

**THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS IN
KWAZULU-NATAL, SOUTH AFRICA**

by

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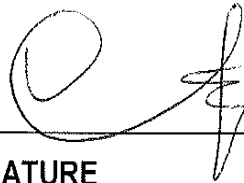
DECLARATION OF RESEARCHER

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I, **VANISHA GONASAGAREE CHETTY**, declare that this dissertation:

**THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS IN
KWAZULU-NATAL, SOUTH AFRICA**

is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other academic institution.



SIGNATURE

MISS. V. G. CHETTY

23 JANUARY 2018

DATE

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EXECUTIVE SUMMARY

This study was conducted owing to the protracted problem and challenges that unauthorised electrical connections pose to electricity utilities. This study sought to contribute to the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa, which has never before been studied in this manner. Considerable revenue is stolen from utilities because of unauthorised electrical connections, by-passing of electrical meters and tampering with electricity networks. This contributes to public safety risks, fatalities, property damage and overloading of electrical networks. This in turn causes transformer and electricity network overload and power supply failure, prolonged unplanned power cuts, loss of jobs, food security risk, serious poor economic development, damaged electrical infrastructure, loss of revenue, electricity disruptions, electric shock, and the burning of dwellings. This leads to the interruption of supply to legal and compliant customers, all with disastrous effects. It is therefore difficult to manage the supply and demand of electricity under these circumstances, more especially in this period when South Africa faces a tight electricity supply.

In this dissertation, the international and national perspectives reveal the nature and extent of unauthorised electrical connections. It was explored how unauthorised electrical connections are presently being combated and what specific security measures may be implemented to enhance the combating of unauthorised electrical connections.

A case study design was used to investigate in greater detail the opinions, views, perceptions and experiences of the targeted interviewees using interviewing, site observation and case docket analysis. This design guided the use of specific sample groups, procedures and techniques used for data collection and analysis. The design and development of the different data collection instruments and the piloting of the instruments were implemented to ensure validity, reliability, accuracy and trustworthiness of the collected information.

The study produced findings to assist electricity utilities to better manage this phenomenon. Recommendations were formulated to assist stakeholders to improve their roles in the combating of unauthorised electrical connections.

KEY WORDS

Combating; electricity utilities; unauthorised electrical connections; illegal electrical connections; theft of electricity; fraud.

LIST OF ABBREVIATIONS	
CCTV	Closed-Circuit Television
CPF	Community Policing Forum
DPCI	The Directorate for Priority Crime Investigation (the Hawks)
EHSOCL	ESKOM Holdings State Owned Company Limited (ESKOM)
FLASH	Firearms, Liqueur and Second-Hand Goods
IOS	International Standards Organization
MTN	Mobile Telecommunication Network
NDPP	National Director of Public Prosecution
NERSA	National Energy Regulator of South Africa
PSiRA	Private Security Industry Regulatory Authority
RDP	Reconstruction and Development Programme
SADF	South African Defence Force
SAPS	South African Police Service
SAPS' Crime Prevention	South African Police Service Crime Prevention
SMS	Short Message Service
SPCA	Society for the Prevention of Cruelty to Animals
Telkom	Telkom South Africa State Owned Company Limited
Transnet	Transnet State Owned Company Limited
USA	United States of America

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CHAPTER 1

INTRODUCTION AND MOTIVATION

1.1 INTRODUCTION

Unauthorised electrical connections affect many electricity utilities throughout the world in both developed and developing countries. Eskom Holdings State Owned Company Limited (EHSOCL) (hereinafter referred to as 'ESKOM'), the main electricity provider in South Africa, is currently in a period of critical change and challenge. It is therefore difficult to manage supply and demand during this period when South Africa is facing an electricity shortage. A huge portion of non-technical losses is owing to unauthorised consumption of electricity. Unauthorised electrical connections have negative implications such as power outages, job losses owing to businesses closing down, food security risk, poor economic development, damaged electrical infrastructure, and loss of revenue. In South Africa, it is a challenge for Eskom to effectively address this phenomenon of unauthorised electrical connections. This chapter discusses the rationale for this research, the problem statement, the research questions, the aim, and objectives of the research. This chapter also provides a discussion of key theoretical concepts as well as an outline of the dissertation.

1.2 RATIONALE FOR THE STUDY

According to the World Bank, the current South African electricity crisis has 'very severe implications' for growth of the continent's largest economy. The electricity shortages that started in 2005 are of great concern and the government closely monitors the situation (Mbatha & Tshandu, 2015:1).

Some municipalities in South Africa have adopted electricity supply by-laws to address the problem and prosecute offenders in a Municipal court of law, if they are apprehended for installing unauthorised electrical connections to the official Municipal networks. The Electricity Supply By-laws, Section 26 of the Durban eThekweni Municipality specifying offences and penalties stipulate a fine for the offenders. This municipal electricity supply by-law only applies to Durban eThekweni Municipality and

cannot be implemented by ESKOM (Durban, eThekweni Municipality, KwaZulu-Natal, South Africa, 2017).

Unauthorised electrical connections includes stealing electricity from the electricity distribution feeder; tampering with an electricity meter; improper electricity meter calibration; and illegal de-calibration of electrical meters during their design, which can also cause non-technical losses. The following countries also experience this problem: India, Canada and the United States of America (USA). Owing to electricity theft, utilities in India incur revenue losses of approximately USD\$4.5 billion annually. Utilities in the United States of America (USA) experience revenue losses of approximately USD\$1.6 billion. National electricity utility British Columbia (BC) Hydro reported USD\$1 million loss of revenue annually in Canada and North America (Depuru, Devabhaktuni, Lingfeng & Green, 2012a:1).

eThekweni Municipality in Durban, KwaZulu-Natal, South Africa spends approximately ZAR300 million annually to combat electricity theft. This municipality is presently exploring different measures to combat electricity theft. Illegal electrical connections result in high costs to replace infrastructure, hire security, shutdown of businesses, as well as loss of revenue, income and exports. In a letter written to the media, Durban eThekweni Municipality Mayor, Mr James Nxumalo asked all Durban eThekweni Municipality residents to share their ideas on advanced combating methods to reduce the theft of electricity. Mr Nxumalo posits that “in many instances, innocent children, including toddlers, die when they come into contact with colourful electrical wires that are not insulated, in their dwellings, streets and the open fields where they play” (Maluleka, 2014:1).

To solve this problem, municipalities must conduct frequent operations to remove unauthorised electrical connections and convert affected electricity connections from underground to overhead. Knowledge, education and awareness programmes educating the community and pupils on electricity safety and the consequences of connecting electricity illegally, must be conducted (Maluleka, 2014:2).

The researcher noted that an ESKOM study in 2015 revealed that the amount of revenue lost, owing to unauthorised electrical connections, was 6 per cent of the gross

domestic product. However, homeowners who have unauthorised electrical connections installed in their dwellings are not arrested as theft of electricity is not currently legislated as a crime. If ESKOM can find a solution to electricity theft 'load shedding' would not exist (Viljoen, 2015:14). City Power, the main electricity utility in Johannesburg, Gauteng reflected in its, 1 July 2013 to 30 June 2014 financial report that, should the electricity lost owing to electricity theft and meter tampering be accounted for as revenue, Johannesburg would have benefited ZAR300 billion annually. This revenue could have been used for new critical electricity projects. Furthermore, it was stated that during the period 1 July 2012 to 30 June 2013, electricity revenue lost owing to electricity theft amounted to ZAR1.5 billion (Slabbert, 2015:1).

