amendment to existing tariffs is approved or new tariffs are introduced. Reedy (1996:201) argues that the primary objective of consumer tariffs is

that they should yield adequate revenue to cover the costs of supplying such services to consumers. According to Gildenhuys (1997:20-23) electricity supply activities include:

- Provision and maintenance of an electricity supply network.
- Building and maintaining high and low voltage conductors.
- Building and maintaining substations.
- Inspection of electrical wiring of buildings and
- Supply and maintenance of streetlights.

Water supply activities include:

- Construction and maintenance of bulk water supply
- Construction and maintenance of water reticulation networks
- Supplying water connections to individual consumers.

A municipality may charge a consumer for the service that the municipality renders, and the consumer must be charged for the usage of water and electricity. Fourie et al. (2007:170) state that a municipality may impose a fixed charge per property or per water connection to cover the fixed costs and a consumption charge per kilolitre consumed. A fixed charge could vary according to the size of the property and class of consumer (business, industrial, domestic). As in the case of water consumption, in electricity the first 50 kWh of domestic consumption per month is often free of charge (free basic services) although some municipalities do not provide free services to account holders who are not registered or identified indigents (Fourie, 2007:171).

## **1.6 RESEARCH METHODOLOGY**

Research Methodology refers to the way in which the researcher plans to gather material or information. To achieve the objectives of this study the researcher will use a qualitative approach. According to Bless, Smith and Sithole (2013:16) a qualitative approach is more flexible and circular. The researcher investigates a problem from the respondent's point of view and the focus of such a study is to determine what respondents think and feel about a particular phenomenon or issue. The qualitative approach relies more on verbal data rather than on numeric data.

According to Dooley (1995:25), qualitative research refers to social research based on field observations analysed without statistics. The advantages of qualitative research are that it entails direct observation and relatively unstructured interviewing in a natural field setting. In a qualitative approach, a problem is investigated from the respondent's point of view (Bless et al., 2013:16).

### 1.6.1 Population

The population is the group of people that a researcher wants to generalize. It is also known as a well-defined collection of individuals or objects known to have similar characteristics. A research population is generally a large collection of individuals or objects that is the main focus of a scientific query. Due to the large size of populations, researchers often cannot test every individual in the population because it is too expensive and time consuming (<http://explorable.com>).

In research there are two types of populations, the target population and the accessible population (<http://explorable.com>).

- **Target population:** refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusion, it usually has varying characteristics and is also known as the theoretical population.
- **Accessible population:** refers to the population in research to which the researcher can apply their conclusions. This population is a subset of the target population and is also known as the study population. It is from the accessible population that researchers draw their samples.

In this study, the researcher selected a sample or sub-group of the population that was likely to represent the target population in which the researcher was interested. The target group for this study included meter readers and contract meter readers, municipal officials in Metered Services, consumers or customers of water and electricity services offered by the NMBM municipality, and the Director of Revenue Management and Customer Care.

### 1.6.2 Sampling

Sampling is the process of selecting units for an example (people, organization) from a population of interest. By studying the sample, the researcher may fairly generalize the results back to the population from which they were chosen ([www.socialresearchmethods.net](http://www.socialresearchmethods.net)).

The main function of the sample is to allow researchers to conduct the study on individuals from the population so that the results of the study can be used to derive conclusions that will apply to the entire population. This study used non-probability sampling. In this type of sampling, members of the population do not have equal chance of being selected since it is not safe to assume that the sample fully represents the target population. It is also possible that the researcher deliberately chose the individuals that will participate in the study (<https://explorable.com>).

The researcher chose the individuals that participated in the study by using purposive sampling. According to Leedy (2005:206), in purposive sampling, people or other units are chosen as the name implies, for a particular purpose. The researcher used the maximum variation sampling method to choose her participants. The maximum variation sampling is also known as *heterogeneous sampling*. This is a purposive sampling technique used to capture a wide range of perspectives relating to the thing that the researcher is interested in studying. Maximum variation sampling is a search for variation in perspectives, ranging from those conditions that are viewed to be typical through to those that are more extreme in nature. Conditions refer to units which are people, cases/organisations, events, or pieces of data that are of interest to the researcher. These units may exhibit a wide range of attributes, behaviours, experiences, incidents, qualities, situations and so forth. The basic principle behind maximum variation sampling is to gain greater insight into a phenomenon by looking at it from all angles ([www.dissertation.laerd.com](http://www.dissertation.laerd.com)).

In this study 4 meter readers from the NMBM as well as 3 meter readers from each of the 3 contracted companies were selected to participate in the study. The researcher also interviewed 15 consumers whose accounts have been billed on estimations. 2 pre-billing and 2 post billing clerks were chosen to participate as well as one admin worker from each of the three contracted companies to find out how they deal with the

readings they receive from the meter readers and what they do when consumer accounts are billed incorrectly. The Assistant Director of Meter Services and the Director of Revenue Management and Customer Care was also interviewed to find out how the inconsistency in billing of basic services has affected the revenue of the NMBM. They were also questioned on how the outsourcing of meter reading function has affected revenue and service delivery to the community. The total number of respondents for this study was 37. The researcher considered this to be an adequate number of participants for a study of this nature.

### **1.6.3 Research instrument**

Interviews were used as a research instrument in this study. The purpose of research interviews is to explore the views, experience, beliefs and /or motivations of individuals on specific matters. Qualitative methods such as interviews are believed to provide a deeper understanding of social phenomena than would be obtained from purely quantitative methods, such as questionnaires. Interviews are most appropriate where little is already known about the study phenomenon or where detailed insights are required from individual participants (www.nature.com).

Leedy and Ormrod (2005:146) argue that interviews can yield a great deal of useful information. Interviews in a qualitative study are rarely as structured as the interviews conducted in a quantitative study. Instead they are either open-ended or semi-structured in a latter case revolving around a few central questions (Leedy & Ormrod, 2005:146). Semi-structured interviews consist of several key questions that help define the areas to be explored, but also allow the interviewer or interviewee to diverge in order to pursue an idea or response in more detail. The flexibility of this approach, particularly compared to structured interviews, also allows for the discovery or elaboration of information that is important to participants but may not have previously been thought of as pertinent by the research team (www.nature.com). In this study the researcher used semi-structured interviews.

## **1.7 ETHICAL CONSIDERATION**

Ethical consideration involves maintaining the anonymity of test subjects while administering surveys or tests. It also includes getting permission from a company's governing board to do research (www.ask.com).

Social and medical research have created a number of key phrases that describe the system of ethical protections to try to better protect the rights of research participants:

- **Voluntary participation:** requires people not to be forced into participating in research, this is especially relevant where researchers had previously relied on a captive audience for their subjects, for example prisons, universities and so on.
- **Informed consent:** this is closely related to the notion of voluntary participation, this means that prospective research participants must be fully informed about the procedures and risks involved in research and must give their consent to participate ([www.socialresearchmethods.net](http://www.socialresearchmethods.net)).

Ethical standards also require that researchers do not put participants in a situation where they might be at risk of harm as a result of their participation. Almost all research guarantees the participant's confidentiality. The participants must be assured that identity information will not be made available to anyone who is not directly involved in the study. A stricter standard is the principle of anonymity which essentially means that the participant will remain anonymous throughout the study, even to the researchers themselves, but anonymity is sometimes difficult to accomplish ([www.socialresearchmethods.net](http://www.socialresearchmethods.net)).

In this study, the researcher protected the rights of the research participants. The participants were not forced by the researcher to participate in the study. The researcher also informed the participants about any potential risks involved in the research. The researcher kept the names of the respondents confidential and informed them that the information obtained will be used for research purposes only.

## **1.8 OVERVIEW OF CHAPTERS**

### **Chapter 1: Introduction**

This chapter introduced the study and provided the background as well as the research problem.

### **Chapter 2: Literature review**

This chapter deals with the existing literature and written legislation of the subject under investigation.



**Chapter 3: Research Methodology**

In this chapter the methodology used for undertaking this study is presented in detail.

**Chapter 4: Data collection and interpretation**

In this chapter information obtained from interviews is presented.

**Chapter 5: Conclusion and Recommendation**

In the last chapter conclusions and recommendations are made.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

According to Ulbrich (2003:272) governments rely on heavily on various kinds of fees and charges to help finance services at all levels of government, from grazing fees on federal lands to dog licenses issued at local municipalities. In many of these cases, a part of government is being run like a business, with signals about demand conveyed through the prices people are willing to pay for services ranging from garbage pickup to airport landing fees. This chapter focuses on literature that deals with the system of billing for basic services in a municipality. The aim is to support the research with a theoretical foundation.

Section 229 (2) of the Constitution of the Republic of South Africa (Act 108 of 1996) affords a municipality fiscal powers and functions. It states that a municipality may impose rates on property and surcharges on fees for services provided by a municipality. The government must ensure that basic services such as water supply and sanitation, electricity, and refuse are provided in a manner that is efficient and sustainable. For a municipality to run efficiently and effectively the services provided must be paid for by the consumers hence a municipality has to charge the consumers for rendered services. A consumer should be charged according the amount he/she consumed and the details of the erf/stand number and meter number linked to the consumer must be correct.

The objectives of this study are to analyse the system of billing for basic services, assess the respective roles of various role-players, investigate the challenges facing the system of billing for basic services and analyse the factors that influence the billing for basic services in the Nelson Mandela Bay Municipality.

## **2.2 MUNICIPAL FUNCTIONS AND SERVICE CHARGES**

Local government is the sphere of government that is closest to the people. Municipality is where service delivery begins and municipalities are obliged to deliver basic services to its communities. Section 153(a) of the Constitution of the Republic of South Africa, (Act 108 of 1996) states that a municipality must structure and manage its administration and budgeting and planning processes to give priority to the basic needs of the community and to promote the social and economic development of the community. In order for NMBM to exercise its powers and function properly it has to follow the guidelines provided by the constitution in Section 156 of the Constitution of South Africa.

### **2.2.1 Functions of a municipality**

The Municipal Systems Act (Act 32 of 2000), Chapter 3(3) provides that a municipality may exercise legislative or executive authority by:

- a) Developing and adopting policies, plans, strategies and programmes, including setting targets for delivery,
- b) Promoting and undertaking development,
- c) Establishing and maintaining an administration,
- d) Administering and regulating its internal affairs and the local government affairs of the local community,
- e) Implementing applicable national and provincial legislation and its by-laws,
- f) Providing municipal services to the local community or appointing appropriate service providers in accordance with the criteria and process set out in section 78,
- g) Monitoring and where appropriate, regulating municipal services where those services are provided by service providers other than the municipality,
- h) Preparing, approving and implementing its budgets,
- i) Imposing and recovering rates, taxes, levies, duties, service fees and surcharges fees, including setting and implementing tariffs, rates and tax and debt collection policies,
- j) Monitoring the impact and effectiveness of any services, policies, programmes or plans,

- k) Establishing and implementing performance management systems,
- l) Promoting safe and healthy environment,
- m) Passing by-laws and taking decisions on any of the above-mentioned matters,
- n) Doing anything else within its legislative and executive competence.

One of the functions of a municipality as mentioned above includes the imposing of rates, taxes, levies, service fees and surcharges. Section 229 of the Constitution of the Republic of South Africa, (Act 108 of 1996) affords a municipality the right to impose rates on property and surcharges on fees for services provided by or on behalf of the municipality. This helps a municipality to collect revenue by billing consumers for services rendered to them by the municipality. According to Gildenhuys (1997:16) a local government must render typical line function services to the public. In support of these, public services must be rendered to the line function departments. These services may be classified along the same lines as functions, namely:

- Control and protection services
- Social welfare services
- Economic welfare services
- Supporting services

### **2.2.2 Service charges**

Municipal Systems Act (Act 32 of 2000) defines basic municipal services as services necessary to ensure an acceptable and reasonable quality of life, that if not provided would endanger the public health and safety of the environment.

Gildenhuys (1997:98) states that some services are supplied by the local governments to the public in a direct exchange relationship between local government and taxpayer. The relationship in this regard is one of free contracting between local government as a supplier of the services and the user or consumer as the buyer. Gildenhuys further states that the public usually pays a price for such services, known as ***user charges***, ***consumer tariffs*** and ***levies***. Ngxongo (2003:24) explains further:

- User charges: are the amounts charged for using public services such as fire protection, health, environmental, educational and preventive health services.

- Consumer tariffs: are amounts charged for services which must be reproduced as their consumption continues. They are intended to cover the cost of supplying relevant services to the consumer. These tariffs are charged for water, sewerage and electricity.
- Nominal levies: are amounts charged for sporadically rendered services such as special requests, or privileges or rights given to an individual or business enterprise. Services in this category include trading licenses, dog licenses, building plan fees and searching fees.
- Sundry revenues: are randomly determined revenues such as public library membership fees, rent for the lease of sporting facilities and registration fees.

### **2.3 MUNICIPAL POWERS**

Section 229 (2) of the Constitution of South Africa (Act 108 of 1996) states that a municipality has fiscal powers and functions and may impose rates on property and surcharges on fees for services provided by the municipality. As much as it is a constitutional right for people to have access to clean water, electricity and sanitation, a municipality has the right to bill the consumer for services rendered to him/her. The policy of Revenue Management and Customer Care of the Nelson Mandela Bay Municipality states that an account holder must pay for metered services, assessment rates, other municipal charges, levies, fees, fines, interest, taxes or any other liability or obligation from the date of origin of such municipal charges until the written termination of the services.

According to Ismail, Bayat and Meyer (1997:66), local authorities have the right, on their own initiative, to manage the affairs of their constituents, subject to national and provisional legislation. The ability or right to exercise their powers or to perform their functions shall neither be impeded nor compromised by the national or provincial governments.

### **2.4 MUNICIPAL SERVICES AND TARIFFS**

The Municipal Systems Act (Act 32 of 2000) defines basic municipal services as services that are necessary to ensure an acceptable and reasonable quality of life, and that if not provided, would endanger the public health and safety of the

environment. According to Ngxongo (2003:27), municipalities have an obligation to provide services to their communities through the relevant service departments, which may include finance, traffic, safety, environment, health, engineering, culture and housing departments.

According to Gildenhuys (1997:97) taxes are paid because local governments have the power to collect them (by force, if necessary) to pay the costs of collective public services. Therefore, taxation does not form part of a direct exchange relationship between local government and taxpayer. However, there are some services which are supplied by local governments to the public in a direct exchange relationship. This relationship is one of free contracting between local government as the supplier of the services and the user or consumer as the buyer.

#### **2.4.1 Property Rates**

Rates are part of the services that are paid by the property owner to the municipality. Rates are levied annually in the NMBM, from 1<sup>st</sup> July of every year till the 30<sup>th</sup> June of the following year. The Revenue Management and Customer Care By-Law states that:

- 1) Joint owners of property are jointly and severally liable for payment of assessment rates.
- 2) Assessment rates are levied annually as a single amount and are payable as such, or could be paid monthly by arrangement.
- 3) Payment of assessment rates may not be deferred beyond the due date by reason of an objection to the valuation of the property appearing on the Valuation Roll.

According to Fourie and Opperman (2007:160) rates can be levied on an annual basis, at six –monthly intervals, or the common practice which is to prepare monthly rate accounts. Such accounts can either be presented to the ratepayers as a separate account (usually also including sewerage and refuse removal charges), or as part of a consolidated account including all service charges.

#### **2.4.2 Water and Electricity tariffs**

Water and electricity are charged according to a certain tariff that the municipality uses. The tariff changes and escalates every financial year. Fourie and Opperman (2007:170) state that for both types of services there are so-called costs or overheads, including maintenance, depreciation of fixed assets, finance charges on external loans and so on. These expenses are incurred irrespective of whether consumption is high or low. On the other hand, there are also variable or direct costs such as the bulk purchases of electricity and water which are in direct proportion to the volume of the service used by the consumers.

According to Gildenhuys (1997:102), the primary and only objective of consumer tariffs is that they should yield enough revenue to pay the full costs of supplying such services to individual consumers. For this reason it is necessary to keep separate operational accounts for each service and the purpose is for each consumer to pay the full cost of each unit of the particular service consumed. The Nelson Mandela Bay Municipality Tariff by-law highlights the tariff principles based on the tariff policy set out in section 74(2) of the Municipal Systems Act 32 of 2000 which are as follows:

- a) All users of municipal services must be treated equitably in the application of tariffs, and the categories of users must pay the same charges based on the same cost structure;
- b) The amount payable must be in proportion to usage, and based on the tariff structure adopted for the approved category of users;
- c) Unless subsidized, tariffs must reflect the total cost of services;
- d) Tariffs must be set at a level that facilitates the sustainability of services;
- e) Sustainability must be achieved by ensuring that:
  - cash inflows cover cash outflows, which means that sufficient provision for working capital or bad debts must be made, and
  - access to the capital market is maintained by providing for the repayment of capital, maintaining sufficient liquidity levels and making profits on trading services.