The prosecution of electricity theft is complicated by South Africa's national legislation that deals with electricity management. The Electricity Regulation Act of 2006 (Act No. 4 of 2006) does not contain provisions stating that electricity theft, unlawful electricity infrastructure, damage and interference are punishable criminal offences (South Africa, 2006). This is in contrast with the position which prevailed under Section 27 (2) and Section 27 (3) of the Electricity Act 1987 (Act No. 41 of 1987) (South Africa, 1987). This scenario applied prior to the Principal Act becoming operative, and which in effect declared 'electricity theft' and unlawful electricity infrastructural damage or interference to be punishable criminal offences (Henning, Maphaka, Sparg, Van Kaam & Van Zyl, 2010:2).

The legislative gap is being addressed as part of an on-going national campaign to deal comprehensively with electricity theft. In the interim, current legislation is in effect and both prosecutors and investigators must find ways to deal with the shortcomings and ensure successful investigations, prosecutions and sentencing (Henning et al., 2010:2). The researcher noted that during 2013, ESKOM's KwaZulu-Natal Operating Unit Security Management division decided to only charge ESKOM employees and ESKOM contractors who were found to be installing unauthorised electrical connections. This would only be possible if the informers are willing to submit a written statement sworn to or affirmed under oath and is willing to give evidence at a disciplinary or criminal case. However, presently ESKOM does not have a policy for unauthorised electrical connections. This results in a gap (grey area) with regards to

the combating of unauthorised electrical connections by means of policing, prevention and investigation.

A major challenge is the urgent removal of unsafe, unauthorised electrical connections. The process of tasking the electrical removal contractors is time-consuming and most electrical removal contractors do not work after hours, as often called for by ESKOM's KwaZulu-Natal Operating Unit. According to Ronan (2015:9), ESKOM must deal ruthlessly with the country-wide unauthorised electrical connections, which is one of its primary but understated challenges. ESKOM must act swiftly to combat this increasing threat to its sustainability, which if dealt with effectively, could result in reduced load shedding.

Bela-Bela Municipality in Bela-Bela, Limpopo, South Africa uses its credit control policy to prosecute perpetrators installing unauthorised electrical connections (Bela-Bela Municipality, Limpopo South Africa, 2009. This is as opposed to eThekweni Municipality, Durban, KwaZulu-Natal, South Africa who utilises its municipal electricity supply by-laws, to prosecute perpetrators installing unauthorised electrical connections in a municipal court of law (Durban, eThekweni Municipality, 2009:np).

A round table discussion was held with various businesses and industry leaders to find ways to deal with electricity challenges. During this discussion, Durban's eThekweni Municipality Mayor, Mr. James Nxumalo, stated that "the increase in unauthorised electrical connections could leave the poorest of the poor worse off, have negative consequences in efforts to attract investment to the city and lead to an increase in the theft of electricity, since it would become a very expensive commodity which could be out of reach for the poor" (Els, 2015:4).

The researcher asserts that it would be advantageous to all electricity utilities Security Management Departments to partner with the South African Police Service (SAPS), Durban's eThekweni Municipality Metropolitan Police Department, municipalities, security companies and the community to assist in the combating of unauthorised electrical connections. According to Minnaar (1999:1), there should be joint partnership between all role players as stated in Chapter 1. This partnership could create an opportunity for the security industry to engage in exercises with the SAPS

at community level. Previously, no legal framework for these partnerships had been openly established or proposed. However, the security industry has initiated specific conditions that they would like to implement for partnership policing to become a reality.

Globally, electricity is the third most stolen commodity, with credit card information being second and vehicles third. Dwindling foreign investment into Africa underscores the importance of revenue protection. Africa is experiencing the following challenges: low growth rate; low investment climate; reform backbone sectors; address inadequate market institutions; low investment and savings rates; as well as skill shortage; build ties with emerging economies; manage the rising middle class; and raise agricultural productivity (Van Kaam, Maphaka & Sparg, 2010:1).

According to Henning et al, (2010:23), a mass of unauthorised electrical connections, are called 'spider webs' in South Africa, and '*kunda*' meaning 'coil' in Pakistan. On the contrary, in Mexico unauthorised electrical connections are called '*diablito*', or 'little devils'. It is alarming to note that globally theft of electricity has put a strain on the overburdened electrical grid. As a result, thousands of dwellings and businesses have been hit by power outages.

Successful revenue protection and collection is not simply a choice of meter technology. Instead, it requires a holistic approach where both pre-payment and credit electrical meters, and a whole range of good management stimuli, performance monitoring, credit control and enforcement practices, form part of the solution. After having neglected the theft and non-payment of electricity for decades, there is simply no quick fix. The solutions would require commitment and support from government, Cabinet, National Energy Regulator of South Africa (NERSA), ESKOM, municipalities, the SAPS, the Durban's eThekweni Municipality Metropolitan Police Department, the Criminal Justice Department and Correctional Services Department (Yellend, 2015:1).

1.3 RESEARCH PROBLEM

The research problem of this study is concerned with unauthorised electrical connections which are not being effectively and efficiently combated in KwaZulu-Natal, South Africa. This problem statement has been delimited for the purpose of this study to ensure that there is a clear understanding of the scope of the research (Delpont & Fouché, 2011:108).

1.4 RESEARCH QUESTIONS

The following key research questions guided the study:

- What is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?
- How are unauthorised electrical connections presently being combated in KwaZulu-Natal, South Africa?
- What measures may be implemented to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

1.5 RESEARCH AIM

The aim of this research is to find measures to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa by specifically exploring the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa.

1.6 RESEARCH OBJECTIVES

The objectives of this research are:

- To determine the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa.
- To ascertain how unauthorised electrical connections are presently being combated in KwaZulu-Natal, South Africa.
- To find new measures to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa.

1.7 KEY THEORETICAL CONCEPTS

For this study, the following key theoretical concepts and definitions apply.

- **Combating**

Combating means to engage in combat, to oppose and strive against (Fowler & Fowler, 1990:224). It also means fighting, especially between armed forces, taking action to reduce or prevent (something bad or undesirable), engaging in or fighting with (Butler, 2003:183).

- **Illegal electrical connection**

An illegal electrical connection is one that is either made directly to the electricity network, mini sub-station, buying or selling of illegal pre-paid vouchers, by-passing or tampering with an electrical meter by using physical methods to evade payment is considered a serious offence and is punishable by law (Depuru, 2012b:1).

- **Unauthorised electrical connection**

Unauthorised electrical connection can be defined as consuming electricity from a utility without a contract, consent or valid obligation to alter its measurement (Depuru, 2012b:1).

- **Electricity theft**

Electricity theft can be defined as using electricity from an electrical utility without a contract or valid obligation to alter the measurement of electricity. Electricity theft includes tapping energy directly from the distribution feeder, tampering with the energy meter, or using physical methods to evade payment, such as improper calibration and illegal de-calibration of electrical meters during their design, which can also cause non-technical losses (Depuru et al., 2012a:1).

- **Illegal**

Illegal means not legal, contrary to law and legislation (Fowler et al., 1990:587).

- **Electrical connection**

Electrical connection means the act of joining together or connecting two points of electrical components in an electricity circuit (Murcko, 2012:np).

- **Theft**

Theft is the unlawful and intentional appropriation of moveable, corporeal property which belongs to and is normally in the possession of another; but is currently in the perpetrator's own possession; or is in another's possession and such other person has a right to possess it which legally prevails against the perpetrator's own right of possession, provided that the intention to appropriate the property includes an intention permanently to deprive the person entitled to the possession of the property (Snyman, 2002:469).

- **Fraud**

Fraud is the unlawful and intentional making of a misrepresentation that causes actual or potential prejudice to another (Snyman, 2002:520).

- **Amnesty**

Amnesty in legal terms refers to an exemption from legal action or prosecution (Maphaka et al., 2010).

- **Pre-paid electricity meter**

A pre-paid electricity meter is an electricity meter that requires the customer to purchase electricity through an electronic payment system using a voucher number that is punched into the meter to ensure electricity usage.

- **Conventional electricity meter**

A conventional electricity meter is used to record monthly readings and the account to the customer is based according to the amount of electricity used. It is also known as a 'pay-as-you-go' electricity meter.

1.8 OUTLINE OF THE DISSERTATION

This dissertation will be presented in the following chapters:

Chapter 1: Introduction and motivation

This chapter provides the general orientation to the study.

Chapter 2: Research methodology

Chapter 2 discusses in detail the research design and methodology used in the study, including the research approach, research design and methodology used to collect and analyse the data. Also included in this chapter are discussions on the value of the study to the various stakeholders, the validity, reliability, truthfulness and trustworthiness of the data collection instruments, limitations to the study and ethical considerations.

Chapter 3: Literature study on the combating of unauthorised electrical connections, internationally and nationally

Chapter 3 provides an overview of literature on the issue of combating unauthorised electrical connections in KwaZulu-Natal. Particular focus is placed on the international and South African perspective with regard to the combating of unauthorised electrical connections. The discussion revolves specifically on the present state of unauthorised electrical connections, methods that are being used to install unauthorised electrical connections, and stimulus being implemented to combat unauthorised electrical connections.

Chapter 4: Data presentation, interpretation and deduction

Chapter 4 discusses in detail how the data were collected by using specific data collection instruments, and how the results were analysed and interpreted. Different levels of data analysis and a graphic representation of data are provided. In particular, the following aspects are discussed: the biographical information of all interviewees; the present state of unauthorised electrical connections; methods that are being used to install unauthorised electrical connections; and measures being implemented to combat unauthorised electrical connections.

Chapter 5: Findings, recommendations and conclusion

Chapter 5 discusses the results of the study and makes findings and recommendations for practical use of the study with the aim of reducing unauthorised electrical connections in KwaZulu-Natal.

1.9 CONCLUSION

This study aims to contribute to combating unauthorised electrical connections in KwaZulu-Natal, South Africa which has never been explored in this manner from a South African perspective. Chapter 1 discusses the problem statement, the rationale for the research, the research questions, as well as the aims and objectives of this research study. The researcher provided a discussion of concepts, as well as an outline of the dissertation which highlights a critical problem that has been identified with regard to the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa.

CHAPTER 2

RESEARCH METHODOLOGY

2.1 INTRODUCTION

The aim of this chapter is to discuss the research approach, design and methods used in this study, and to provide more detail on how the research was conducted. The triangular research approach was used by utilising multiple methods of interviewing, observations and case docket analysis. This chapter focuses on the justification for the specific approach, design, choice of a specific sample group, procedures, and techniques used for data collection and analysis. The design and development of the different data collection instruments were piloted to ensure validity, reliability, accuracy and trustworthiness. This chapter outlines the procedures and techniques used for the collection of data using a schedule of interview questions, site observation checklists and case docket analysis pro forma. The systematic data analysis process of the raw data is discussed. Furthermore, the way in which the literature study was conducted, is also explained. This chapter concludes with a discussion of ethical issues and limitations encountered and managed by the researcher during the study.

2.2 RESEARCH APPROACH

The researcher chose a qualitative research approach for this research study. This approach assisted the researcher to select interviewees that possessed the elements of interest, facilitated direct comparisons of opinions and perceptions displaying their relationship to each other and explaining their ideas, reactions and criticisms to others (Berner, O'Sullivan & Rassel, 2008:20).

This research approach is based on methods of data generation that are flexible and sensitive to the social context in which data are produced. Furthermore, it is based on methods of analysis and explanation building that involve understanding of complexity, detail and context. Qualitative research aims to produce rounded understanding based on rich, contextual and detailed data (Mason, 2006:np). Conversely, qualitative research provides explanations to extend our understanding of phenomena, and it

promotes opportunities for informed decisions regarding social action (McMillan & Schumacher, 2001:393).

Strauss and Corbin (1990:92) posit that qualitative research is aimed at gaining an in-depth understanding of the research topic, including exploring the life-world of interviewees, and studying their behaviour and background with the intention of establishing the meaning of the facts provided. Accordingly, the researcher used one-on-one interviews to elicit the views of officials from several stakeholders. The latter include the Visible Security Escorting Response Guarding and Investigation Department, Revenue Protection, Process Control and Assurance Department, Plant Sector Department, Customer Network Centre, and Safety, Health, Environment and Quality Department. Other stakeholders include the Operation Khanyisa Marketing Campaign, contracted Visible Private Security Escorting Response and Guarding Company, officials from Durban's eThekweni Municipality Electricity Customer and Retail Services Department, Maintenance Planning Department, Revenue Protection Department, Energy Control Department, South African Police Service: Crime Prevention (SAPS' Crime Prevention), Community Policing Forum (CPF) and members of the community from the ten scenes where unauthorised electrical connections were observed in KwaZulu-Natal, South Africa.

2.3 RESEARCH DESIGN

Research design is defined as an integrated statement of justification for the more technical decisions involved in planning a research project and process "analogous to the activities of an architect designing a building" (Blaikie, 2000:21). Both Blaikie (2000) and Babbie (2007:112) assert that "research design involves a set of decisions regarding what topic is to be studied; among what population; with what research methods; and for what purpose". In contrast, Monnette, Sullivan and DeJong (2008:9) define research design as: "a plan outlining how the researcher will conduct one-on-one interviews, site observations, and case docket analysis to carry out the research study".

The case study design involves an empirical inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used (Yin, 1984:23). The case study design focuses on going into the field and collecting information through one-on-one interviewing, site observation checklists, case docket analysis and examining relationships between individuals or within groups, understanding the meaning individuals or groups ascribe to a social or human problem and determining attitudes that are expressed as patterns, roles and language (Kruger, Mitchell & Welman, 2005:193).

For this study, the researcher utilised the case study design because it brings us to an understanding of a complex issue, object or experience, and adds strength to what is already known through previous research. It highlights detailed contextual analysis of a limited number of events or conditions, examines real-life situations and provides the basis for the application of ideas and the extension of methods (Baxter & Jack, 2008: 544; Yin, 1984:122). This type of research design articulates which data are required, what methods are going to be used to collect and analyse the data, how these are going to answer the research questions and achieve the research goals and objectives (Creswell, 2007:74).

2.4 POPULATION AND SAMPLING

According to Kruger et al. (2005:55), the population is a group of potential interviewees to whom you want to generalise the results of the study. The sample size will depend on what we want to know, the purpose of the study, what is at stake, what will be useful, what will have credibility, and what can be done with the available time and resources. "In qualitative research sampling establishes the circumstances of the study clearly and directly" (Patton, 2002:244).