- f) Provision must be made in appropriate circumstances for surcharges on a tariff when necessary for major breakdowns in infrastructure, and periods of drought when restriction of usage is required;
- g) Efficient and effective use of resources may be encouraged by employing stepped tariffs in order to prevent exorbitant use;
- h) The extent of subsidisation of tariffs may be disclosed by publishing the true costs of the service and level of the subsidy as well as the source of the subsidy.

The NMBM Tariff Bylaw states that services must be provided for the following classification services and cost elements:

a. Trading services:

- Electricity
- Water
- Market

b) Economic services

- Refuse removal
- Sewerage disposal
- Recreation resorts

c) Community services

d) Subsidised services

- Libraries
- Primary health care
- Proclaimed roads

According to the NMBM Tariff by-law, to calculate the tariffs of the different services, cost elements should be used as follows:

- a) Fixed costs, which consist of the capital costs, interest on external loans as well as depreciation, whichever are applicable on the service and any other



costs of a permanent nature as determined by the Chief Financial Officer from time to time.

- b) Variable cost: this includes all the variable costs that have reference to the service.
- c) Total cost is equal to the fixed cost plus variable cost.

#### **2.4.2.1 Water tariffs**

Municipalities are supposed to be self-funding hence they may impose tariffs for water. A municipality may impose a fixed charge per property or per water connection to cover fixed costs, and a consumption charge per kiloliter consumed (Fourie and Opperman 2007:170). The fixed charge may vary subject to the size of the property and depending on whether the consumer consumes as a business, domestic household or industrial. Water is charged for on different tariffs which are:

- Flat –rate tariff
- Two-part tariff
- Block rising tariff
- Stepped tariff

The NMBM Tariff by-law also specifies the types of tariffs used:

- **Single tariff:** shall consist of a fixed cost per unit consumed. All costs will be recovered through unit charges at the level of break-even consumption and surpluses on trading services may be allowed.
- **Two-part tariff:** this tariff consists of two parts. Management, capital, maintenance and operating costs will be recovered by grouping certain components together, e.g. management, capital and maintenance costs may be grouped together and be recovered by a fixed charge, independent of consumption for all classes of consumers. The variable costs may be recovered by a unit charge per unit consumed.
- **Inclining block tariff:** this tariff is based on consumption levels being categorised into blocks. The tariff is determined and increased as consumption levels increase. This tariff will only be used to prohibit the exorbitant use of a commodity. The first step in the tariff will be calculated at a break-even point.

Subsequent steps will be calculated to yield profits and to discourage excessive use of the commodity.

- **Availability charges:** payable in respect of availability of access to the municipality's infrastructure. Once the service is used, availability charges as well as the normal tariffs as per respective use of the service are payable.

1) According to the Water Services Act, 1997 (Act no.108 of 1997) Subsection (1), the Minister may, from time to time, prescribe compulsory national standards relating to:

- The provision of water services
- The quality of water taken from or discharged into any water services or water resources system
- The effective and sustainable use of water resources for water services
- The nature, operation, sustainability, operational efficiency and economic viability of water services
- Requirements for persons who install and operate water services works and
- The construction and functioning of water services works and consumer installations.

2) The standards prescribed under subsection (1) may differentiate between

- Different users of water services, and
- Different geographical area, taking into account the socio-economic and physical attributes of each area.

3) In prescribing standards under subsection (1) the Minister must consider:

- The need for everyone to have a reasonable quality of life
- The need for equitable access to water services
- The operational efficiency and economic viability of water services
- Any norms and standards for applicable tariffs for water services
- Any other laws or any standards set by other governmental authorities
- Any guidelines recommended by official standard-setting institutions
- Any impact which the water services might have on the environment, and the obligation of the National government as custodian of water resources

- 4) Every water services institution must comply with the standards prescribed under subsection (1).

#### **2.4.2.1 Electricity tariffs**

Gildenhuys (1997: 20) highlights the electricity activities supplied by a municipality which include:

- Provision and maintenance of an electricity supply network
- Building and maintaining high and low voltage conductors
- Building and maintaining substations
- Inspection of electrical wiring of buildings
- Supply and maintenance of streetlights

Consumers are in different categories and different tariffs apply to them. There are those who are domestic, meaning households, businesses, and industrial. All are charged using different tariffs. The Municipal Systems Act (Act 32 of 2000) Chapter 8 Section 74(3) states that a tariff policy may differentiate between different categories of users, debtors, service providers, services, services standards, geographical areas and other matters as long as the differentiation does not amount to unfair discrimination.

Electricity may also be charged on tariffs. Fourie and Opperman (2007:171); provides the types of tariff structures which are most frequently encountered:

- One-part single energy rate tariff
- Two-part tariff
- Three-part tariff and
- Time of use tariffs.

According to Ngxongo (2003: 33), electricity is sold to consumers either as

- Maximum Demand
- Three Phase supply
- Single Phase supply

The tariff structures vary substantially due to the difference in demand, distribution and supply of services.

### **2.4.3 Billing of accounts**

Billing is the process of generating an invoice to recover the sales price from the customer ([www.businessdictionary.com](http://www.businessdictionary.com)). According to Revenue Management and Customer Care billing is invoicing a municipal account to an account holder, an amount or amounts payable for assessment rates, metered services, other municipal charges, levies, fees, fines, taxes or any other amount or amounts payable arising from any other liability or obligation (Revenue Management and Customer Care By-Law of 2005). For a municipality to bill a consumer, a reading must be taken and consumption must be calculated using the tariffs. The NMBM tariff by-law outlines the different charges and how these charges will be calculated and charged on a consumer's account.

The NMBM collects revenue through billing of accounts for water, electricity, refuse and so on. These accounts are billed on different dates and are sent to customers for payment. The accounts show account number, customer names, balance payable, due date, next date of meter reading, overdue amounts and so on. The NMBM have different branches where customers can make their payments and make any queries they may have. The branches are: Motherwell office, Mthombolwazi office, Cleary Park office, Walmer Customer care office, Korsten office, KwaMagxaki office, NewBrighton office, and main branch Govan Mbeki office. The offices are almost in every location so that services and service delivery can be close to the people.

When a customer does not pay his/her account, the account accumulates interest and a certain percentage is deducted when a customer buys electricity. Below is an example of the NMBM account:

nelson mandela bay  
MUNICIPALITY

nelson mandela bay  
MUNICIPALITY  
PORT ELIZABETH | LUTHERBURGH | DESPATCH

VAT Ref No: 4080193473  
TEL: 506 5555 FAX: 506 1504

TAX INVOICE  
0814 014231

Page 1  
Word Number 51  
Deposit 100,00

STATEMENT DATE: 14/08/2015

Prof/De/Me/Me/Me/Me

ACE PARGERER

ACCOUNT No: 600 617 323 907

DATE	DETAILS	AMOUNT
14/08	BROUGHT FORWARD 31 PRELIM READ READING TO 03/08/15 10:15 MTS 111401170 NEXT METER READING IS SCHEDULED FOR 15/08/15 BETWEEN 08:00 AND 17:00 METERS READING CORR. ***** WATER 05A/REACH0500 3216 662,97 AVAILABILITY CHARGE 34,92 VAT @ 14% 97,70 97,70 SEWERAGE VAT @ 14% 67,43 WTR 111401170 67,43 14/08 077115 THANK YOU FOR YOUR PAYMENT 496,47 14/08 15/14 REFUSE CHARGE RDP 4500870000 1 417,70X VAT @ 14% 85,76 14/08 15/14 GEM WATER RDP 4500870000 97,77 (MarketValue-Reduction) ***** RatingFactor/Months (070000-12000)+0,009737/12 85,76 VAT @ 14% 693,76 14/08 ROUNDOFF 2120000 0,00 693,76 0,04X ELECTRICITY PREPAID METER NO/0: 01324426180 STIPULATED AT: 32 PRELIM READ, UNDISBURSED, UTTERANCE 15/0800 LENDING TO YOUR ACCOUNT, IF THIS IS DISBURSED CONTACT 041 506 5555, FAX 041 506 1104 OR EMAIL customerservice@mandelabay.gov.za	1 417,70
TOTAL PAYABLE:		2 085,75

NMBM IVR

Downloaded & Managed by: GABA Technology

OVERDUE	NIL	THIS MONTH	2085,75
THANK YOU FOR PAYING PUNCTUALLY	THANK YOU FOR PAYING PUNCTUALLY	PAYABLE BEFORE	11/08/2015
PLEASE READ INFORMATION OVERLEAF			

nelson mandela bay  
MUNICIPALITY  
PORT ELIZABETH | LUTHERBURGH | DESPATCH

VAT Ref No: 4080193473  
TEL: 506 5555 FAX: 506 1504

TAX INVOICE  
0713 014231

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Word Number 51  
Deposit 100,00

STATEMENT DATE: 13/07/2015

Prof/De/Me/Me/Me/Me

ACE PARGERER

ACCOUNT No: 600 617 323 907

DATE	DETAILS	AMOUNT
01/07	BROUGHT FORWARD 15/14 GEM WATER TOTAL 8326,14 RDP 4500870000 WTR READ - DATE LOCKED 13/07 31 PRELIM READ READING TO 06/07/15 04:52 MTS 111401170 NEXT METER READING IS SCHEDULED FOR 15/08/15 BETWEEN 08:00 AND 17:00 METERS READING CORR. ***** WATER 05A/REACH0500 3216 31,0 AVAILABILITY CHARGE 34,92 VAT @ 14% 44,96 SEWERAGE VAT @ 14% 23,87 WTR 111401170 23,87 13/07 077088 THANK YOU FOR YOUR PAYMENT 382,30 13/07 15/14 REFUSE CHARGE RDP 4500870000 1 345,25X VAT @ 14% 85,76 13/07 15/14 GEM WATER RDP 4500870000 97,77 (MarketValue-Reduction) ***** RatingFactor/Months (070000-12000)+0,009737/12 85,76 VAT @ 14% 693,76 13/07 ROUNDOFF 2120000 0,00 693,76 0,04X ELECTRICITY PREPAID METER NO/0: 01324426180 STIPULATED AT: 32 PRELIM READ, UNDISBURSED, UTTERANCE 15/0800 LENDING TO YOUR ACCOUNT, IF THIS IS DISBURSED CONTACT 041 506 5555, FAX 041 506 1104 OR EMAIL customerservice@mandelabay.gov.za	1 345,25
TOTAL PAYABLE:		1 417,70

OVERDUE	NIL	THIS MONTH	1417,70
THANK YOU FOR PAYING PUNCTUALLY	THANK YOU FOR PAYING PUNCTUALLY	PAYABLE BEFORE	14/08/2015
PLEASE READ INFORMATION OVERLEAF			

Downloaded & Managed by: GABA Technology

According to the NMBM By-Law, water will be measured with a water meter. Meters will be read and consumption will be levied monthly, unless service is rendered through a pre-payment device:

- 23

**Table 2.1: Example of tariff charged for water**

Old/ New	Start Date	End Date	Scale	Description	Max Estimate Units Consumption	Unit Cost(1)	Cons Vote	AVC Vote	Last Changed
OLD	01-Jul-12	30-Jun-13	01A	Commercial		7 46.00000	0622 1275	0622 1267	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01A	Commercial		8 43.00000	0622 1275	0622 1267	30-Jun-15
OLD	01-Jul-12	30-Jun-13	01B	Industrial		7 46.00000	0622 1276	0622 1267	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01B	Industrial		8 43.00000	0622 1276	0622 1267	30-Jun-15
OLD	01-Jul-12	30-Jun-13	01C	Commercial & Industrial (		9 34.00000	0622 1273	0622 1267	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01C	Commercial & Industrial (		10 56.00000	0622 1273	0622 1267	30-Jun-15
OLD	01-Jul-12	30-Jun-13	01D	Reduced Tariff for Indust		7 46.00000	0622 1276	0622 1267	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01D	Reduced Tariff for Indust		8 43.00000	0622 1276	0622 1267	30-Jun-15
OLD	01-Jul-12	30-Jun-13	01F	Metered Fire Connection		7 46.00000	0622 1278	0622 1267	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01F	Metered Fire Connection		8 43.00000	0622 1278	0622 1267	30-Jun-15
OLD	01-Jul-12	30-Jun-13	01J	COMMERCIAL - INTER DEP CO		7 46.00000	0622 5135	0622 5135	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01J	COMMERCIAL - INTER DEP CO		8 43.00000	0622 5135	0622 5135	30-Jun-15
OLD	01-Jul-12	30-Jun-13	01K	Institutional		7 46.00000	0622 1275	0622 1267	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01K	Institutional		8 43.00000	0622 1275	0622 1267	30-Jun-15
OLD	01-Jul-12	30-Jun-13	01L	COMMERCIAL & INDUSTRIAL (		9 34.00000	0622 5135	0622 5135	27-Jun-14
OLD	01-Jul-13	30-Jun-14	01L	COMMERCIAL & INDUSTRIAL (		10 56.00000	0622 5135	0622 5135	30-Jun-15

**Source: NMBM Consolidated Billing System, January 2016**

## 2.4.5 Electricity

Electricity will be measured with an electricity meter. Meters will be read and consumption will be levied monthly unless the service is rendered through a pre-payment device:

- Maximum demand plus kWh consumed, or
- Fixed costs plus kWh consumed, or
- Cost per unit kWh consumed.

**Table 2.2: Example of tariffs table charges for electricity**

Old/ New	Start Date	End Date	Scale	Description	Max Estimate Units Consumption	Unit Cost(1)	Cons Vote	AVC Vote	kVA Vote	MIN Vote	Last Changed
OLD	01-Jul-12	30-Jun-13	30A	Large Business - Rural (M		0 63.45000	0620 1510	0620 1510	0620 1510	0620 1517	30-Aug-13
OLD	01-Jul-13	31-Aug-13	30A	Large Business - Rural (M		1 14.48000	0620 1510	0620 1510	0620 1510	0620 1517	02-Jun-14
OLD	01-Sep-13	31-May-14	30A	Large Business - Rural (M		0 57.21000	0620 1510	0620 1510	0620 1510	0620 1517	27-Jun-14
OLD	01-Jun-14	30-Jun-14	30A	Large Business - Rural (M		1 14.48000	0620 1510	0620 1510	0620 1510	0620 1517	01-Sep-14
OLD	01-Jul-14	31-Aug-14	30A	Large Business - Rural (M		1 22.94000	0620 1510	0620 1510	0620 1510	0620 1517	02-Jun-15
OLD	01-Sep-14	31-May-15	30A	Large Business - Rural (M		0 61.43800	0620 1510	0620 1510	0620 1510	0620 1517	30-Jun-15
OLD	01-Jun-15	30-Jun-15	30A	Large Business - Rural (M		1 22.94000	0620 1510	0620 1510	0620 1510	0620 1517	01-Sep-15

**Source: NMBM Consolidated Billing System, January 2016**

## 2.4.6 Refuse removal

The municipality will levy a tariff for removal of refuse.

## 2.4.7 Sewerage

The municipality may levy a tariff for the removal and treatment of sewerage based on:

- Percentage of water consumption.
- Percentage of water consumption plus costs for strength of disposal.
- Pail charge: based on the number of properties within those categories of customers and fixed cost associated with the service.
- When the number of properties is not available, a flat charge, based on the average consumption per categories of consumers, will be applicable.