Sarantakos, (1994:156) explains that qualitative research is based on saturation, is therefore not representative and the size is not statistically determined. It involves low cost and less time. As a result, it can be deduced that in qualitative research, the non-probability sampling method is used almost without exception. Alston and Bowles (2003:66) concur that the qualitative research approach focuses on non-probability

sampling techniques. The researcher chose to use a triangular design incorporating one-on-one interviews, site observation and case docket analysis of ten unauthorised electrical connection scenes. Purposive sampling entails selecting a sample based on accessibility or convenience (Mistry, Minnaar, Patel & Rustin, 2003:110). Purposive sampling was utilised, as the samples were based on the subjective judgement of the researcher and the procedure to select the samples was easier, quicker and more cost effective in comparison to random sampling. The target groups comprised of ESKOM's Security Management, Revenue Recovery and Energy Trading Departments, Durban eThekweni Municipality Electricity and Security Management Departments, SAPS' Crime Prevention, CPF chairpersons, community members selected from the unauthorised electrical connection scenes observed and ESKOM's KwaZulu-Natal Operating Unit criminal case dockets analysed.

The SAPS' Crime Prevention members and CPF chairperson was selected based on the criteria that they were responsible for revenue protection in their environment and that they were expected to be knowledgeable and informative about the area of interest in this study. In addition, they were willing to participate and contribute their experience to this research study. After selecting the population and the sample groups, the researcher made appointments with relevant heads of departments and arranged one-on-one interviews with the sample groups.

Table 2.1 Population and sample table

ENTITY	POPULATION	SAMPLE
ESKOM officials employed in the Security Management, Revenue Recovery and Energy Trading Departments	30	10
Durban's eThekweni Municipality Electricity and Security Management Department officials	30	10
South Africa Police Service: Crime Prevention members	30	10
South Africa Police Service CPF chairpersons	17	10
Community member's selected from the unauthorised electrical connection scenes observed	1 800	10
Unauthorised electrical connection scenes observed	100	10
ESKOM's KwaZulu-Natal Operating Unit criminal case dockets analysed	1 053	50

2.4.1 Population

The researcher used human samples, unauthorised electrical connection scenes and case dockets as the population for this study. The researcher utilised the population sample groups for this study as depicted in Table 2.1. Owing to low costs and less time, the non-probability, purposive sampling method was used decisively by the researcher to select sample groups for one-on-one interviews, site observation and criminal case docket analysis.

2.4.2 Sampling

The purposive technique was used to purposively select and interview officials that are representative of the samples mentioned in Section 2.4 of this study. To conduct site observations, the researcher purposively sampled ten unauthorised electrical connection scenes from where unauthorised electrical connections were disconnected and removed.

The researcher purposively drew ten Eskom KwaZulu-Natal Operating Unit's unauthorised electrical connection criminal case dockets from the most problematic areas in KwaZulu-Natal to conduct the case docket analysis.

2.5 DATA COLLECTION METHODS AND INSTRUMENTS

The researcher used a schedule of interview questions for one-on-one interviews, a site observation checklist to conduct site observations, and a criminal case docket checklist to collect data from Eskom KwaZulu-Natal Operating Unit's criminal case dockets.

2.5.1 Design and development of data collection instruments

A literature study was first conducted to obtain relevant literature on the topic. Rule and John (2011:65) highlight that: "each question in the schedule of interview questions must be relevant to the phenomenon being studied".

The researcher formulated a set of interview questions in response to the research questions. Prior to conducting the actual one-on-one structured interviews, interviewees were requested to sign a document providing their informed consent. The researcher noted that creating effective research questions for the interview process was one of the most crucial components to the design of the semi-structured schedule of interview questions. The researcher created questions that went deep into the experiences and knowledge of the interviewees in order to gain maximum raw data from them. She then developed the questions in a language that all the interviewees understood. The researcher provided the interviewees with a full description of and reasons for the research study. The following elements were included when designing the schedule of interview questions:

- Questions were both open-ended and closed-ended (interviewees were able to choose their own terms when answering questions).
- Questions were as neutral as possible (words that might have influenced answers, e.g. evocative, judgmental words, were avoided).
- Questions were asked one at a time.
- Questions were worded clearly (this included knowing any terms particular to the programme or the interviewees culture).
- The researcher avoided asking 'Why' questions.

The researcher then formulated a schedule of interview questions in response to the research questions. The result was a compilation of a generic schedule of interview questions with a total of 34 questions used in the semi-structured schedule of interview questions. These interview questions were documented in sequence and developed in such a way that they did not go beyond the estimated time of the interview (see Annexure A).

2.5.2 Site observation checklist

The researcher planned and developed a site observation checklist. The following variables were included for the site observation of the chosen unauthorised electrical connection scenes:

- Date
- Time

- Place of incident
- Modus operandi
- Nature and extent of damage
- Unauthorised use of cables
- Instruments/equipment used
- Number of houses with unlawful connections
- Any injuries or fatalities reported
- Power outages experienced by legal customers
- Load shedding
- Substandard material used, e.g. barbed wire and twin flex with pieces of plastic
- Plastic packets used to tie and join the cables together
- Damage to transformer boxes leaking oil due to overload
- Damage to ESKOM's KwaZulu-Natal Operating Unit pre-paid and conventional meter boxes
- Infrastructure damage
- Dangerous nature to public and livestock
- Dwellings are burnt
- Property damaged, i.e. microwave, fridge and stove
- Poor economic development
- Damaged electrical infrastructure
- Many people walking around due to unemployment
- Homeowners pull out the unauthorised electrical lines when the removal teams arrive and reconnect when the removal teams leaves the area
- Community members becoming violent due to removals (see Annexure B)

2.5.2 Case Docket Analysis

The researcher used a criminal case docket analysis guide (see Annexure C) to gather and insert the relevant data in the form of variables from an established ESKOM's KwaZulu-Natal Operating Unit criminal case filing system. The purpose of the criminal case docket analysis was to ascertain the modus operandi of the perpetrators who connect unauthorised electrical connections in KwaZulu-Natal. The criminal case docket analysis guide included the following variables:

- Date
- Time
- Place
- Modus operandi
- Nature and extent of damage
- Unauthorised use of cables
- Instruments used
- Number of houses with unauthorised electrical connections
- Injuries or fatalities reported

2.5.4 Piloting

The researcher used a schedule of interview questions for conducting the pilot testing phase. The rationale behind this is that she believed that a newly constructed research schedule of interview questions would validate that she can manage, conduct and measure research accurately and that, should it be used under different circumstances and by different researcher's, it would generate the same results. During the pilot testing phase, the researcher pre-tested all the aspects of the measuring instruments on a smaller scale, thereby applying validity and developing the strength of the research approach (Grinnell & Unrau, 2008:336).

Firstly, the researcher created and piloted a site observation checklist on certain unauthorised electrical connection scenes to establish if it generated the intended results. Secondly, the researcher piloted the interview questions by field testing it with a small group of five interviewees from the total population in order to make changes or modify the instrument where required. The researcher formulated a set of interview questions in response to the research questions. The interviewees responses were based on their subjective experiences, attitudes, individual life histories, and initial observations—thereby leading to fascinating new questions and intriguing patterns.