**Table 2.3: Example of tariff charges table for sewerage**

Old/New	Start Date	End Date	Scale	Description	Max Estimate Units Consumption	Unit Cost(1)	Max Cons(1)	Unit Cost(4)	Cons Vote	MIN Vote	Surcharge %	Subsidy %	Last Changed
OLD	01-Jul-12	30-Jun-13	01A	SEWERAGE - COMMERCIAL		8 87.00000	99999999		0446 2912	0446 2912	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01A	SEWERAGE - COMMERCIAL		10 02.00000	99999999		0446 2912	0446 2912	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01B	SEWERAGE - INDUSTRIAL		8 87.00000	99999999		0446 2913	0446 2913	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01B	SEWERAGE - INDUSTRIAL		10 02.00000	99999999		0446 2913	0446 2913	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01D			8 87.00000	99999999		0446 2913	0446 2913	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01D			10 02.00000	99999999		0446 2913	0446 2913	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01J	SEWERAGE - COMMERCIAL - I		8 87.00000	99999999		0446 5136	0446 5136	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01J	SEWERAGE - COMMERCIAL - I		10 02.00000	99999999		0446 5136	0446 5136	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01K	SEWERAGE - INSTITUTIONAL		8 87.00000	99999999		0446 2912	0446 2912	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01K	SEWERAGE - INSTITUTIONAL		10 02.00000	99999999		0446 2912	0446 2912	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01M	SEWERAGE - NMM - COMMERC		8 87.00000	99999999		0446 2912	0446 2912	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01M	SEWERAGE - NMM - COMMERC		10 02.00000	99999999		0446 2912	0446 2912	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01Q	SEWERAGE - INSTITUTIONAL		8 87.00000	99999999		0446 5136	0446 5136	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01Q	SEWERAGE - INSTITUTIONAL		10 02.00000	99999999		0446 5136	0446 5136	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01R	SEWERAGE - INDUSTRIAL HYB		8 87.00000	99999999		0446 2913	0446 2913	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01R	SEWERAGE - INDUSTRIAL HYB		10 02.00000	99999999		0446 2913	0446 2913	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01S	SEWERAGE - NMM - COMMERC		8 87.00000	99999999		0446 5136	0446 5136	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01S	SEWERAGE - NMM - COMMERC		10 02.00000	99999999		0446 5136	0446 5136	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	01U	SEWERAGE - COMMERCIAL		8 87.00000	99999999		0446 2912	0446 2912	95		27-Jun-14
OLD	01-Jul-13	30-Jun-14	01U	SEWERAGE - COMMERCIAL		10 02.00000	99999999		0446 2912	0446 2912	95		30-Jun-15
OLD	01-Jul-12	30-Jun-13	05A			8 87.00000	50		0446 2914	0446 2914	60		27-Jun-14

**Source: NMBM Consolidated Billing System, January 2016**

## 2.4.8 Assessment rates

- The assessment rate is calculated taking into account the total net expenditure from other services less the revenue envisaged based on the total rateable valuations. The assessment rate must be calculated in such a manner that the municipality realises a net surplus.
- Assessment rates are calculated as prescribed by the Local Government municipal property rates act. The municipality may levy different rates for

different categories of rateable property in terms of the criteria set out in its rates policy. Rates are levied as an annual amount which are payable either on an annual or monthly basis (NMBM Tariff By-Law).

## **2.5 METER READING**

For consumer accounts to be billed, meter reading has to take place. The reading of meters helps the municipality to be able to bill the consumer according their consumption. According to Fourie and Opperman (2007: 173), the reading of meters is a fundamental link in the metered services operation of municipalities. It is the reading of meters that determines what the consumer will ultimately pay. It is of the utmost importance that the function should always be performed in a manner which is open and transparent, to ensure that no suspicions or ill-feelings are engendered amongst the community.

Fourie and Opperman (2007:173), further state that municipalities generally meter the consumption of two services, water and electricity, which are the two most important activities in a municipality and both services yield significant revenue streams. As these services are also costly to provide, revenues from consumption must be collected as soon as possible after consumption. The timeous and accurate reading of meters is the cornerstone of effective revenue collection in any municipality.

van Zyl (2011:69) highlights the fact that meter reading is a cost to a municipality and using meters that are easier to read or may be read automatically, can reduce meter reading costs. The meter reading function must be scheduled, when and how many meters will be read in each day. van Zyl (2011:88) states that water meters are read at regular intervals, normally once a month.

According to Fourie and Opperman (2007:174), the first step in the meter-reading function is to draw up a timetable to facilitate the planning and coordination of the activity. The timetable is important because reading should be done in (usually monthly) cycles to enable smooth processing of accounts. Fourie and Opperman (2007:174) further provide the information that will be required in order to draw up a timetable:

- The number of meters to be read.



- The number of meter readers available.
- The number of meters that can be read per day, taking cognisance of the area to be covered and the distribution of meters in the municipal area.
- The dates by which readings must be completed to meet the billing cycle dates, bearing in mind that each area may have a different billing cycle.
- Sufficient time to enable validation reports to be run for each reading cycle prior to billing: this is very important as readings which appear to be invalid or incorrect must be investigated before the accounts are billed.

### **2.5.1 Different ways of reading meters**

The NMBM has used Hand-Held Terminals (HTT's), and the readings are downloaded to the NMBM system called Consolidated Billing System (CBS). There are two processes that take place after reading which are Pre-billing and Post-billing, to verify the readings and the adjustment of the accounts.

#### **2.5.1.1 *Direct reading***

According to van Zyl (2011:88) meters are read directly from the indicator by a meter reader. Readings can be recorded using a pen and paper, or a handheld terminal that allows the readings to be transferred electronically to the meter reading database. van Zyl (2011:89) states further that the hand-held terminals can ensure that all meter reader's routes are read, and perform initial verification of the values entered. Direct reading of meters does not require additional equipment to be installed in the meter, but has high labour costs.

#### **2.5.1.2 *Automatic remote reading***

Meter readings are recorded automatically by connecting a hand-held device to a connection point on the meter. The meter reading is automatically transferred to a device. This allows for a high reading success rate and saves on labour costs since meter readers can read more meters in a day (van Zyl 2011:89).

#### **2.5.1.3 *AMR (Automatic Meter Reading)***

AMR uses technology to transmit meter reading automatically to a central location using phone network or radio frequency (RF) technologies. In telephone AMR

systems, meter readings are sent to a central station using a fixed or cellular phone connection. Telephone readings have a high success rate and save on labour costs, since no meter readers are required (van Zyl 2011: 90). In NMBM some consumers submit their own reading telephonically and through IVR.

The NMBM uses contractors for meter-reading functions and they outsourced the meter reading function to three contractors. On day one and day two the work is divided amongst the three contractors. On the third day the meter readers go to the routes and read. On the fourth and fifth day they bring back the readings to the municipal offices. On day six the readings are analysed by the pre-billing staff, looking for out of range or out of bounds readings. Then they send for a check reading after verification of the readings, and then the readings are loaded on the system for billing of the account.

## **2.6 REVENUE COLLECTION**

For a municipality to run smoothly it has to collect its revenue through provision of services to the community which are payable to the municipality after use. According to Gildenhuys (1997:74) it must be emphasised that in reality there is only one real source of local government revenue and that is the individual taxpayer, the consumer and user of local government services and amenities. What are generally referred to as “sources” of local government revenue are nothing but formulae to extract money by force if necessary from the pockets of individual tax-payers. Zondani (cited:2008) in terms of Section 96 of the Local Government Municipal Systems Act (No 32 of 2000), stated that a municipality must collect all monies that are due and payable to it, subject to the requirements of the Act and other applicable legislation, and for this purpose a municipality must adopt, maintain and implement a credit control and debt collection policy which is consistent with its rates and tariff policies and which complies with the provisions of this Act.

Furthermore Gildenhuys (1997:74) states that local government has the power to raise taxes, collect consumer tariffs, user charges and all kinds of levies from the property owners, consumers and users of local government services. The NMBM Budget and Treasury Directorate makes quarterly reports about revenue collected. This information is in the form of graphs and tables. According to the RMCC the purpose

of the report is to inform Council on a quarterly basis on the activities of Revenue Management and the Customer Care Sub-directorate.

### **2.6.1 Property tax**

According to Zondani (2008) property tax is defined as the tax levied against the owner of real or personal property. The Local Government White Paper (1998:87) states that the major source of local taxation is property tax (rates) and this is currently levied only in urban areas. Urban property owners must pay a tax based on the valuation of their properties to finance municipal services. Reedy (1996:200) states that property tax, or assessment rates, is an important source of revenue for South African local authorities. The tax is on land and /or buildings and is imposed on all types of property including commercial, industrial, institutional and residential. Gildenhuys (1997:78) maintains that the real property tax rate must in most cases be adjusted on an annual basis to balance the operational budget and to supply additional revenue for financing annual debt repayments. Furthermore Gildenhuys (1997:79) highlights the three tax systems which are:

- The flat rating system
- The site rating system
- The composite rating system

Ismail et al. (1997: 91) also highlight and discuss the methods of determining the assessment rate which are site, flat and composite ratings.

### **2.6.2 Service charges**

According to Ismail et al. (1997:92), service charges are those levied on users of the various services which are provided by a local authority. The main service charges levied by most local authorities are those for electricity, water, cleaning, sewerage and bus fare. The basic principle is that those who use a service must pay for doing so. Consumers are charged for different services rendered by a municipality such as water, electricity, sewerage, refuse, rates and other charges like availability charges.

Gildenhuys (1997:94) maintains that there are still more charges that comply with the definition of tax, namely the so-called availability charges for water and electricity on

undeveloped stands in townships where water and electricity reticulation systems have been installed but not yet connected to undeveloped stands. The rationale behind these charges is that the reticulation systems have been installed at a fixed capital cost and are available to the owners of all stands.

### **2.6.3 Outsourcing of municipal functions**

The Local Government White Paper (1998:77) states that municipalities can also use contracting out as a means of empowering emerging business. According to Cloete (1996:97), local government may assign specified functions to local bodies or sub-municipal entities within its area of jurisdiction if in the opinion of the council the assignment of the functions will improve the provision or administration of services and general good governance in the public interest. Reddy, Sing and Moodely, (2003:202) argue that outsourcing is carried out on a contract basis for a short period of time, usually not more than three to five years. Outsourcing differs radically from MSPs in that firstly, there is no element of partnership between the municipality and its outsourced suppliers. Secondly, the municipality assumes a large amount of risk that would usually be passed to the private sector in an MSP.

The constitution states that local government must provide services to the community and be accountable and provide sustainable services to the people. When a municipality decides to outsource a function, it has to inform the community and monitor the service provider to check whether the function is done properly and the service is delivered.

The Constitution of South Africa Act 108 of 1996 highlights the objectives of local government which are:

- To provide democratic and accountable government for local community.
- To ensure the provision of services to the communities in a sustainable manner.
- To promote social and economic development.
- To promote a safe and healthy environment.
- To encourage the involvement of the community and community organizations in the matters of local government.

The government must be accountable for its decisions, this means that whatever decisions they take, they have to account to the community. When a municipality believes that a function can be outsourced and managed better by a service provider; it must inform the community about that decision. According to the Municipal Systems Act (Act 32 of 2000) Section 78, when a municipality decides in terms of subsection (2) (b) to explore the possibility of providing the services through an external mechanism it must:

- Give notice to the local community of its intention to explore this provision of the services through an external mechanism.
- Assess the different service delivery options in terms of section 76 (b) taking into account:
  - The direct and indirect costs and benefits associated with the project, including the effect of any service delivery mechanism on the environment and on human health, well- being and safety,
  - The capacity and potential future capacity of prospective service providers to furnish the skills, expertise and resources necessary for the provision of the service,
  - The views of the local community,
  - The likely impact on development and employment patterns in the municipality, and
  - The views of organized labour.

## **2.7 TYPES OF PRIVATIZATION**

Privatization allows flexibility in deciding how much to involve the private sector in the design, building, operation, financing and ownership of public facilities and services. Common types are:

- Contracting out (outsourcing) – Municipalities purchase or contract for services of functions, which may or may not have been previously performed by public sector employees.

- Public-private partnership - Municipalities enter into a joint venture with one or more private companies to collaborate on any or all of the planning, funding and operating of a project.
- Volunteer partnership - These are instances in which a function is mostly conducted by volunteers, but in which the municipality provides some degree of funding, guidance and perhaps staffing.
- Complete privatization - A complete transfer of a function to a private entity ([www.nlc.org](http://www.nlc.org)).

According to the Local Government White Paper (1998:77) it is common practice for municipalities to contract with specialist private companies to provide services. Specialist companies can sometimes provide economies of scale and specialist expertise and experience more efficiently than in-house capacity. Contracting out can range from the contracting of specific aspects of a particular service, to the introduction of competitive tendering for the delivery of most aspects of a service. Where services are contracted out municipalities should protect standards and promote quality through tender evaluation processes, contract specifications and contract monitoring and compliance techniques. Furthermore the Local Government White Paper states that in developing and assessing tender documents, municipalities should be aware that the lowest bidder is not always the best contractor.

The NMBM has outsourced the meter reading function which is a fundamental link between the metering services and the billing of the customer's account.

## **2.8 CONCLUSION**

The provision of basic services such as water, electricity, sewerage, refuse and so on is a constitutional right for local communities. The local government may levy rates, taxes, tariffs and charges to recover costs for services rendered to the consumers/ community. A consumer must pay for the availability of services and consumption which is charged on agreed tariff by the municipality. To bill a consumer, a stand and route has to be linked to the consumer and readings taken so that consumption can be calculated and then billed to the consumer. Monthly readings must be taken and rates which are charged annually have to be divided into a twelve-month period. The Constitution stipulates that municipalities must be accountable and provide

sustainable services to the community. In a case where a municipal function is outsourced, the municipality has to monitor and evaluate the work of the contractor, as private companies are interested in profit and not the well-being of the community. Service delivery has to run smoothly.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter describes the research methodology, research design, sampling and population, data collection instrument, and methods and ethical considerations that were used in assessing the billing system for basic services in the Nelson Mandela Bay Municipality.

#### **3.2 THE CONCEPT OF RESEARCH**

According to Leedy and Ormrod (2005:1) the word research is used in everyday speech and has a broad range of meanings. This makes it a confusing term for students, especially graduate students who must learn to use the word in a narrow and more precise sense. In some situations, the word connotes finding an item of information or making notes and then writing a documented paper, in other situations it refers to the act of informing oneself about what one does not know, perhaps by rummaging. Salkind (1997:3) describes research as an activity based on the work of others.

The Oxford Dictionary describes research as the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions ([www.oxforddictionaries.com](http://www.oxforddictionaries.com)). Leedy (2013:2) describes research as a systematic process of collecting, analysing and interpreting information data to increase the understanding of phenomena which are of interest or concern.

#### **3.3 THE CONCEPT OF RESEARCH DESIGN**

According to Creswell (2009:3) research designs are plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis. Furthermore Creswell (2009:3) states that the selection of a research design is also based on the nature of the research problem or issue being addressed. Leedy and Ormrod (2001:91) define research design as including the planning and visualisation of the data in the entire research project.



The Business Dictionary describes research design as a detailed outline of how an investigation will take place. Research design will typically include how data is to be collected, what instrument will be employed, how the instrument will be used and the intended means for analysing data collected ([www.businessdictionary.com](http://www.businessdictionary.com)). According to Neuman (2003:137) qualitative researchers are more concerned about issues of the richness, texture and feeling of raw data because their inductive approach emphasizes developing insights and generalizations from data collected.

Oppenheim (1992:6) illustrates that research design refers to the basic plan or strategy of the research and the logic behind it, which will make it possible to draw more general conclusions from it. The research should tell how sample will be drawn, what sub-groups it must contain, what comparisons will be made, whether or not there will be a need for control groups, what variables will need to be measured (when and at what intervals), and how these measures will be related to external events, for example to social, medical or other interventions. Moreover, Oppenheim (1992:7) states that the research design will determine who should be questioned, and what questions should be asked. Technical and fieldwork problems may set constraints on the research design.

### **3.4 QUALITATIVE RESEARCH**

Creswell (2009:4) maintains that qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particular to general themes, and the researcher interpreting the meaning of the data. In this study, qualitative research was used in order to assess the billing system of the NMBM and how it affects the provision of basic services and service delivery in the Nelson Mandela Bay Municipality.

**Table 3.1: Comparison of qualitative and quantitative models of research**

<b>QUALITATIVE (INDUCTIVE) METHODS MODEL</b>	<b>QUANTITATIVE (DEDUCTIVE) METHODS MODEL</b>
Topical area	Formulate a research question
Analyse subset of data	Develop a hypothesis
Generate codes (literal to abstract)	define variables
Reanalyse data, analyse additional data	Construct measurement instrument
Memo notes	Coding
Analyse additional data	sampling random
Refines codes, generate meta codes	Reliability and validity checks
Analyse additional data	Statistical check (if necessary)
Embodied interpretation	Calculate results
Representation	Representation results (typically on charts or graphs)

**Source: Hesse-Biber and Leavy (2011:9)**

Neuman (2003:139) is of the view that qualitative and quantitative research differ in many ways but they complement each other as well. All social researchers systematically collect and analyse empirical data and carefully examine the pattern in them to understand and explain social life. One of the differences between the two styles comes from the nature of the data. Soft data in the form of impressions, words, sentences, photos, symbols and so forth, dictate different research strategies and data collection techniques than hard data in the form of numbers (Neuman, 2003:139)

### **3.5 TARGET POPULATION**

According to Salkind (1997:96), a population is a group of potential participants to whom a researcher wants to generate the results of a study. Bless and Higson (2002:87) describe a target population as a set of elements that the researcher focuses upon and to which results obtained by testing the sample should be generalized.

Neuman (2011:241) defines a population as the abstract idea of a large group of many cases from which a researcher draws a sample and to which results from the sample will be generalized. Neuman (2011:246) explains the target population as the specific collection of the elements that will be studied by the researcher. The population of this

study will be composed of meter readers from NMBM and contractors, clerks in Metered Services, consumers, the Assistant Director at Metered Services and the Director of Revenue Management and Customer Care (RMCC). The researcher will use a qualitative approach to research whether consumers are charged correctly and accurately and to check whether basic services are rendered by the NMBM and charged accordingly or in a manner that is satisfactory to the consumers of those services.

### **3.6 DATA COLLECTION INSTRUMENT**

According to Salkind (1997:160) the data collection process involves four steps:

- The construction of data collection forms used to organise the data you collect.
- The coding used to represent data on a data collection form in the most efficient way possible.
- The collection of the actual data.
- Entry onto the data collection form.

According to Creswell (2009: 178) data collection steps include setting the boundaries for the study, collecting information through unstructured or semi-structured observations and interviews, documents, and visual materials, as well as establishing the protocol for recording information. Interviews will be used to collect data in this study. Hesse-Biber and Leavy (2011:94) state that in- depth interviews, also known as an intensive interview, is a commonly used method of data collection employed by qualitative researchers. In-depth interviews are a kind of conversation between the researcher and the interviewee that requires active asking and listening (Hesse-Biber and Leavy, 2011:94).

David and Sutton (2004:27) discuss typical forms of primary data collection. One of them is the inductive question which is also known as the in-depth interview. Maree (2007:106) refers to interviews as a situation in which answers are directly drawn from the respondents by the interviewer and implies face to face interaction between the researcher and the respondents concerning the problem of the study. In this study face to face interviews will be used to collect data. The researcher will conduct one on

one interviews with the respondents, to get information about the processes that the NMBM follow when they bill the consumers.

### **3.7 SAMPLING**

According to Neuman (2011:241), sampling in qualitative studies allows the researcher to make statements about categories in the population. Maree (2007:79) states that sampling refers to the process used to select a portion of the population for the study. Qualitative research is generally based on non-probability or random sampling rather than probability sampling approaches. Purposive sampling simply means that participants are selected because of some defining characteristics that make them the holders of data needed for the study. Furthermore Maree (2007:79) states that sampling in qualitative research is flexible and often continues until no new themes emerge from the data collection process leading to data saturation.

The logic of qualitative research is concerned with in-depth understanding, usually working with small samples. Qualitative research is often interested in selecting a purposive or judgement sample. The type of purposive sample chosen is based on the research question as well as taking into consideration the resources available to the researcher (Hesse-Biber & Leavy, 2011:45). The researcher will conduct interviews with 4 meter readers from NMBM and 3 meter readers from each of the 3 contractors used by the NMBM for meter reading, 15 consumers, 2 pre-billing clerks, 2 post billing clerks, 1 admin worker from each contractor, the Assistant Director at Metered Services and the Director of the RMCC, resulting in 37 participants.

### **3.8 DATA ANALYSIS**

Data analysis and interpretation are interrelated (Hesse-Bibber & Leavy; 2011:301). According to Babbie (2013:390) qualitative analysis provides methods for examining social research data without converting them to a numerical format. The researcher used qualitative research techniques to analyse the data. According to Neuman (2011:507), to analyse data means systematically to organise, integrate, and examine, as this is done by the researcher to search for patterns and relationships among the specific details.

### 3.9 ETHICAL CONSIDERATION

When conducting research, the researcher should consider ethics. According to Neuman (2011:143), ethics begin and end with the researcher. Ethical research depends on the integrity and values of the individual researcher. Ethical issues are concerns, dilemmas and conflicts that arise over the proper way to conduct research. King and Horrocks (2011:103) highlight the main areas of ethical issues in qualitative interviewing:

- Morality epistemology and ethics
- Research governance and ethical principles
- Professional codes of ethics and ethical review committees
- Qualitative interviewing and informed consent
- Confidentiality and anonymity
- Physical safety and welfare of the researcher.

Babbie (2013:32) argues that in most dictionaries and common usage, ethics is typically associated with morality and both words concern matters of right and wrong. According to Hesse-Biber and Leavy (2011:59) the term ethics is derived from the Greek word *ethos*, meaning “character”. To engage with the ethical dimension of research as a researcher one needs to ask himself/herself several important questions:

- What moral principles guide your research?
- How do ethical issues influence your selection of a research problem?
- How do ethical issues affect how a researcher conducts his/her research –the design of the study, sampling procedure and so on?
- What responsibility does the researcher have toward his/her research subjects? For example, does he/she have their informed consent to participate in his/her project?
- What ethical issues/dilemmas might come into play in deciding what research findings the researcher publishes?
- Will the research directly benefit those who participate in the study?

### **3.10 CONCLUSION**

The chapter outlined how the researcher approached the study. The researcher discussed the research methodology, research instrument and explained the sampling methods that were used in the study as well as the research design, population of the study and study collection instrument. Data analysis and ethical-consideration have been dealt with in this chapter.

## **CHAPTER FOUR**

### **DATA COLLECTION AND INTERPRETATION**

#### **4.1 INTRODUCTION**

As indicated in Chapter 3, data for the purpose of this study was collected by interviewing the following people: 13 meter readers (three from each of the three municipal contractors and four meter readers employed by the Nelson Mandela Bay Municipality (NMBM); two NMBM Pre-Billing Senior Clerks and two NMBM Post-Billing Senior Clerks; three Administrative workers from the contractors; 15 consumers; the NMBM Assistant Director: Metered Services; and the NMBM Director: Revenue Management and Customer Care. This chapter presents the data collected in those interviews.

The following focal areas were covered by the researcher in the course of these interviews: training of meter readers; daily work load and time frames; challenges faced by meter readers in the field; consistency of billing and bills sent to consumers; customers' awareness of what the account entails; ability to read and record the readings accurately; low and high estimations on consumers' accounts; reasons for outsourcing of the Meter Reading Section; and the revenue of the NMBM before and after the outsourcing of the meter reading.

#### **4.2 DATA COLLECTION PROCEDURES**

Telephonic and face to face interviews were the two methods that were used in the study to collect data. The researcher obtained permission from the NMBM Director: Revenue Management and Customer Care to conduct interviews with the few remaining municipal employees employed in the Metered Services Section as meter readers as well as the Director. The researcher also obtained permission from the contractors to interview some of their staff (see Appendices B, C and D). The interviews were conducted at the contractors' offices or at municipal offices. Some of the consumers were telephonically interviewed by the researcher, while others were interviewed at municipal customer care offices (see Appendix E). Each interview lasted between 20 and 30 minutes.

### **4.3 DATA PRESENTATION**

The information gathered by the candidate during these interviews is presented in the following subsection. The interviews were scheduled in the following order: first the meter readers, followed by the consumers, municipal staff, contractors' administrative workers, then the NMBM Assistant Director: Metered Services and finally the NMBM Director: Revenue Management and Customer Care.

#### **4.3.1 Biographical Information**

Respondents who participated in this research were males and females, out of the 13 meter readers, 3 were females and 10 were males, from the different contracted companies and NMBM. With regards to age, female were between the age of 30-40 and males were between the age of 22 -60. With regards to race 7were Africans and they cover 54% while 4 meter readers were coloureds, which is 31% and only 2 whites that means 15% were whites. Although the majority of the respondents were males and between the ages of 22 to 60 that does not ease the risks which they work in as they all encounter the same problems, such as robbery, weather, vicious dogs, ill-treatment from consumers and so on.

#### **4.3.2 Data collected from meter readers**

##### **4.3.2.1 *Training of meter readers***

The researcher visited the meter readers at their work-places during office hours. The interviews were held in the offices of the companies (external contractors to the NMBM) that employed them. The interviews were conducted in boardrooms, to afford the respondents some privacy. The interviewer introduced herself to the participants and sought their consent to be interviewed, in line with the ethical requirements for the study.

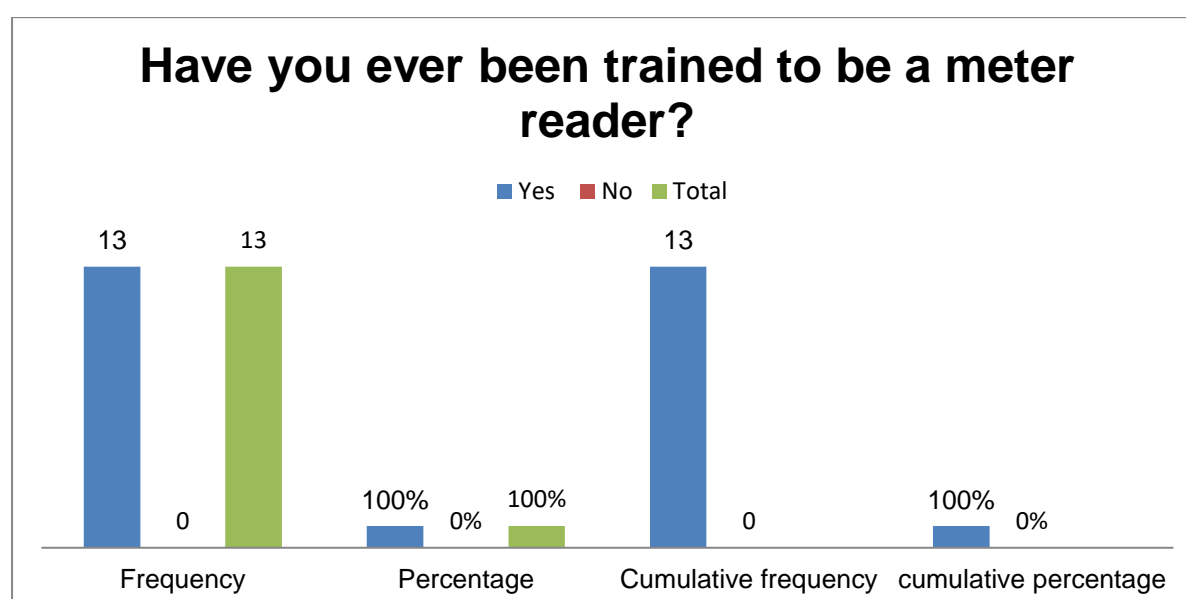
Firstly, the respondents were asked whether they had ever received training in reading water and electricity meters. Their responses are presented below.



**Table 4.1: Meter reading training available to all meter readers**

Responses	Frequency	Percentage	Cumulative frequency	Cumulative percentage
Yes	13	100%	13	100%
No	0	0%	0	0%
Total	13	100%		

**Figure 4.1: Training received by all meter readers**



**Source: Data Collected, February 2016**

Table 4.1 and Figure 4.1 above confirm that 100% of the respondents responded in the affirmative, which indicates that all respondents had been trained in meter reading. They had been shown how to read meters and how to forward the readings to their offices. The duration of training differed between the three participating companies: some of the participants stated that their training had lasted one week, while others had received a month of training; however, all agreed that they had received training. This indicates that each meter reader should be able to perform his/her work, and accurately read and record the meter readings, as required.

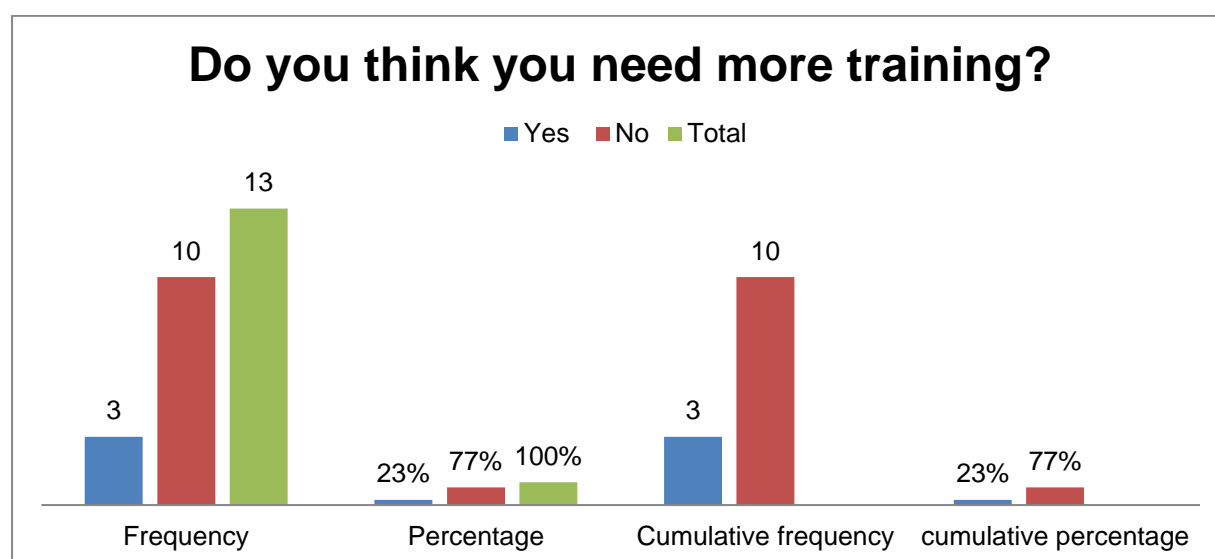
#### **4.3.2.2 Training needs of meter readers**

When asked whether they had training needs relating to their work, the following responses were obtained from the participating meter readers:

**Table 4.2: Further training needs in meter reading**

Responses	Frequency	Percentage	Cumulative frequency	cumulative percentage
Yes	3	23%	3	23%
No	10	77%	10	77%
Total	13	100%		

**Figure 4.2: Is there a need for further training in meter reading?**



**Source: Data collected, February 2016**

Table 4.2 and Figure 4.2 above indicate that 23% of the participating meter readers felt that they needed more training in meter reading for certain routes, whereas 77% indicated that they already knew everything they needed to know about meter reading. Although most of the meter readers (77%) indicated that they did not need further training, the remaining 23% of the meter readers indicated that they did need further training. It can be deduced from the above that there is a need for further training, since the inaccurate reading of meters, no matter how few, may have negative consequences, and cost consequences, for affected consumers and/or the Municipality. However, it is important to note that the perceived need for further training does not necessarily mean that the meter readers are unable to do their work.

#### **4.3.2.3 Work-load of meter readers**

The participating meter readers employed by the relevant three companies were required to read between 200 and 300 meters each day. For this purpose, each had been issued with a CA49 book and device (tablet) loaded with a specific number of households (routes) in which the actual meters are located, depending on the area in which the meter reader worked. The CA49 and the tablet contain the following information: consumers' supply addresses, names and surnames, route numbers, meter numbers, and the scale. It should be noted that the meter readers employed by the Municipality are required to read the meters of less than 100 households (routes) every day. The meter readers employed by the contracted companies revealed that their work-load was reasonable, but that the way the routes were compiled on the CA49 and the device that they used to read the meters made it difficult for them to finish their work on time.