Finally, the researcher piloted the draft criminal case docket analysis pro forma with a few unauthorised electrical connection criminal case dockets, before finalising the criminal case docket analysis pro forma that was eventually used. The findings of the

piloted study indicated that the relevant data could not be lifted from the criminal case dockets against the criteria contained in the criminal case docket analysis pro forma. This was owing to the insufficient recording of information as a result of unclear reporting procedures and the high employee turnover at ESKOM call- centres. To overcome this obstacle, the researcher contacted the complainant either telephonically or visited him or her personally to retrieve further vital information required for further investigation and the criminal case docket analysis pro forma. In addition to this, the pilot study assisted the researcher in estimating the time that it would take to obtain data from the sample and the costs involved, thereby enhancing validity, reliability, truthfulness, and trustworthiness of the data collection instruments.

During this phase, the researcher improved the face and content value of the instrument, estimated the time that it would take to obtain the data from the sample, assessed costs involved, as well as improved validity, reliability, truthfulness, and trustworthiness of the data collection instrument (Delpont & Roestenburg, 2011:195). During the pilot testing stage, all errors were rectified immediately at little cost.

After the pilot test, the researcher tested the questions and a few necessary modifications were made, for example, double-barrelled questions were split into two separate questions; questions were rephrased for grammatical correctness; and questions were rephrased to be more relevant to the chosen samples. After confirming that the amended schedule of interview questions would generate the relevant data from the interviewees, a generic schedule of interview questions was compiled and utilised to interview the full sample of interviewees.

2.6 COLLECTION OF DATA

2.6.1 Interviews

According to Mason (2002:62), interviews are one of the most commonly recognised forms of qualitative research methods. In this study, the researcher used one-on-one interviewing as one of her data collection methods.

After the researcher obtained approval from the University of South Africa (Unisa) to conduct the study (see Annexure H), permission letters were obtained from the

respective heads of ESKOM's KwaZulu-Natal Operating Unit Operating Unit, Durban eThekweni municipality Electricity Department and the SAPS (see Annexures D, E & F). Permission was first sought from the interviewees before the interview commenced by means of a signed, informed document of consent (see Annexure G). The researcher then undertook fieldwork by visiting the selected government departments to conduct one-on-one interviews, using the schedule of interview questions. The researcher conducted one-on-one interviews with the population as indicated in Section 2.4 of this study. The key research questions guided the choice of questions in the schedule of interview questions. The same questions were posed to all the interviewees to maintain consistency in the data collection.

Semi-structured one-on-one interviews were conducted using the schedule of interview questions in order to collect data from interviewees who were regarded as experts in this field of research. The researcher personally interviewed all interviewees. This alleviated the problem of miscommunication, enhanced clarity in the answering of the questions and facilitated thorough explanation of any ambiguous questions as the interview progressed. The researcher created a dignified, trusting and open atmosphere by accommodating the interviewees with respect and discussing the confidentiality of the completed schedule of interview questions. During the one-on-one interviews, the researcher managed to probe some of the main questions. When the responses lacked sufficient details, depth or clarity, the researcher managed to clarify the answers by asking probing questions related to the initial response. The research questions were used as the main questions in the schedule of interview questions. Follow-up questions were asked in pursuing the implication of answers to the main questions. The researcher developed questions in a language that the interviewees understood.

The researcher took handwritten field notes and recorded all the interviews using a tape recorder. This method assisted the researcher with recording some of the responses to answers that she could not remember or had omitted to record in her notes. Follow-up questions were asked in pursuing the implication of answers to the main questions.

2.6.2 Site observation

The researcher used site observation as a simple method of data collection while conducting this study. The researcher concurred with and executed the view of Matthew and Ross (2010:255), that: “observation is the simplest method that a researcher may utilise to gather data by observing and recording the phenomena as they occur in the real time”. Gray (2000:397) argues that observation is not purely a question of viewing something and then recording “the facts”. Instead, it is a complicated combination of sense (sight, sound, touch, smell, taste) and perception. To comply with this view, the researcher conducted site observations by physically walking around the field and visiting each of the chosen ten scenes of unauthorised electrical connections.

The raw data that was gathered was compiled into a field journal. In order to record what was observed, the researcher planned, developed and utilised a site observation checklist in the format of different variables applicable to the topic to assist her to obtain data that was aligned with the research questions. The site observation checklist was used to observe ten scenes of unauthorised electrical connections within KwaZulu-Natal, which was purposively selected for this study. This entailed that the researcher embarked on walking around unauthorised electrical connection scenes, spending many days with contracted investigators involved in the investigation of ESKOM’s KwaZulu-Natal unauthorised electrical connection criminal case dockets. In addition, the notes of the raw data collected during the site observation phase were recorded and compiled into a field journal.

2.6.3 Criminal case docket analysis

For the purpose of this research, only criminal case dockets with the charge of unauthorised electrical connections were chosen. The researcher used ten criminal case dockets from each of the ten most problematic areas for a total of 50 criminal case dockets analysed in KwaZulu-Natal: 1) Emona informal settlement oThongathi; 2) Frasers oThongathi; 3) Highflats Umzimkulu; 4) Masenenge informal settlement Uvongo; and 5) Braemar Umzinto. These areas were classified as problematic by ESKOM’s KwaZulu-Natal Operating Unit’s Provincial Executive Committee. This was owing to the negative sales per customer, the researcher’s observation based on the number of reports she had received; deductions and perceptions that were made

during the formulation of the monthly unauthorised electrical connection statistics; and the high volatility rating unveiled by SAPS reports of violence.

The researcher began this research study by examining 50 of the ESKOM KwaZulu-Natal Operating Unit's files for unauthorised electrical connection criminal case dockets that were investigated from 1 January 2014 to 31 December 2014 (a period of twelve months) to establish important common modus operandi, issues, trends, and threats. These comprised of criminal case dockets including guilty, not guilty, withdrawn, undetected, area rated as volatile, as well as pending investigations. Thereafter, using this information, the researcher developed and established the criminal case docket analysis pro forma based on which relevant information was lifted from the 50 ESKOM KwaZulu-Natal Operating Unit's criminal case dockets to be inserted and then analysed according to the research findings, with a specific focus on collecting applicable, valid and reliable raw data.

When conducting the criminal case docket analysis, the researcher's main focus was on the modus operandi of unauthorised electrical connections made at the scenes of the 50 criminal case dockets perused. The researcher made notes of all raw data found during the criminal case docket analysis in a criminal case docket pro forma.

2.6.4 Experience

The researcher has 27 years' knowledge and experience in the Crime Prevention and Investigation of Crime environment. She has ten years' experience in the SAPS' Crime Prevention environment and seven years' experience in the SAPS' Crime Investigation environment. Furthermore, she also has 11 years' experience as an Security Investigation Officer in ESKOM's KwaZulu-Natal Operating Unit, Security Management Department, and is currently involved in the investigation and removal of unauthorised electrical connections. The researcher's acquired knowledge, skills and experiences were pertinent to the execution of this research topic and research questions. Armed with these knowledge, skills and experience, the researcher was able to personally observe the problems that electricity utilities are facing to conduct inspections on reported unauthorised electrical connection scenes, and to study and

investigate Eskom KwaZulu-Natal Operating Unit's criminal case dockets detailing incidents of unauthorised electrical connections.