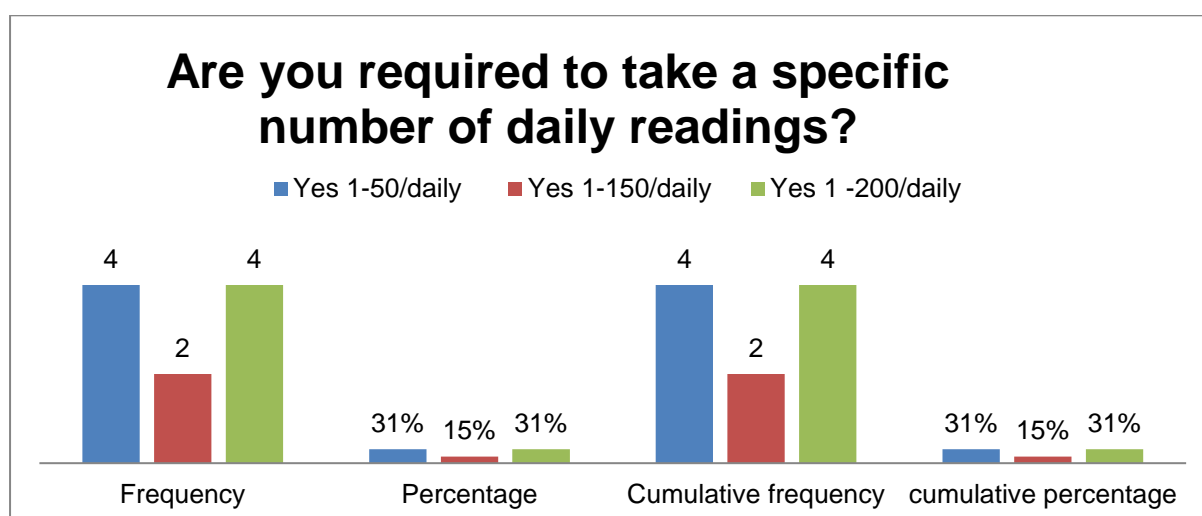
The contractors were assigned to different routes; for example, one contractor had been assigned to read meters at households in the Uitenhage and Despatch areas; the other to do so in the Northern Areas and townships; while the third was assigned to the townships and the suburbs. Their daily work-load varied, as meter reading was scheduled in days, starting from Day 1 to Day 20 every month. In addition, some routes were larger than other routes.

When asked whether they were required to conduct meter reading at a specific number of properties within a given time-frame, the following data was obtained:

**Table 4.3: Daily routine and time-frame for meter reading**

<b>Responses</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Cumulative frequency</b>	<b>Cumulative percentage</b>
<b>Yes 1-50/daily</b>	<b>4</b>	<b>31%</b>	<b>4</b>	<b>31%</b>
<b>Yes 1-150/daily</b>	<b>2</b>	<b>15%</b>	<b>2</b>	<b>15%</b>
<b>Yes 1 -200/daily</b>	<b>4</b>	<b>31%</b>	<b>4</b>	<b>31%</b>
<b>yes 1-300/daily</b>	<b>3</b>	<b>23%</b>	<b>3</b>	<b>23%</b>
<b>Total</b>	<b>13</b>	<b>100%</b>		

**Figure 4.3: Is there a specific number of routes to be read on a daily basis?**



**Source: Data collected, February 2016**

In response to this question some meter readers elaborated. For instance the first one said *“The routes from the CA49 book and the tablet are messed up: the book will list from Number 14 Lupiwa Street backwards to Number 4, then skip to another street called Lusizi, reading from Number 1 till Number 31 and carries several streets, then takes you back to Lusizi Street. By then you are far away from Lusizi Street and we don’t use a car: we walk on foot to take the readings from the households. This is time consuming and makes it very difficult to finish on time and tiring.”*

Another meter reader who elaborated while responding to this question had the following to say: *“The books for new areas in the Metro is confusing for me. The erf number sometimes does not even match the house number. This makes it difficult to finish the work on time, but the work load is not too much, as we are paid by each meter one reads.”*

#### **4.3.2.4 Time allocated for meter readers**

All the respondents stated that the time-frame given to finish their work was reasonable, but could be challenging at times, depending on factors such as the weather and other problems such as locked gates. The meter readers employed by contractors revealed that they were being paid per meter read and therefore had little option but to continue working, even if the conditions were not conducive to work, in order to get a decent salary. In this regard one of the meter readers said, *“If I don’t*

*read, I lose money, because my boss pays me per meter, so I have to make sure that I read all the meters on my book /device, but sometimes I cannot read all the meters from the book and there are no extensions for that billing day”.*

If meters are not read, the Municipality estimates the relevant consumers’ usage; this can be either a high estimation or a low estimation.

#### **4.3.2.5 Challenges facing Meter Readers**

A number of challenges were raised by the respondents as making their work difficult and risky. They explained that the dogs in some households were not chained by their owners and as they were mostly in the back-yard, it was difficult for the meter readers to detect their presence beforehand, and because many of these homes had no warning signs indicating that a dog was being kept on the property. All the respondents revealed that the vicious dogs kept on some of the properties they visited, made it difficult for them to do their work. Some revealed that they knowingly risked their lives in entering such premises, because they did not want to lose money. However, municipal meter readers revealed that they simply passed the houses with dogs and key in codes.

One of the meter readers illustrated the challenge of vicious dogs as follows: *“Dogs - vicious dogs - are a big challenge and a problem for us meter readers. One day I went into this property in one of the suburbs where the meter is at the back of the property. Just when I was about to read, I saw a huge dog coming at me. I had to fight the dog while running out of the premises and sustained dog wounds. I was booked off sick for days. I could not work and I was not paid, because if you don’t work, you don’t get paid, and your routes are given to someone else.”*

Another challenge which was raised by many meter readers is that property owners, especially in historically White areas, often refused the meter readers access to their properties. In this regard one meter reader went to the extent of saying, *“In the upmarket suburbs, such as Summerstrand, Mount Pleasant, Lorraine, etc., the owners of the properties do not want to let us into their houses to read their electricity meters. Some would ask for the same (meter reader) that was there the previous month; some would want to see your card, or we must wear uniform. If not, they would chase you*

*and some swear at us and we have no choice but to leave the premises without reading the meter.”*

A challenge of robbery was also mentioned by the meter readers: some meter readers said that they had been robbed of their belongings in the Northern Areas and townships as they walked from one street to another to do their work. In this regard one meter reader said: *“It is not safe in the townships and Northern Areas for us as meter readers. “The other day I was working at KwaNoxolo location and I was robbed of my phone, my wedding ring and the device/tablet that I’m using to read the meters. Since then I do not feel safe to carry the device/tablet that we use, as the criminals think that it is a normal tablet. It took weeks for the Municipality to give me another device/tablet. Now I always fear for my life when I go and do my work - but what can I do? I have to work for my family.”*

Another contractual meter reader revealed that whenever they were robbed of the tablet they used, they were forced to pay R500 as an access fee for insurance purposes as their boss had insured the tablets.

Bad weather, meter leakages, removed meters, meters not on the system, rude consumers and locked gates were some of the challenges that meter readers revealed they were facing while doing their work. Furthermore, some of the meter readers mentioned that rain and extreme heat made it difficult for them to do their work, as they were walking from household to household. One meter reader made mention of the fact that the tablets don’t take high readings, he said *“When there’s leakage in the meter or underground, the tablet would not take the reading, that is the way the tablets are set, when the consumption is not in-line with the previous reading the tablet does not take the reading, we can only take a picture”*. Another meter reader mentioned that when a consumer’s account is estimated due to no reading taken, the consumers shout at them.

Further comments from meter readers regarding the challenges they face while doing their work include the following, *“The consumers do not understand our job as meter readers: they think we are the ones that bill them! They become rude to us, especially when they get high accounts, and when they have leakages they want report them to us. They don’t even want to listen when we try to explain that we only take the*

*readings. They tell us that the Municipality do not take action, and this is true, because the next month when we go and read again, the consumption is still very high.”*

*“Some of the routes on the books that we used have codes already, for example, -12, which means that the building is demolished; -13, which means that the meter is removed. Now, we get these books every month: I don’t know why the people who compile the books do not take the ones with these codes out. If the book has more codes, this means I cannot read and I lose money. -1 means ‘Gate locked’, so this means the consumers are always not at home and we cannot enter the premises, as the meters are inside the property. Their account get estimation, sometimes high, and when we go back and they are at their premises they fight with us about the high accounts” (Appendix E is an example of a book CA 49 with codes).*

Fourie, Opperman and Scott (2007:173) argue that the reading of meters is a fundamental link in the metered services operations of municipalities. Meter readings determine what consumers will ultimately pay and it is of the utmost importance that this function be performed in an open and transparent manner to ensure that no suspicions or ill-feelings are engendered among the community. However, some consumers are billed on estimations, mostly because of the challenges that the meter readers have revealed. When their accounts are billed in terms of high estimations, consumers tend to get angry and are rude to the meter readers. Also, if consumers have been under-charged for months and then the actual reading is entered, the resultant bill can be very high, igniting the consumers’ fury and indignation. The inability of meter readers to read some of the meters in the Metro due to the challenges listed, renders the billing system inaccurate, and this places the affected residents at a disadvantage, because irrespective of billing inaccuracies, the Municipality expects to be paid every month.

#### **4.3.3 Data collected from consumers of municipal services**

To gain insight into how local consumers felt about their municipal accounts, the researcher conducted interviews with selected consumers. The researcher used Consolidated Billing System (CBS) enquiries to obtain the contact details of the consumers, who were interviewed telephonically and in one-on-one interviews.

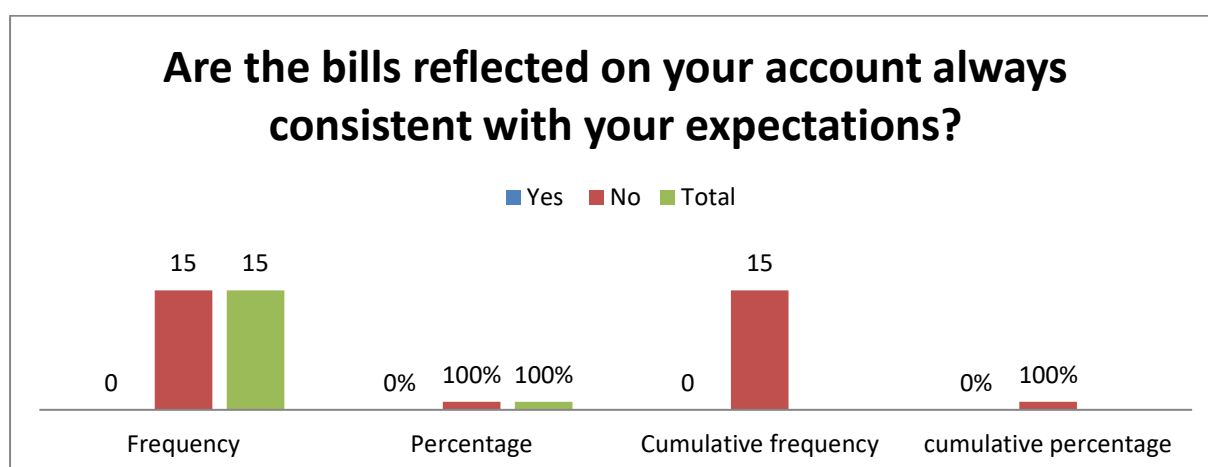
#### 4.3.3.1 Consumers' expectations about their municipal bills

The researcher held one-on-one interviews with selected consumers, whose accounts had been estimated for a long period. The interviews were held at the Walmer Customer Care Centre in Heugh Road, and the Mfanasekhaya Gqobose Building in Govan Mbeki Avenue, while some interviews were done telephonically. When consumers were asked whether the bills reflected on their municipal account were always consistent with their expectations, the following responses were obtained:

**Table 4.4: Is there consistency in your municipal bills?**

Responses	Frequency	Percentage	Cumulative frequency	cumulative percentage
Yes	0	0%	0	0%
No	15	100%	15	100%
Total	15	100%		

**Figure 4.4: Is the account reflection always consistent with your expectation**



**Source: Data collected, February 2016**

The findings reveal that 100% the respondents claim that their bills were always fluctuating; some accounts were high, while others were low. The consumers revealed that their accounts were inconsistent and that the amounts varied from time to time; however, their accounts were usually very high. The following comments were obtained from some consumers: *"I have a problem with the Council: my account is always estimated, but I am always at my house, so I do not know why they always estimate. My account is always too high and for someone who is staying alone, I don't*



*understand why I am being charged such a ridiculous amount. For six months they've been estimating my account. I phoned the Municipality and they said they will investigate. I've been paying what I can on a monthly basis. I am definitely not paying what is reflected on my account, because I believe I cannot owe that much."*

*"No, our water account is under investigation. The water meter is 2 km away. Electricity is fine, but water - there's a problem there: the meter is always leaking, because it is outside and at the edge. We tried on numerous occasions for the Municipality to remove the meter where it is and put it inside the property, but no luck. Because we are next to a bottle store the trucks always hit the meter and it leaks. We report it, they come fix it, but they do not remove it. We don't know really how much consumption we use, because most of the time the meter is leaking and our account is very high."*

*"For the whole of last year I have been fighting with Municipality. My account has been always high, and it's only me and my two sons living at the property. The problem is that the account is not estimated: these are actual readings, but I told the Municipality that I cannot be using that so much water, because I am working during the day and my kids are at school."*

*"No not at all, there is inconsistency. You get an account this month saying you owe the Municipality so much and the next month the account is three times higher than your previous account. I would not mind if there is a few hundred rand difference, but not more than that and their estimations are quite ridiculous."*

Consumers complain about inconsistency and estimation of readings on their accounts. However, Section 17 of Municipal By-Law, Subsection 26(b) states that if for any reason the credit meter cannot be read, the Council may render an estimated account and the estimated consumption shall be adjusted in a subsequent account in accordance with the consumption actually consumed.

The Constitution of South Africa Act 108 of 1996 provides the right for municipalities to enact by-laws for effective administration, and the Revenue Management and Customer Care (RMCC) By-Law of 2005 provides that account holders must pay all the amounts due to the Municipality as reflected in their municipal accounts. The RMCC By-Law states that if there are arrears on an account, then a certain percentage should be deducted from the consumer when he/she buys electricity. Section 17 of the NMBM Customer Care and Management By-Law states that before any metered or pre-paid metered supplies which have been disconnected or restricted for non-payment is restored, an account holder must pay all fees and charges as determined

by Council. Many consumers refuse to pay the Municipality because of perceptions of inaccuracies around billing and their accounts.

The Constitution of South Africa Act 108 of 1996 states that a municipality must ensure the provision of services to communities in a sustainable manner. Section 229 (2), which deals with municipal fiscal powers and functions, states that a municipality may impose rates on property and surcharge on fees for services provided by it. This means that the consumers are liable for and have to pay the municipality for services rendered on a monthly basis.

Consumers are billed monthly, and accounts or detailed statements are sent by the NMBM to consumers. Various details are printed on the statement but some details are often ignored by consumers. A municipal account reflects the reading obtained, kilolitres used, the amount brought forward, amount due or payable by the consumer; name of the consumer, address where services are rendered, the date and time of the next meter reading; the meter number and route number.

All the respondents complained about their accounts, with complaints ranging from the fact that to rectify their accounts, they had to make numerous calls to the municipality or visit municipal customer care and as some were not employed, they struggled to afford transport fees to get to the offices. In addition, they complained that they often had to stand in long queues and that the Municipality took a long time to rectify their accounts. They were also penalised when they bought electricity, as the Municipality deducted a certain percentage from their purchasing money towards arrears.

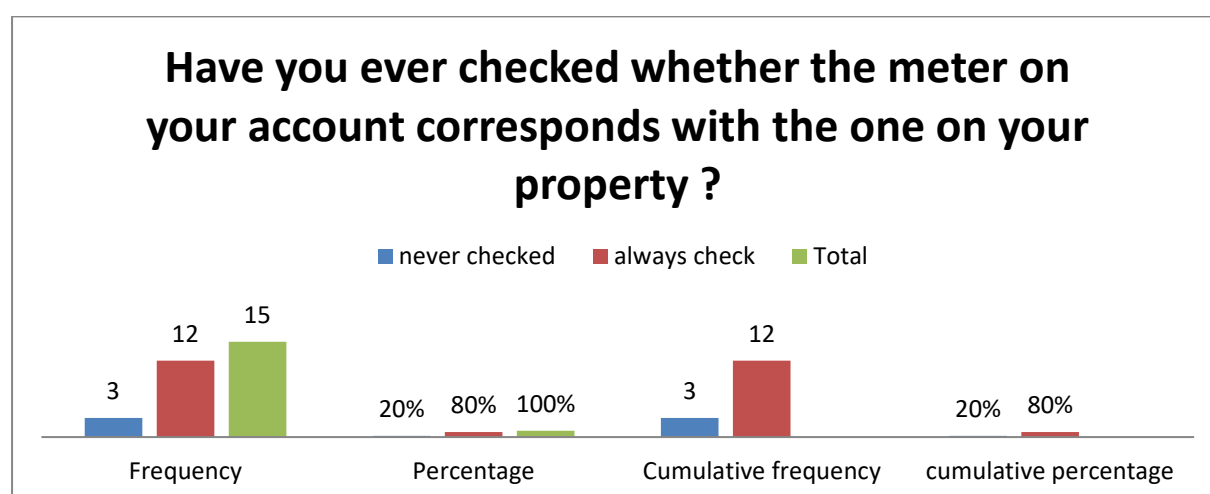
#### **4.3.3.2    *Meter linkage to consumers' account***

For a municipality to charge its consumers, the water and electricity meters on consumers' properties have to be linked to the consumers' municipal accounts. The NMBM has a department that deals with the linkage of meters to the consumers' accounts.