2.6.5 Literature study

A literature study was aimed at contributing to a clearer understanding of the nature and meaning of the problem that has been identified. A thoughtful discussion of national and international related literature helped to build a logical framework for the research and to set it within a tradition of inquiry and a context of related studies.

2.7 DATA ANALYSIS

2.7.1 Method of analysing the data

The analysed data consisted of data lifted from the schedule of interview questions, site observation checklists and criminal case docket analysis pro forma. The content analysis approach was regarded as the most appropriate method of data analysis for this research, as it is a systematic and objective process of describing and quantifying phenomena. All the data that were collected during the interviews process, site observation and criminal case docket analysis were transcribed, analysed, interpreted and placed (clustered) into categories that was recorded on an excel spreadsheet to extract the exact account of answers to the schedule of interview questions. Thereafter, the challenge was to divide the huge amount of data into manageable sizes. This was executed by identifying trends, themes and identifying patterns (relationships) among categories thereby constructing a framework for communicating the essence of data.

The researcher used Tesch's technique to analyse the data because this technique is used to identify the word analysis, for reading of large units, for the intentional analysis of linguistic features, the manipulation of texts and for secondary data analysis (Cannel & Khan, 2001:np). The information gained from these sources were transcribed, analysed, interpreted, categorised, and coded during the data analysis phase, resulting in the creation of findings and recommendations which were represented in Chapter 5.

2.7.2 Coding and categorising the data

After all data were collected, the researcher spent considerable time reading the raw data (interview responses, site observation and criminal case dockets) to better acquaint herself with its general content. The data was then transcribed, and notes were made in the margins regarding specific categories. This comprised breaking down the data into themes and units for analysis by coding and categorising. Numbers are easier to retrieve than letters or words, hence the necessity to change categories from word or sentence responses, to numbers (Bailey, 1987:333).

All interviewees' responses during the interviews were coded to provide numerical descriptions. Here, the researcher identified the salient categories of meaning held by the interviewees in the setting. This involved reducing the data to a small, manageable set of themes to write into the final narrative. The data were numerically presented in a table.

2.7.3 Reflecting on the codes and categories

The researcher paid attention to the actual content of the data to identify and summarise the data content for each specific category in order to absorb a sense of the actual content. To assist this process, she made notes, transcripts and texts and added comments and reflections in the margins alongside the raw data. This approach helped the researcher to enrich the raw data with new thinking, possible categorisations and interpretations as the analysis progressed.

2.7.4 Identifying themes and emerging explanations

During this phase, that is, intensive data analysis phase, emerging themes and interconnections between the categories and units were identified. At this stage, the researcher organised data into physical folders and computer files. The researcher transcribed these files into appropriate text units for interpretation.

2.7.5 Checking emerging explanations

During the search through the data, the researcher's understanding was challenged, negative instances of patterns were located, and were incorporated into larger constructs. At this stage, the researcher evaluated the collected data for their usefulness and centrality. The researcher determined how useful the data were in illuminating the questions being explored, and how central they were to the story that unfolded about combating unauthorised electrical connections.

2.7.6 Developing a storyline

The researcher created an organisational system that was developed to make the meaningful grouping of action data pieces possible through the discovery of themes and through interpretation. At this stage, the researcher summarised the collected data to develop a storyline that would explain the themes and relationships identified in the data. The researcher then interpreted the data by giving them meaning or making them understandable by reducing the data to a small, manageable set of themes to write into the final narrative.

2.7.7 Presenting the data

During this final stage, the researcher presented analysed data in tabular form. Qualitative data was quantified into frequency and percentages during data analysis for the purpose of interpretation and drawing qualitative conclusions. The researcher used the numbers in Annexure A to assist her in doing a descriptive analysis of the data. To determine the frequency, the researcher observed the number of times a particular variable presented. She used the percentage total of all the variables presented which added up to 100 per cent and was representative of the total population. The percentage was then calculated by dividing the number of times a particular value for a variable has been observed, by the total number of site observations in the population, then multiplying this number by 100 to derive the total percentage.

2.8 VALIDITY AND RELIABILITY

The researcher was personally involved in the collection the raw data, thereby ensuring that the data collected through the following three measuring instruments were valid: one-on-one interviews, site observation and case docket analysis:

1. The researcher collected raw data by conducting one-on-one interviews using the schedule of interview questions based on the research questions and purpose. The interviewees that were selected worked in direct contact with unauthorised electrical connections within their respective departments and where regarded as experts due to their broad general knowledge in this field of research.
2. The researcher ensured that the raw data collected during the criminal case docket analysis phase was valid by utilising 50 ESKOM KwaZulu-Natal Operating Unit's unauthorised electrical connection criminal case dockets which were relevant to the research questions and purpose of this study.
3. The researcher ensured that the raw data collected during the site observation phase of this research was valid by physically visiting ten scenes of unauthorised electrical connections in KwaZulu-Natal, South Africa. These site observation visits assisted the researcher to confirm the interviewees' responses during the one-on-one interviews.

The above three measuring instruments assisted the researcher with measuring what was supposed to be measured for this study.

2.8.1 Validity

In this qualitative research study, validity is extended to the research findings which should be an accurate representation of what the researcher thinks or claims it is supposed to measure. The sample group, instruments and the data which were the objectives of the study were representative of what the researcher investigated. The researcher ensured that all the information collected for this study was thoroughly perused to ensure that her own biases did not have an influence on the study and that the selected investigation met the objectives of the study. The information was collected from the source and comprised the opinions and real life, first-hand information from the interviewees.

2.8.2 Content validity

The researcher tested the content of the data collection instruments and confirmed that they were capable of measuring the data which they were intended to measure.

2.8.3 Face validity

The construction and phrasing of the questions in the data collection instrument had face value in providing the required information to answer the research questions. The questions in the schedule of interview questions, variables in the site observation checklist, and variables in the case docket analysis pro forma measured what they were intended to measure.

2.8.4 Criterion validity

The researcher used a semi-structured schedule of interview questions, site observation checklist and criminal case docket analysis pro forma to conduct this research study. The questions and variables in these research instruments collectively led to answering of the research questions, aims and objectives of the study.

2.8.5 Construct validity

According to Delport & Roestenberg, (2011:174), construct validity is concerned with the meaning of the instrument, as well as how and why it works in the way it does. The researcher clustered together variables aligned to the research questions that measured a particular construct into themes on the semi-structured schedule of interview questions, site observation checklist and criminal case docket analysis pro forma.

2.8.6 Reliability

To ensure reliability, the researcher administered methods that were consistent and standardised for all people and situations. The research was conducted freely, fairly, voluntarily, equitably, and free from the personal bias and assumptions of the researcher. The researcher took precautions and ensured consistency in the study by establishing and documenting procedures used in the collection and analysis of the

data. More importantly, she avoided ambiguity and value judgements when collecting the data and compiling the findings. The researcher ensured consistency in the study by establishing and documenting procedures used in the collection and analysis of the data. She used a variety of methods to check the findings.

The data were preserved and are available for re-analysis so that if another researcher may use the same methods at a different time, he/she would achieve similar results or findings. For reliability, interviewees were chosen from individuals who were regarded as experts in this field of research, thereby increasing the reliability of the content of the measuring instruments.