**Table 4.5: Checking of meter linkage**

Responses	Frequency	Percentage	Cumulative frequency	cumulative percentage
never checked	3	20%	3	20%
always check	12	80%	12	80%
Total	15	100%		

**Figure 4.5: Meter checking by consumers**



**Source: Data collected, February 2016**

Table 4.5 and Figure 4.5 show clearly that most respondents always checked whether the meter number on their account corresponded with the one on their property; whereas a minority of the consumers never checked.

When consumers were asked whether they had ever checked if the meters on their accounts correspond with the actual meters on their properties, findings reveal that 20% of the respondents did not check the meters and claim that it is the municipality's obligation to ensure that they, as consumers are charged for the correct meters. 80% of the respondents claim that they always check their meters to make sure they are charged for the right meter. With this question, the researcher wanted to check whether consumers read their municipal accounts with understanding or not, and are able to pinpoint the irregularities on their municipal account. It was established that problems with municipal accounts were encountered by the respondents, one of which is the fact that some consumers claim that they have been charged for their

neighbours' meter, while their neighbours were charged for theirs. This created huge problems for some consumers as they had to pay for other peoples' usage which is at times greater than their own. One consumer said *"I had a problem with the municipality, they charged me for my neighbours' meter. I picked this up because it is only me in my house and my neighbour has a tavern, my bill was always sky high and my neighbours' account was way too low for someone who has a tavern. I went to customer care to complain about my account and they investigated and found out that my meter was linked to my neighbours' account and his to mine"*.

Most interviewed consumers had a problem with their accounts, with linking being a big problem. Findings revealed that mistakes occur in the linking of routes to an accountable owner. Some respondents explained to the researcher that they have been charged for two meters, their neighbours and their own meter, this means that the other consumer pays nothing for that period and is billed for it when transfer of consumption is done. The non- paying consumer ends up with a huge account as the charges of the previous months that were not charged on his account are transferred as a huge debit.

Only a few respondents felt it was the municipality's responsibility to ensure that their municipal accounts are linked correctly and that they are billed correctly. One consumer said, *"I do not check my meter number. I believe the Municipality has a duty to make sure that the meter that they put on my premises is the one that they bill on my account."* Some consumers reveal that they only check the balance from the account and pay what they are billed. They only enquire with the municipality when their accounts are higher than what they usually pay.

#### **4.3.3.3 Accessibility of meters to the meter readers**

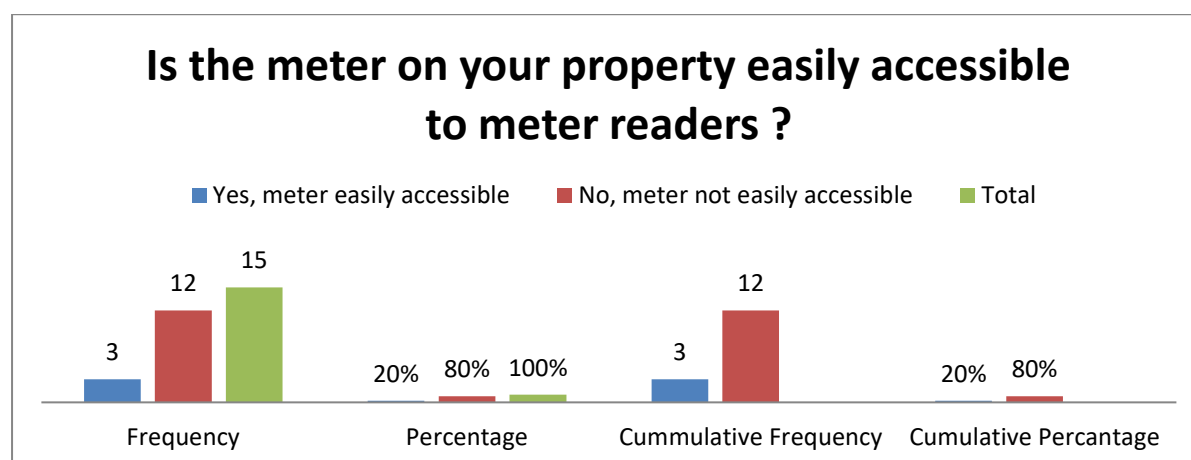
For meter readers to take readings, the meters have to be easily accessible. The municipality installs the water and electricity meters and these meters should be read on monthly basis by meter readers. Only a municipality has the right to install water and electricity meters for its consumers. The NMBM Customer Care By-Law Section 17(1) states that the council shall, at the consumer's cost, in the form of a direct charge or prescribed fee, provide, install and maintain appropriately rated metering equipment at the point of metering for measuring metered services. Section 17(6) states that

except in the case of pre-payment meters, the quantity of metered services used by a consumer during any metering period is determined by reading the appropriate meter or meters supplied and installed by Council at the beginning and end of such metering period, except where the metering equipment is found to be defective. This means that for billing purposes meters should be read monthly and be accessible to the meter readers. The NMBM Electricity Supply By-Law states that the consumer must, if required by the municipality, provide accommodation in an approved position, for the meter board and adequate conductors for the municipality's metering equipment, service apparatus and protective devices. Most electricity meters are installed inside the consumers' properties. The researcher asked the respondents whether their meters are easily accessible to the meter readers:

**Table 4.6: Accessibility of consumer's water and electricity meters to meter readers**

Response	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Yes, meter easily accessible	3	20%	3	20%
No, meter not easily accessible	12	80%	12	80%
Total	15	100%		

**Figure 4.6: Are the meters on consumers' property easily accessible to the meter readers**



**Source: Data collected, February 2016**

Table 4.6 and Figure 4.6 show that the majority of the respondents' meters were not easily accessible to the meter readers. 80% of consumers revealed that their meters were not easily accessible, while 20% of them revealed that their meters were easily accessible. To bill consumers accurately reading must take place, and the accessibility of meters is important for this function to occur. The above figure shows that most water and electricity meters are not easily reachable. Findings reveal that most water meters were inside the yards, with some at the back of the property and electricity meters inside the houses. For meter readers to read electricity meters the consumers had to give them access to their homes. Some electricity meters are located outside, but they are always locked and only the owners have the keys to the box.

One consumer said: *"My water meter is inside my yard and the electricity box is inside my home, I have to open for the meter reader that is if I am home."* The other one mentioned that the meter readers do not stick to the information that's written on the municipal account, the consumer said: *"The meter readers do not stick to the scheduled time, both my meters are inside which means I have to open for them but they sometimes come 2 hours late and I am not always at home. If it says next reading 10am on my account, they must come at 10am not 2 hours later"*.

Some consumers explained that for safety reasons they do not open for meter readers, as most of them do not wear uniforms. In these cases the consumers choose to read their own meters and send to the municipality. Some respondents revealed that they applied for IVR but that also gives them problems as the machine does not take the readings and they end up with estimated accounts.

The consumers also complained that their accounts are being estimated while their meters are easily accessible to meter readers. Some reveal that their accounts are billed incorrectly due wrong readings that are taken down by the meter readers. One consumer said: *"My water meter is easily accessible to the meter readers, but their readings are always not the same as the ones on my meter; I do not know where they get the readings. I have been querying my account for months now, and the Municipality says they're still busy with my query. How can my readings start with 9? while when I read my meter I get 576. The meter reader gives information as 9576. That is crazy! These guys must be on drugs or something!"*

#### **4.3.3.4 Addressing challenges emanating from incorrect meter readings**

To remedy the situation of inaccurate billing and incorrect readings, the researcher asked the consumers what should be done to address the issues. One consumer said: *“I think the Metro must use their own employees, because the sub-contractors are doing the job incorrectly. Secondly, in the olden days we did not have these problems, because the Metro had inspectors to check the work done, so the municipality must bring back the inspectors.”* Another consumer suggested that as consumers they should take pictures of their meters and send to the municipality, in that way their accounts will be read monthly and correctly. In the case of gates being closed or presence of dogs in the households, it was suggested by another consumer that meter readers should leave a note in a letter box with their name and contact number so that they can be contacted for readings.

Findings revealed that some issues and complaints about meter reading are that the municipality privatised the meter reading function and consumers claim that the contract workers hired by contractors do not know their work. One consumer said: *“The Municipality must take back the reading function, as these contractors do not know what they are doing. Meter reading is the major function for the billing of our accounts, so the municipality cannot rely on other people to do the function.”*

It was established that consumers are not happy with the work of the contract workers and that the municipality needed to take back the meter reading function and bring back inspectors.

#### **4.3.4 Data collected from pre-billing and post-billing staff and administration workers of companies contracted for reading meters**

In this section, the researcher collected data from the pre-billing and post-billing clerks from NMBM Metered Services, and administrative workers from the companies contracted to read meters, will be presented.

##### **4.3.4.1 Job Content**

The researcher held one on one interviews with the NMBM officials, which were pre-billing and post-billing clerks. When asked what their job entailed as pre-billing clerks, the response indicated that they captured the readings they received from the meter

readers into the system. The post-billing clerks explained to the researcher that their work was to draw error reports, based on the billing and to scrutinise the consumption reflected on the accounts. They requested check readings, where applicable, in order to adjust incorrect readings and adjust consumption after estimations. They also report faulty meters to the NMBM Infrastructure and Engineering Directorate. The administrative workers from the contractors revealed that they allocated routes to the meter readers, and when the readings are brought back, they validated the readings and released the books to the Municipality.

#### **4.3.4.2 Stakeholders' role in estimated meter readings**

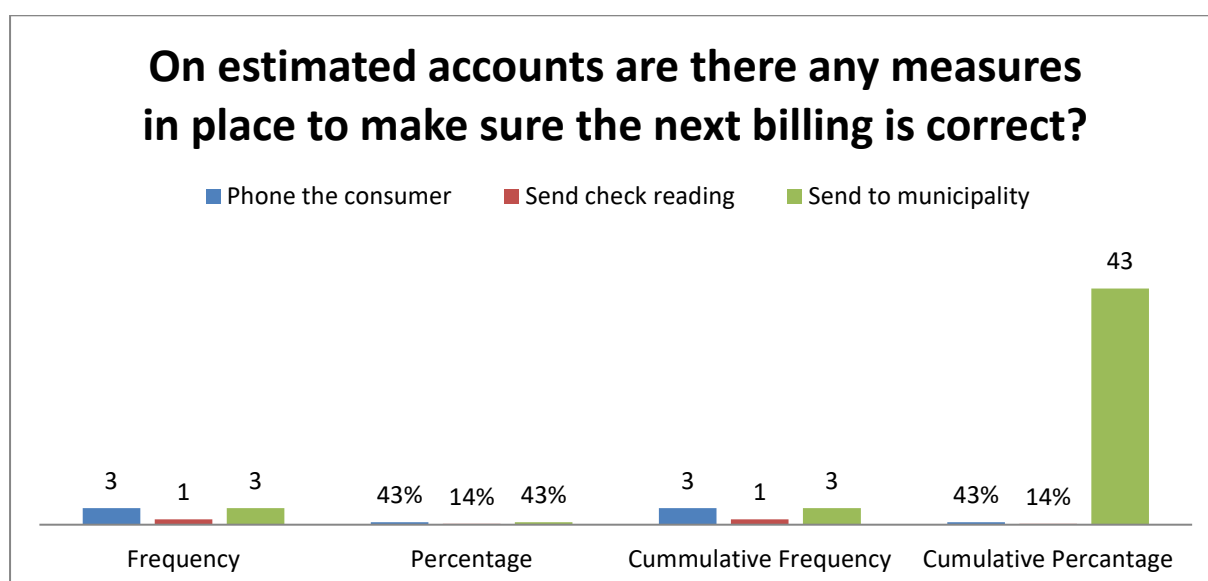
There are numerous and various reasons why some consumer's accounts are being estimated by the municipality, to mention one, "gate lock", this means the meter readers are not able to read those meters because gates are locked. Findings revealed that some consumers' accounts are being estimated for more than 6 months and more because the meter readers could not access the meters. When asked whether there were any measures in place to make sure the next billing would be based on an accurate reading, the following responses were obtained:

**Table 4.7: Meter Readings**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percentage</b>
<b>Phone the consumer</b>	<b>3</b>	<b>43%</b>	<b>3</b>	<b>43%</b>
<b>Send check reading</b>	<b>1</b>	<b>14%</b>	<b>1</b>	<b>14%</b>
<b>Send to Municipality</b>	<b>3</b>	<b>43%</b>	<b>3</b>	<b>43%</b>
<b>Total</b>	<b>7</b>	<b>100</b>		



**Figure 4.7: Measures taken to ensure correct billing**



**Source: Data collected, February 2016**

Table 4.7 and Figure 4.7 reveal that 43% of the respondents would first contact the consumers and ask them to take and phone in their own readings. 14% revealed that they sent check readings and captured the readings thereafter so that the account bill would be correct the following month. 43% revealed that they sent municipal meter readers to take check readings.

#### **4.3.4.3 Challenges associated with the system of billing for basic services**

The NMBM officials were asked by the researcher whether they were aware of any challenges associated with the Municipality's system of billing for basic service delivery. The question was important, as it required the respondents to reveal challenges associated with the billing system. Findings revealed that the information captured on CBS21 - which has the *consumer's name, meter number and address* - did not match or differed from the information on CBS15. CBS 15 is where the readings are captured, and the same consumer information that is on CBS 21 should be reflected on CBS 15. It was also established that the readings obtained from consumers were often incorrect as they (consumers) had not been trained to take readings. This created problems as the accounts were based on incorrect readings. The readings were sometimes not in line with the readings on the system. During the interview, one official from pre-billing said: *"IVR information is sometimes incorrect as the consumers send wrong readings, most consumers do not know how to take*

*readings and they often take the readings incorrectly, then the account bills with the wrong reading. The only way to rectify the accounts is for us to send a check reading and when we received the right readings, the accounts would often be extremely high or throws huge credit.”* Furthermore, the NMBM officials revealed that consumers always complained about their accounts being overcharged, but this was often because meter readers were unable to gain access to read the meters. This meant that the account had to be estimated, sometimes high estimations or low estimations.

Billing has to proceed, regardless of the readings being incorrect or correct, and so there are estimations for meters which are not accessible, and those that are not found. The consumers of municipal services must be charged or billed for the services rendered to them by the NMBM.

#### **4.3.3.4    *Addressing the challenges associated with the system of billing for basic services***

When asked what should be done to address the challenges, the respondents stated that consumers should submit voluntary readings or email the Customer Care Centres and submit their readings a day before their billing day. Furthermore, it was suggested that the meter readers leave their contact numbers so that the consumers could arrange a fixed time for them to take the readings, because some consumers did not know how to read their meters.

It was suggested that consumers need to be trained to read their own meters, especially those who enrol for the IVR (Interactive Voice Response) system to make sure the readings they take are correct. Another municipal official from post-billing said: *“Firstly, the Municipality has to make sure that the consumers are able to read their meters correctly, moreover, the Municipality will have to confirm the readings submitted by the consumers before loading them on to the system to avoid accounts being billed incorrectly.”*

#### **4.3.5    Data collected from NMBM Assistant Director: Metered Services and the Director: Revenue Management and Customer Care**

The researcher held one-on-one interviews with the NMBM Assistant Director: Metered Services and the Director: Revenue Management and Customer Care. It was

important for the researcher to do these interviews, as the interviewees were senior officials overseeing the function of meter reading. Since the meter reading function had been outsourced by the institution; the researcher wanted to establish the reasons behind the decision taken at the time, as well as status of the revenue of the Municipality before outsourcing the meter reading function.