2.9 ETHICAL CONSIDERATIONS

The researcher maintained a high ethical standard relating to truthfulness and trustworthiness by avoiding fabrication and falsification of research results obtained during the research process. Moreover, the researcher was accountable for her work and exceeded high levels of excellence and integrity during this study (Bless & Higson-Smith, 2003). All researchers are obligated to abstain from conducting research that contravenes the principles of research ethics, integrity, validity, reliability, truthfulness, and trustworthiness of their study (Brynard, 2006). The researcher obtained written clearance from University of South Africa, College of Law, Research Ethics Review Committee (see Annexure H). The researcher maintained a complete record of all the raw data acquired in order to preserve the accurate documentation of all recorded facts to which future reports or conclusions can be compared.

The researcher was ethically obligated to obtain research information from the interviewees in an ethical and transparent manner. This was meant to protect them from revealing any confidential information that are not meant for public consumption, thereby protecting their best interests and guarding them from harm, exploitation and ethical issues. Accordingly, the researcher respected the secrecy, autonomy, rights, and dignity of the interviewees. In addition, the researcher did not expose the interviewees to procedures or risks not directly linked to the research study or methodology. She informed all interviewees that the study would be conducted on a voluntary basis based on their written agreement to participate in the study. The

researcher eliminated possible untrustworthy individuals who could prove to be vulnerable due to their corrupt influence during the study. Prior to commencing the one-on-one interviews, the interviewees were informed of the purpose of the study in writing by using the informed document of consent (see Annexure G) which each interviewee individually signed.

Once all the raw data had been collected and analysed, the researcher recorded the findings as accurately and objectively as possible. More importantly, information that was likely to cause any harm to parties involved in the study was not written in the research report. The researched raw data would be distributed on a need to know basis for purposes of this research study.

2.10 LIMITATIONS

2.10.1 Availability of interviewees

Most of the leadership within electricity utilities and stakeholders who set direction, make decisions and effect changes did not participate in the one-on-one interviews, despite the fact that the researcher emphasised the importance of their input and responses.

With regard to interviewees who did participate, the researcher had problems with some who battled to honour their appointments for the one-on-one interviews. Most of the interviewees were only available after hours or late in the evenings owing to their shift work. This was because of their heavy workload and shift work. This made it difficult for the researcher to see all of those particular individuals after working hours. Some of the Durban, eThekweni Municipality electricity Department, CPF and members of the community from the ten scenes where unauthorised electrical connections occurred, turned down the one-on-one interviews as they felt that some of the information was confidential, and that they would be in conflict of their interests if information was divulged. Furthermore, it was ascertained that owing to the controversial nature of this topic, interviewees were reluctant to participate. The 2016 South African municipal elections took place on Wednesday, 3 August 2016. This could have contributed to the reluctance of electoral candidates to participate as they

feared for the loss of political votes, and even feared for the loss of their lives. The reluctance of these electoral candidates to participate could have resulted in important information being omitted as these candidates would have had their own unique version of how unauthorised electrical connections could be combated in KwaZulu-Natal.

2.10.2 Access to ESKOM's KwaZulu-Natal Operating Unit's criminal case dockets

The researcher experienced problems with gaining access to the SAPS criminal case dockets as SAPS members were not willing to retrieve these dockets from the archives. This was owing to the filing system that was inadequately numerically updated. As a result, it was difficult to retrieve specific dockets pertaining to fraud owing to unauthorised electrical connections. Therefore, the researcher decided to utilise the 50 ESKOM KwaZulu-Natal Operating Unit's unauthorised electrical connection criminal case dockets that were investigated from 1 January 2014 to 31 December 2014 (a period of 12 months).

2.10.3 Access to entities

The researcher's attempt to receive written permission to conduct one-on-one interviews with members of the SAPS' Crime Prevention team was concluded with a long and tedious process conducted by the officials of the Organisational Development and Provincial Strategic Management in KwaZulu-Natal.

2.11 VALUE OF THE STUDY

2.11.1 Value to the government

Non-technical energy losses (caused by factors such as unauthorised electrical connections, tampering or by-passing of electrical meters) are of great concern to all electricity utilities. Accordingly, non-technical energy losses and unauthorised electrical connections have been receiving increased focus within ESKOM's KwaZulu-Natal Operating Unit owing to the increase in revenue losses as a result of electricity theft. The Energy Losses Management Programme (ELP) has been tasked to address this challenge. It was envisaged that this research study would add value to ESKOM, the SAPS and electricity utilities globally. More importantly, the research study intended to assist in developing strategies to minimise non-technical losses, as problem-solving activities will be utilised to assist this research. The research highlights problem-solving activities that can be used to minimise non-technical losses owing to unauthorised electrical connections within national and international electricity utilities.

2.11.2 Value to the community

Through this study, the researcher will provide electricity utilities, the SAPS, the Durban's eThekweni Municipality Metropolitan Police Department, communities and future researcher's with extensive insight into the history of unauthorised electrical connections. This combative stimulus can be used in future efforts to combat unauthorised electrical connections. This research study will also assist by finding means to decrease the cost of electricity. This research study creates education and awareness to the public ensuring that there is a concerted effort to combat unauthorised electrical connections.

2.11.3 Value to academia

The knowledge gained from this research study could benefit the Security Management field of study which was previously not highly recognised both nationally and internationally.

2.12 THEORETICAL FRAMEWORK

Figure 2.1 Crime (or Problem) Triangle



Offender (Perpetrator)

Victim (Electrical Utility)

2.12.1 Opportunity (electricity infrastructure lying unsecured on the field)

The theoretical foundation for security is based on assumptions and beliefs of human demeanour. All of the three factors of the Crime Triangle must interact for a person to commit a crime, for example, unauthorised electrical connections: Offender (perpetrator installing unauthorised electrical connections), Victim (electricity utility) and Opportunity (electricity infrastructure lying unsecured on the field). On the contrary, the absence of one of the elements may combat the crime (unauthorised electrical connections), solve the problem or extenuate the harm caused. This theory suggests that if a victim (electricity utility) implements measures to reduce or combat crime (unauthorised electrical connections) it may be averted (Ortmeier, 2013:3).

2.12.2 Crime Prevention Through Environmental Design (CPTED) Theory

Crime Prevention Through Environmental Design (CPTED) Theory demonstrates that offenders commit offences owing to opportunities created by the environment. In this sense, the physical environment must be changed so that less crime is committed. This gives rise to a specific crime and requires managerial and environmental changes to reduce the opportunity for crime. Here, the focus is more on the scene of the crime than on the offender. Its aim is to make delinquent behaviour unattractive to offenders. This requires assistance from organisations whose establishment creates the opportunity for crime (Clarke, 1997:7).

The researcher incorporated this theory in the combating of unauthorised electrical connections. For example, closed-circuit television (CCTV) video surveillance cameras for areas identified as unauthorised electrical connection hotspots, target hardening with the use of locks, installation of fully serviced site surveillance alarms and remote electronic access for electricity meter boxes enhanced by electronic hardware, access control using barbed wire fencing, training and awareness.

2.12.3 Social Control Theory of Delinquency

Social Control Theory of Delinquency refers to the power of the social make-up of communities having a positive bearing on their community, resulting in offenders not committing crimes. Furthermore, it is highlighted that where social control was in place the “family, public opinion, law, belief systems, education, schools, customs and religious organisations, recreational facilities and employment teach the people to adopt these values of their communities and conduct themselves in a concerted manner” and where there is failure within these structures, anarchy and criminal behaviour results (Carey & McAnany, 1984:93).