#### **4.3.5.1 Billing of consumers' accounts undertaken by the NMBM**

A Municipality must bill its consumers for services rendered to them. According to the NMBM By-Law the consumer shall be liable for all charges listed in the prescribed tariff for electricity as approved by the municipality. It is stated in the NMBM Customer Care and Revenue Management By-Law, Section 17(i) that the Council shall, at the consumer's cost in the form of a direct charge or prescribed fee, provide, install and maintain appropriately rated metering equipment at the point of metering for measuring metered services.

When asked to explain the process of billing of consumer's accounts undertaken by the NMBM, the aforementioned two senior officials, responded as follows: *"Meters are read monthly. Consumption is calculated and applied against applicable tariff approved by Council. The calculated amount is then billed on consumers' accounts."*

*"Billing of accounts starts with the meter reading for water and electricity consumption. Once consumption is determined, the applicable tariff is applied in order to generate a bill. The billing of sewerage is calculated based on reading for water consumption. This process also includes the billing of non-consumption services, such as sanitation and property rates."*

#### **4.3.5.2 Reason(s) for outsourcing the meter reading function**

The NMBM outsourced the meter reading function in 1998 and contractors were awarded the tender of meter reading. The researcher interviewed senior officials in the Metered Services Section and Revenue Management and Customer Care, to find out why the NMBM decided to outsource the meter reading function. One senior official said: *"As management we decided to sub-contract the meter reading function because of high absence from work (leave/sick-leave) and another reason was the introduction of reading meters every month, we needed more people and we needed people who will be at work daily. Monthly reading required people to be at work every day."*

Another senior official answered: *“Meter reading was outsourced in 1998. The intention was to improve efficiencies, as well as introducing additional capacity. Council was no longer in a position to keep up with the demand, seeing that the Municipality was growing in terms of new property developments.”*

#### **4.3.5.3     Revenue of NMBM before and after the outsourcing of meter reading function**

The researcher asked the interviewees about the revenue collected by the institution before and after the outsourcing of the meter reading function, and the participants responded as follows: *“The revenue of the Municipality was fairly stable at the time in accordance with the budgeted revenue collection rate. In order to avoid a decline in revenue, the outsourcing of the meter reading function was one of the strategies implemented by the Municipality.”*

*“Meters were read every second month, resulting in estimations. Reading of meters monthly ensures improved revenue.”*

The researcher wanted to know whether there was any improvement or decline in revenue after privatisation of the meter reading function, as meter reading is a fundamental link in the billing of consumer accounts.

#### **4.3.5.4     Awareness of the consumers about outsourcing of meter reading function by NMBM**

According to Cloete (1996:97), local government may assign specified functions to local bodies or sub-municipal entities within its area of jurisdiction if in the opinion of the council the assignment of the functions will improve the provision or administration of services and general good governance in the public interest.

When asked whether the NMBM informed the consumers about the outsourcing of the meter reading function, one senior official revealed that the consumers/residents of NMBM were informed that contractors were appointed by the Council for meter reading. It was deemed necessary to inform consumers in order to avoid a situation whereby the contracted meter readers could be refused access by the property owners due to safety reasons.

#### **4.3.5.5 Processes followed when choosing the contractors**

During an interview with the senior officials of Metered Services the researcher asked about the processes that had been followed by the institution in appointing the contractors. The following responses were obtained: *“We had to follow the Supply Chain Policy of NMBM processes (Tender process as per Scope of work).”* Another senior official said: *“The process followed the normal Bid/Tender process of the Municipality. Contractors were evaluated on factors such as experience, methodology, functionality and pricing model.”*

#### **4.3.5.6 Training of meter readers employed by various companies contracted by the NMBM**

The constitution states that local government must provide sustainable services to the community and be accountable. When a municipality decides to outsource a function, it has to inform the community and monitor the service provider to check whether the function is done properly and service delivery is achieved. This means that the NMBM had to ensure that the workers from the sub-contractors are well trained.

When asked whether as management they made sure that the meter readers from the various companies were trained to read the meters, the participants responded as follows: *“Yes, the training of the meter readers is part of the tender requirements.”* Another senior official said: *“No, firstly, as part of the tender process, it was necessary for each and every bidder to demonstrate that their staff had the necessary experience to perform this function, including meter readers. Prior to the commencement of the contractors with the work at hand, a brief session was held to outline the expectations of the Municipality.”*

#### **4.3.5.7 Challenges associated with the system of billing for basic services in the Municipality**

When asked whether they were aware of any challenges with the system of billing for basic services, a senior official answered: *“There are instances whereby the Municipality does not obtain actual meter readings. As a result, some of the accounts’ consumption is estimated. This situation leads to account queries and disputes raised by the account holder. The reasons for estimated accounts are due to factors such*

*as inability to access properties, meters that cannot be found, insufficient municipal resources to read all meters and shortcuts taken by staff to avoid grappling with problem meters.”*

#### **4.3.5.8 Proposed remedies to address the challenges**

To remedy the challenges of the billing system in the NMBM, the researcher asked officials what should be done. One senior official answered: *“As soon as budget allows, the Municipality should introduce smart meters across the Metro. Smart meters will allow the Municipality to read meters remotely and thereby minimising the human element.”*

## **4.4 CONCLUSION**

In this chapter, the researcher collected data through one-on-one and telephonic interviews with consumers, meter readers, staff from Metered Services, the NMBM Assistant Director: Metered Services and the NMBM Director of Revenue Management and Customer Care. The interviews were focused on discovering why municipal customer care centres were always overflowing with queues and why customers were complaining about their accounts being over-estimated/overcharged and their meters not read on a monthly basis.

During the interviews, the meter readers revealed several glitches and challenges they faced while doing their job. These challenges are one reason why consumer accounts are billed in estimations. The meter readers highlighted that the core problem was that some meters were still on the books and devices they used, but not on the consumers' properties, i.e. the Municipality failed to delete these meters from the books. Another challenge was that routes were not listed correctly on the books and devices, which made the meter readers' work more difficult, as they had to criss-cross from one street to another, without finishing one street at a time.

A municipality must be accurate when it charges its consumers, but in many cases consumers are billed on estimations. Residents, when overcharged by the Metro, are obliged to pay their municipal accounts in full, even when the amounts charged are inaccurate. If they fail to pay their municipal accounts, their electricity gets cut off and their accounts are charged with interest. During the one-on-one interviews with the

consumers, they revealed inconsistencies in the billing of their accounts: some months, the accounts would be billed too high - in some instances, so high that the consumers refuse to pay the amounts due.

## **CHAPTER FIVE**

### **SUMMARY, FINDINGS AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

This chapter gives a summary of the study, the conclusion and presents recommendations from the study. The aim of the study was to assess the system of billing for basic services in the Nelson Mandela Bay Municipality.

#### **5.2 SUMMARY**

In Chapter 1 the problem statement and objectives were presented. Chapter 2 dealt with relevant literature such as books, government policies and websites. Chapter 3 focused on methodology, this chapter explained the research design. A qualitative approach was used to gain the views, beliefs and experiences of the participants. Chapter 4 dealt with data collection and interpretation. This last chapter deals with the conclusion and recommendations.

Chapter 1 introduced the study and provided the background, objectives and problem statement. It briefly presented literature that was used in the study and provided the research questions for the study. The errors in the billing system which led to numerous objections from municipal residents about municipal bills for basic services were discussed as the problem statement in the study.

The objectives of this study included an analysis of the NMBM's system of billing for basic services, an assessment of the respective roles of various role players in the NMBM's system of billing for basic services, and an investigation into the factors and challenges that influence the billing system for basic services.

Chapter 2 dealt with literature relating to billing for basic services. Government policies, relevant books and websites were consulted. The functions of a municipality, and the fiscal powers and services that are provided by the municipality to its communities were discussed in this chapter. From the perspective of the literature, it was realised that municipalities were afforded fiscal powers and functions to impose rates on property and surcharges on fees for services provided by the municipality and that the municipality had to ensure that basic services such as water supply and



sanitation, electricity and refuse removal are provided in a manner that is effective, efficient and sustainable.

It was also argued that meter reading had to take place to bill consumers correctly. It was stated that water and electricity were the most important basic services in a municipality as both services produce important revenue streams. It was discussed that the timeous and accurate reading of meters is the cornerstone of effective revenue collection in any municipality. Most importantly it was revealed that the reading of meters determines what the consumer will ultimately pay and that it was of utmost importance that the function is done successfully and professionally, and in a manner which is open and transparent to ensure that there are no ill-feelings among the community.

Chapter 3 focused on methodology. In this chapter the research design was explained and a qualitative approach was chosen to obtain the views, beliefs and experiences of the participants. A qualitative approach was deemed relevant for the study and interviews were used to understand the views and experiences of the participants. Ethics were also considered and discussed.

Chapter 4 dealt with data collection and interpretation. Permission for conducting interviews was obtained and various role players in billing of municipal accounts were interviewed, as well as consumers and municipal officials. Meter readers were the first respondents to be interviewed. Various challenges encountered by the meter readers while doing their work were presented. The study also revealed some of the problems that cause municipal accounts to fluctuate. For example, one was the incorrect readings taken by meter readers, and consumers who are registered for the IVR system.

It was also revealed that inaccessibility of meters to the meter readers hinders the process of meter reading and causes problems in the billing of consumer accounts. During the one-on-one interviews with the consumers, they revealed inconsistencies in the billing of their accounts: some months, the accounts would be billed high – occasionally so high that the consumers refused to pay the amounts due. Some consumers revealed that their meters were not easily accessible to the meter readers causing estimations in the billing.

Chapter 5 which is the last chapter gives a summary, conclusion and recommendations of the study.

### 5.3 Findings

- The study revealed that all respondents were trained and that only a few contract meter readers feel that they still needed more training to optimally perform the meter reading function.
- It was also revealed that the NMBM meter readers read less than 100 meters daily, while meter readers from the contracted companies read between 200 and 300 households daily.
- Meter readers struggle to access some properties when undertaking their duties. This is associated with fear of unchained and dangerous dogs, and an absence of signs indicating the presence of dogs and locked yards.
- Robbery of meter readers is also a reality in some areas within the municipality, especially the Townships and the Northern areas.
- It was revealed that the inconsistency in billing of the consumers' accounts was caused by non-reading of meters which led to estimations. The consumer accounts fluctuate from high to low amounts due. It was mentioned that meter readers sometimes do not arrive at the scheduled time for meter reading and so they find no one home at some premises and end up estimating the accounts.
- Incorrect charges on some consumers accounts were triggered by incorrect meter linkage, some consumer's meters were incorrectly linked to their neighbours' municipal account and these consumers were charged for their neighbours water use, instead of their own. To avoid being incorrectly charged some consumers checked if the meter on their municipal account corresponded with the one on their properties. Some participants felt that it is the municipality's responsibility to make sure that they are charged for the correct meter.
- Another important finding is the inaccessibility of water and electricity meters to the meter readers. Most meters are not easily accessible to the meter readers. Some respondents disclosed that water and electricity meters are inside their yards or at the back of the property and that most electricity meters are inside

their houses meaning that the meters are not easily accessible to the meter readers.

- It was mentioned that, because of safety reasons some consumers do not allow meter readers inside their homes. Most consumers stated that they are working so during the day there is no one at home to open for the meter readers. Their accounts are billed with estimations over a long time period.
- Findings revealed that when a consumer's account was billed with estimations or incorrect reading the pre-billing and post-billing staffs sent for a check reading to verify the reading or would contact the consumer telephonically and ask them to take the reading.
- Another finding is that the incorrect billing of account can be caused by the incorrect information on the CBS21. The consumer information such as consumer names, supply address, meter number, account number, route number and so on often do not match the information on CBS15.
- In regard to the reasons of outsourcing of meter reading function by the NMBM, high absenteeism by meter readers was one of the reasons. Another reason was the volume of work as the meters now needed to be read monthly rather than every second month as had been done in the past. Improving efficiency was mentioned as one of the reasons for outsourcing as well as growth in property development which required more meter readers.
- Regarding revenue it was revealed that revenue was fairly stable at the time of outsourcing and that in order to avoid a decline in revenue outsourcing was used as a strategy. It was also mentioned that meters were previously read every second month due to shortage of staff and that was slowing down the rate of collecting revenue.

## **5.4 RECOMMENDATIONS**

### **5.4.1 Training and work load of meter readers**

The NMBM should make sure that meter readers are well trained, and not make assumptions that they are trained as it is part of the tender requirements. Training for meter readers should be done by the NMBM, so that every meter reader whether employed by contractors or by the NMBM, is well trained. The NMBM should divide

the routes equally between NMBM meter readers and contract meter readers. Meter reading is a fundamental link in the Metered Services operation of a municipality and the core function in billing of the consumers' account. As such it must be done in an effective and professional manner. It is highly recommended that the NMBM should take the meter reading function and nurture it to ensure that each and every meter reader is highly trained and equipped with all the necessary equipment he/she needs to perform this function.

#### **5.4.2 Challenges encountered by meter readers**

One of the challenges mentioned by the meter readers was unchained dogs on the premises of the consumers which made it difficult for them to do their work. It is suggested that consumers/residents who have dogs on their premises should put signs on the wall or gate alerting anyone that there are dogs on the premises. Consumers who have dogs and no alert sign should be fined as this puts people at risk especially meter readers of being attacked by dogs.

Electricity meters that are inside the houses should be placed outside. The meter could be walled in an accessible place with keys given to both the meter reader and the owner of the property. All water meters should be placed outside the yard so they are accessible to meter readers. Another problem that was raised by the meter readers is robbery. It is recommended that NMBM/Contractors provide transport/vehicles for meter readers. These vehicles will save them from walking long distances and being targets to criminals. When the weather is bad the transport will make it easier for meter readers to do their work.

#### **5.4.3 Inconsistency of billing on consumer's account**

For consistency in billing it is recommended that consumers should take note of the date and time of the next reading of their meters and make sure their meters are easily accessible to the meter readers. If not, it is recommended that they make an arrangement with the meter reading section for a suitable time so that the reading takes place in good time. This is recommended for those consumers whose meters are unreachable because they are inside their homes, or in the back yard, or their gates are always locked. Further, consumers should report meter leakage immediately and NMBM must attend to the leakages as soon as they get the query from the

consumer. Meter readers should draw up their own timetable after getting the books, and they should use the CBS21 to check the scheduled time for readings so that they can plan their routes accordingly.

#### **5.4.4 Meter linkage and correspondence with the consumer's account**

The NMBM must ensure that meters are correctly linked to consumer accounts. When performing the linking function, NMBM staff should make sure that all consumer details such as supply address, account number, meter number, erf number, route number are correct. When the meter is changed they need to ensure that the right meter is linked to the right account and to the accountable owner. The NMBM should ensure that the meter appears on the system on the next billing and not 2 or 3 months later.

#### **5.4.5 Accessibility of meters to meter readers**

It is suggested that the NMBM should remove meters that are placed in back yards and those that are inside consumers' properties and place them outside where they are easily accessible. It is suggested that all meters be placed in front of the consumers' properties where they are easily accessible to meter readers. NMBM should ensure that all meter readers wear a uniform and a name tag at all times. This will make the meter readers look professional and presentable and will ease the fears of consumers who have meters inside their homes or properties.

#### **5.4.6 Reasons for outsourcing of meter reading function**

The NMBM should employ its own meter readers who will work during the day and those who will work after hours validating the readings. The NMBM could have monthly community outreach programmes where consumers can be taught how to read their own meters and how to detect leakages on their properties. Because of the growth in property developments and expansions of locations in the NMBM, the municipality should take back the meter reading function and employ more meter readers so that billing can be more accurate.

#### **5.4.7 Revenue before/after outsourcing?**

It is mentioned above that it is advised that the NMBM take back the meter reading function as it is an essential function for revenue collection. To improve revenue, the council should hire and train its own meter readers to reduce errors in meter readings and diminish the queries that are submitted daily by consumers who refuse to pay when they are billed incorrectly. It will be easier for the NMBM to monitor and manage the meter reading function if it is done by its own employees.

To improve the system of billing it is suggested that the municipality employ meter readers that will work after hours so that they can revisit the houses that were inaccessible during the day. Overtime should be paid to admin workers who will telephonically contact consumers after hours. This would be for consumers whose meters were unreachable during the day, due to gate lock, dog present, private lock, key not available and other reasons for non-reading.

#### **5.4.8 Challenges associated with the municipality's system of billing**

Readings sent through the IVR system by consumers are often incorrect and to remedy the challenge consumers need be trained on how to read meters. They should be notified a day before either via email or sms that they need to take readings and send them through. Training consumers to read meters is important as they often send incorrect readings which lead to high accounts, or the reading not being accepted. It is highly recommended that consumers should be educated about the importance of sending correct readings. When they apply for IVR they need to be taught how the IVR machine works as they sometimes send readings late and the machines don't accept the reading.

### **5.5 CONCLUSION**

In this chapter, the findings and recommendations as per the study have been presented. The researcher wanted to find out reasons for the incorrect billing of consumer account by the NMBM. The researcher tried to assess the system of billing for basic services in the NMBM.

Another objective was to analyse the factors and challenges that influence the system of billing in the NMBM. These were the causes of discrepancies in the billing of

consumer accounts. Various challenges were revealed by the role players, to mention a few: inaccessibility of water and electricity meters to the meter readers, robbery of meter readers on the field, refusal of entry to the premises by property owners, presence of vicious dogs in some households and so on.

It was recommended that the NMBM remove the meters from inside the households and back yards and put them where they will be easily accessible to meter readers. It was also suggested that meter readers should wear uniform and carry identity cards so they are not refused entry to the household by the property owners.

All meter readers should use vehicles to move from one area to another to make their work easier and to avoid problems such as robbery and bad weather. IVR users should be trained on how and when to read their meters so that the readings can be captured in good time. They should be given alternative numbers or other options they can use when they encounter problems with the IVR.

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[www.socialresearchmethods.net](http://www.socialresearchmethods.net)

**ANNEXURE A**  
**INTERVIEW SCHEDULE A**

**INTERVIEW QUESTIONS FOR METER READERS**

1. Have you ever been trained to be a meter reader?  
\_\_\_\_\_
2. Do you think you need training?  
\_\_\_\_\_
3. Is there a specific number of properties you are required to take their readings at a given time-frame?  
\_\_\_\_\_
4. If yes, please state the number of properties and the time-frame.  
\_\_\_\_\_
5. If no, how do you indicate/report that you have done the required job within the required time-frame?  
\_\_\_\_\_
6. Do you report the challenges you face to your supervisors?  
\_\_\_\_\_
7. If no, why not  
\_\_\_\_\_
8. Does the management deal with the problems/challenges that you encounter?  
\_\_\_\_\_
9. What do you think should be done to address the challenges you encounter when doing your meter reading work?  
\_\_\_\_\_

**INTERVIEW SCHEDULE B**  
**INTERVIEW QUESTIONS FOR CONSUMERS**

1. Are the bills reflected on your municipal account/statement always consistent with your expectations?

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2. If no, what exactly in the statement sometimes differ with your expectations?

---

3. What do you normally do when you notice this difference?

---

4. Do you seek clarification from the municipality?

---

5. What responses or explanations have you received from the municipality on incidents of this nature?

---

6. Have you ever checked on the statement whether the meter number corresponds with the one you have on the property?

---

7. If no, why?

---

8. Is the meter located on your property easily accessible to the meter readers?

---

9. If no, how does the municipality get readings in the meter located on your property?

---

10. Are there instances where you were told that the reading of the meter located on your property was incorrectly captured and /or estimated?

---

11. If yes, was that a low reading or a high reading compared to the correct reading?

---

12. What do you think should be done to avoid the challenges emanating from incorrect reading and/or estimation of reading?
- 

### **INTERVIEW SCHEDULE C**

#### **INTERVIEW QUESTIONS FOR ASSISTANT DIRECTOR AND DIRECTOR OF RMMCC**

1. Can you explain the process of billing of consumer's accounts which is under taken by the NMBM
- 

2. What was the reason/s for outsourcing the meter reading function?
- 

3. Before/after the outsourcing of meter reading, how was the NMBM revenue and how is it now?
- 

4. Did the NMBM inform the consumers about the outsourcing of the meter reading function by the council?
- 

5. How did you choose the contractors?
- 

6. Did you as the management made sure that the contract meter readers get training?
- 

7. If no, why ?
- 

8. Are you aware of any challenges associated with the system of billing for basic services in the Municipality?
- 

9. If yes, can you elaborate on those challenges?
-

10. What do you think should be done to address the challenges you have mentioned above?

---

## **INTERVIEW SCHEDULE D**

### **INTERVIEW QUESTIONS FOR PRE-BILLING CLERKS**

1. What does your job entails as a pre-billing clerk?

---

2. When you receive readings, what do you do with them?

---

3. When you receive readings late what do you do?

---

4. When an account bills on estimation, are there any measures in place to make sure the next billing the account bills correctly?

---

---

5. With the Interactive Voice Response readings, are you experiencing any problems?

---

6. When you get the Interactive Voice Response, do you confirm the readings by sending check reading?

---

If yes, How often?

---

If no, Why not?

---

7. Are you aware of any challenges associated with the system of billing for basic services in the Municipality?

---

---

If yes, can you elaborate on those challenges?

---

---

8. What do you think should be done to address the challenges you have mentioned above?

---

### **INTERVIEW SCHEDULE E**

#### **INTERVIEW QUESTIONS FOR POST-BILLING CLERKS**

1. What does your job entails as a post-billing clerk?

---

---

2. When you receive query about an estimated account, what do you do?

---

---

3. When you finish working on the estimated accounts, do you inform the consumers of any changes in their account?

---

---

4. Are you aware of any challenges associated with the system of billing for basic services in the Municipality?

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5. If yes, can you elaborate on those challenges?

---

---

6. What do you think should be done to address the challenges you have mentioned above?

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**ANNEXURE B**  
**INFORMATION AND INFORMED CONSENT FORM**

## NELSON MANDELA METROPOLITAN UNIVERSITY

<b><u>RESEARCHER'S DETAILS</u></b>	
<b>Title of the research project</b>	ASSESSMENT OF THE SYSTEM OF BILLING FOR BASIC SERVICES IN THE NELSON MANDELA BAY MUNICIPALITY
<b>Reference number</b>	
<b><i>Principal investigator</i></b>	NOLUKHANYO DOROTHIA NTENGE
<b>Address</b>	186 GOVAN MBEKI AVENUE
<b>Postal Code</b>	6000
<b>Contact telephone number</b> (private numbers not advisable)	041 506 5265

<b>A. <u>DECLARATION BY OR ON BEHALF OF PARTICIPANT</u></b>		<b>INITIAL</b>
<b>I, the participant and the undersigned</b>	(full names)	
<b>ID number</b>		
<b><u>OR</u></b>		
<b>I, in my capacity as</b>	(parent or guardian)	
<b>of the participant</b>	(full names)	
<b>ID number</b>		
<b>Address (of participant)</b>		

A.1 HEREBY CONFIRM AS FOLLOWS:		Initial
I, the participant, was invited to participate in the above-mentioned research project		
that is being undertaken by	(NOLUKHANYO NTENGE)	
from	(DEPARTMENT OF POLITICAL & GOVERNMENT STUDIES)	
of the Nelson Mandela Metropolitan University.		

THE FOLLOWING ASPECTS HAVE BEEN EXPLAINED TO ME, THE PARTICIPANT:				
2.1	<b>Aim:</b>	The investigators are studying  The information will be used to/for academic purposes only		
2.2	<b>Procedures:</b>	I understand that		
2.3	<b>Risks:</b>			
2.4	<b>Possible benefits:</b>	As a result of my participation in this study there will be no financial or other benefit to me		
2.5	<b>Confidentiality:</b>	My identity will not be revealed in any discussion, description or scientific publications by the investigators.		
2.6	<b>Access to findings:</b>	Any new information or benefit that develops during the course of the study will be shared as follows:		
2.6	<b>Voluntary participation / refusal / discontinuation:</b>	My participation is voluntary	YES	NO
		My decision whether or not to participate will in no way affect my present or future care / employment / lifestyle	TRUE	FALSE

## **ANNEXURE C**

### **LETTER OF INVITATION TO METER READERS, PRE-BILLING AND POST-BILLING CLERKS, AD METERED SERVICES AND DIRECTOR RMCC**

Dear Sir/Madam

#### **INVITATION FOR PARTICIPATING IN THE STUDY**

I am a student who is currently completing Master's degree in Public Administration at the Nelson Mandela Metropolitan University. I am conducting research on system of billing for basic services in the Nelson Mandela Bay Municipality.

Hence, I hereby invite you to participate in the research project which assesses the system of billing for the basic services in the Nelson Mandela Bay Municipality.

Participation is voluntary and there will be no negative consequences linked to non-participation.

Your responses will be used for the purpose of study only and the information will be used only for research purposes.

The name of the participants will remain anonymous. There are no known risks for your involvement. There is no form of compensation in the study.

The participant's participation in the study will be confidential.

Yours Faithfully

N.D. Ntenge (Researcher)

## **ANNEXURE D**

### **REQUEST TO CONDUCT RESEARCH AT METERED SERVICES**

186 Govan Mbeki Avenue  
Murray & Roberts Building  
Port Elizabeth  
6000  
23 June 2015

**Director Revenue Management & Customer Care**

**Nelson Mandela Bay Municipality**

Dear Sir

#### **RE: REQUEST TO CONDUCT RESEARCH AT METERED SERVICES**

I am a student of Master's Degree in Public Administration at the Nelson Mandela Metropolitan University. I am conducting research for treatise entitled: "AN ASSESSMENT OF THE SYSTEM OF BILLING FOR BASIC SERVICES IN THE NELSON MANDELA BAY MUNICIPALITY".

I hereby request permission for conducting research in your Municipality. Prospective participants in the research include meter readers, and selected clerks at pre-billing and post-billing sections, the Assistant Director of Metered Services and the Director of the RMCC. Participation in this study is voluntary and non-participation will have no negative consequences. The information that will be collected during the interview will be used for the purpose of the study.

The names of the participants will remain anonymous. There is no form of compensation in the study. Participant's participation in the study will also be confidential.

Yours Faithfully

N.D. Ntenge (Researcher

186 Govan Mbeki Avenue  
Murray & Roberts Building  
Port Elizabeth  
6000

23 June 2015

**Lelethu Meter Management cc**

Dear Sir

**RE: REQUEST TO CONDUCT RESEARCH AT YOUR COMPANY**

I am a student who is currently completing Master's degree in Public Administration at the Nelson Mandela Metropolitan University. I am conducting research on system of billing for basic services in the Nelson Mandela Bay Municipality.

I apply for permission to conduct interviews with the meter readers. The participation in this study is voluntary and non-participation will have no negative consequences. The information that will be collected during the interview will be used for the purpose of the study.

The name of the participants will remain anonymous. There are no known risks for your involvement. There is no form of compensation in the study.

The participant's participation in the study will be confidential.

Yours Faithfully

N.D. Ntenge (Researcher)

186 Govan Mbeki Avenue  
Murray & Roberts Building  
Port Elizabeth  
6000

23 June 2015

**Concorde Metering cc**

Dear Sir

**RE: REQUEST TO CONDUCT RESEARCH AT YOUR COMPANY**

I am a student who is currently completing Master's degree in Public Administration at the Nelson Mandela Metropolitan University. I am conducting research on system of billing for basic services in the Nelson Mandela Bay Municipality.

I apply for permission to conduct interviews with the meter readers. The participation in this study is voluntary and non-participation will have no negative consequences. The information that will be collected during the interview will be used for the purpose of the study.

The name of the participants will remain anonymous. There are no known risks for your involvement. There is no form of compensation in the study.

The participant's participation in the study will be confidential.

Yours Faithfully

N.D. Ntenge (Researcher)

186 Govan Mbeki Avenue  
Murray & Roberts Building  
Port Elizabeth  
6000

23 June 2015

**Liyabona Agency CC**

Dear Sir

**RE: REQUEST TO CONDUCT RESEARCH AT YOUR COMPANY**

I am a student who is currently completing Master's degree in Public Administration at the Nelson Mandela Metropolitan University. I am conducting research on system of billing for basic services in the Nelson Mandela Bay Municipality.

I apply for permission to conduct interviews with the meter readers. The participation in this study is voluntary and non-participation will have no negative consequences. The information that will be collected during the interview will be used for the purpose of the study.

The name of the participants will remain anonymous. There are no known risks for your involvement. There is no form of compensation in the study.

The participant's participation in the study will be confidential.

Yours Faithfully

N.D. Ntenge (Researcher)



186 Govan Mbeki Avenue  
Murray & Roberts Building  
Port Elizabeth  
6000  
23 June 2015

Director Revenue Management & Customer Care  
Nelson Mandela Bay Municipality

Dear Sir

**RE: REQUEST TO CONDUCT RESEARCH AT METERED SERVICES**

I am a student of Master's Degree in Public Administration at the Nelson Mandela Metropolitan University. I am conducting research for treatise entitled: "AN ASSESSMENT OF THE SYSTEM OF BILLING FOR BASIC SERVICES IN THE NELSON MANDELA BAY MUNICIPALITY".

I hereby request permission for conducting research in your Municipality. Prospective participants in the research include meter readers, and selected clerks at pre-billing and post-billing sections, the Assistant Director of Metered Services and the Director of the RMCC. Participation in this study is voluntary and non-participation will have no negative consequences. The information that will be collected during the interview will be used for the purpose of the study.

The names of the participants will remain anonymous. There is no form of compensation in the study. Participant's participation in the study will also be confidential.

Yours Faithfully

N.D. Ntenge (Researcher)

**M'Nogqala**  
Director: Revenue Management and Customer Care  
Budget and Treasury Directorate  
Nelson Mandela Bay Municipality



.....



*Lelethu Meter Management cc*

Co Reg No. 2004/12767/23

Vat Reg No. 4170231320



**18 August 2015**

Dear ND Ntenge

You are hereby granted permission to interview some of Lelethu Meter Management CC meter readers in order to aid you in your research on the system of billing for basic services in the Nelson Mandela Bay Municipality.

The meter readers interviewed must remain anonymous and the information obtained must be used for research and the purpose of your study only.

We trust that the above mentioned will be strictly adhered to.

Yours faithfully

Ethelene Wynford

Member

*Lelethu Meter Management CC*  
11 Somerset Street  
Richmond Hill, Port Elizabeth, 6001  
P.O. Box 70485, The Bridge, Greenacres, 6032  
Tel: 041 - 582 2362 Fax: 041 - 582 4385  
Vat Reg. No. 4170232320 Reg. No. 2004/12767/23

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**TAKING TIME TO MAKE TIME FOR PERFECTION**

11 Somerset Street Richmond Hill P.E. 16001  
PO Box 70485 The Bridge Greenacres 6032  
Tel: 041 582 2362 Fax: 041 582 4385 E-mail: ethelene.lmm@telkomsa.net  
MEMBER: Ethelene Wynford

DRIAN  
GARC  
ARNOLD  
NADEEM

186 Govan Mbeki Avenue  
Murray & Roberts Building  
Port Elizabeth  
6000  
23 June 2015

Concord Meter Management

Dear Sir

**RE: REQUEST TO CONDUCT RESEARCH AT YOUR COMPANY**

I am a student who is currently completing Master's degree in Public Administration at the Nelson Mandela Metropolitan University. I am conducting research on system of billing for basic services in the Nelson Mandela Bay Municipality.

I apply for permission to conduct interviews with the meter readers. The participation in this study is voluntary and non-participation will have no negative consequences. The information that will be collected during the interview will be used for the purpose of the study.

The name of the participants will remain anonymous. There are no known risks for your involvement. There is no form of compensation in the study.

The participant's participation in the study will be confidential.

Yours Faithfully

N.D. Ntenge (Researcher)

VIE GUYON ASSIST,  
**Concorde Metering cc**  
CK 9964 337/23  
TEL. 041 5850465 OR 5850257  


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**ANNEXURE E**  
**LETTER FROM LANGUAGE EDITOR**

19 Mark Street

Springfield

Port Elizabeth

July 2017

To whom it may concern

This document serves to confirm that the following thesis paper has been checked:

**NAME: NOLUKHANYO NTENGE**

**Student number: 198 195260**

**Submitted in partial fulfilment of the requirements for the degree of**

**Public Administration (MPA)**

**At the**

**Nelson Mandela Metropolitan University**

This paper has been checked for:

1. Grammar
2. Spelling
3. Punctuation
4. Other formatting errors

I have left my comments in the review section.

Should you have any queries, please do not hesitate to contact me.

Kind regards

Johan Vosloo

0828524377