Despite the positive features of this theory, the researcher is of the view that this theory will only be effective if it is implemented on a long-term basis and its progress is closely monitored.

2.12.4 Situational Crime Prevention Theory

The Situational Crime Prevention Theory maintains that the chances of offenders to commit crime should be reduced by putting some deterrents and preventative measures in place whereby offenders will think about the repercussions of their actions (Tilley, 2009:105). In addition, Tilley (2009:106) underscores that the opportunity to commit crimes should be made extremely difficult and risky. This theory reflects on joint crime prevention involvement of the police and members of the community interested in combating crime, to look out for crime, for example, the anonymous reporting to the police that a person is installing unauthorised electrical connections.

Community policing is, therefore, efficient and effective operational policing which is difficult to quantify. Communities and the police must jointly fulfil a meaningful role in community safety and visible security. Good co-operation should form part of the corporate culture change process of re-socialisation (Stevens & Yach, 2016:139). Therefore, in South Africa, the CPF's were established to form local partnerships between the SAPS, Durban's eThekweni Municipality Metropolitan Police Department and members of communities in the fight against crime. From the perspective of this study, it was established that communities must combat unauthorised electrical connections by being alert to activity in their surroundings. For example, barking dogs could be a sign to alert the SAPS.

The researcher's view is that the SAPS, Durban's eThekweni Municipality Metropolitan Police Department and members of communities must utilise this strategy to be successful in the prevention of crime. Perpetrators must be aware of the consequences of being arrested by the community. This strategy entails: community policing; re-establishment of street committees; fully serviced emergency surveillance alarms; use of social media and phones; neighbourhood, flats and farm watch; neighbours watching neighbours' property; electrical security infrastructure; business and block watch, foot and vehicle patrols. These strategies increase surveillance and may reduce the fear of crimes, for example, unauthorised electrical connections (Herbig & Van Vuuren, 2008:7).

The researcher found a link between these three theories and applied them to the combating of unauthorised electrical connections. However, Tilley (2009:138) argues that sometimes crime combating measures fail because of the following:

- The theory that was used might have had some vulnerabilities and weaknesses;
- security measures implemented was not applicable to its purpose; and
- incorrect theory and implementation defeats positive crime prevention efforts.

2.12.5 Origins of the Risk Management Model (ISO) 31000: 2009)

Risk assessment assists managers to have a better knowledge of risks that defeats the achievement of objectives of controls already in place. Managing risks efficiently

assists organisations to perform adequately and can have a positive effect on an organisations performance, reputation, as well as environmental, safety and societal outcomes in an uncertain environment. The International Standards Organisation promulgated the ISO 31000: 2009 Risk Management Model that provided a generic risk philosophy, principle, process and guidelines for managing risks. Its aim was to provide an internationally recognised benchmark, underlying structure and framework to increase the likelihood of achieving objectives in any organisation which included Security Management. This was to be achieved by the identifying of opportunities, analysis, evaluation, risk treatment, use of resources, as well as monitoring, communication of risk management systems, providing effective management and effective corporate governance. Furthermore, the use of a risk management system depended on the organisation's specific environment. It can be used by any organisation regardless of its size, activity or sector. However, ISO 31000: 2009 cannot be used for certification purposes but provides guidance for internal or external audit programmes (Smith & Brooks, 2013:57).

This research study could add to the body of knowledge in the discipline of security management.

2.13 CONCLUSION

This chapter described, discussed and presented in detail the research methodology used by the researcher in this study. It further discussed the nature and extent of unauthorised electrical connections and how unauthorised electrical connections can be combated using the listed crime prevention measures. A qualitative research standard was selected in order to investigate in greater detail and depth the opinions, views and perceptions of the interviewees. The methods of data collection and analyses utilised were consistent with the requirements of qualitative research. The issues relating to the reliability and validity of the research were also discussed. The researcher adhered to confidentiality, anonymity and the protection of interviewees during the process of gathering the relevant data.

CHAPTER 3

LITERATURE STUDY ON THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS, INTERNATIONALLY AND NATIONALLY

3.1 INTRODUCTION

President Jacob Zuma stated in an official letter addressed to Operation Khanyisa (OK) in support of their 26 October 2010 launch that:

“Electricity theft affects each and every one of us. In the long term, it is detrimental to our economy and can contribute to job losses at a time when we must protect every job in our country. Let us respect the laws of the land and together build a movement for legal electricity use”.

Unauthorised electrical connections are prevalent globally and considerable revenue is stolen from utilities because of by-passing and tampering with the electricity network. Loss of life, loss of electrical revenue, electricity disruptions, electric shock, and burning of dwellings are some of the risks associated with unauthorised electrical connections. Some people have described unauthorised electrical connections as serious “economic sabotage” (Interviewee 21, 2014). This chapter discusses the literature background for this study and highlights international and South African perspectives. The study explores methods presently used to combat unauthorised electrical connections in KwaZulu-Natal. This supports the objective of this study, namely, to improve the combating of unauthorised electrical connections in KwaZulu-Natal.

3.2 INTERNATIONAL PERSPECTIVE ON COMBATING UNAUTHORISED ELECTRICAL CONNECTIONS

This section provides an overview of international and global trends regarding electricity theft. According to Kgabo (2002:35), illegal electrical connections cause revenue losses that “amount to billions” of South African Rand. Globally, electricity is the third most stolen commodity and it is estimated that approximately US\$200 billion is lost per annum (Harvard, 2013:42). However, a policy of “no pay, no electricity” may not be politically acceptable in some countries (Smith, 2004:2074). Therefore, the financial status of these utilities will deteriorate when having to provide “free” electricity, consequently leading to electricity shortages (Jamil, 2013:267). The stages of electricity delivery to consumers include generation, transmission and distribution. Records prove that countries with the highest transmission and distribution losses lack

civil rights, do not uphold democratic institutions, have inadequate accountability, are mal-governed, exhibit political instability and have a prevalence of violence (Jamil, 2013:268). Moreover, corruption increases as favours can be “bought” from corrupt officials. Literature emphasises that firstly these officials must be prosecuted, secondly corruption must be prevented, and officials must be adequately paid (Smith, 2004:2073). Internationally, it is acknowledged that unsatisfied needs are contributing factors (motivation) for problematic behaviour (Du Preez, 1991:128) and that a lack of discipline is a serious security problem (Berzofsky, Daye, Horstmann. Kinsey, Shook & Strom, 2010:66).

In 1997 in the Philippines, transmission and distribution losses were estimated at 17 per cent. The revenue loss assessment of rural regions stipulated that one region had a 27 per cent loss; five regions had 20 per cent loss and 27 per cent losses, respectively. Manila City in the Philippines had a 12.4 per cent loss, which was well below that of the relevant rural areas (National Economic Development Authority, 1998:np).

On the contrary, India reported 26 per cent losses, with variations between its 22 states. There were 50 per cent loss in Delhi, Jammu, Kashmir and Orissa. Maharashtra State had 15 per cent loss. Countries with 6 per cent loss have an effective system management. They include Finland, Germany, Japan, Korea, Netherlands, Singapore, Belgium, Austria, France and Switzerland. While electricity theft is low in these countries, serious economic losses can be high owing to the amount of electricity generated. In contrast, 30 per cent loss was recorded in Albania, Haiti, Myanmar, Kyrgyz, Nigeria, and Bangladesh which are countries that are experiencing serious poverty, political, economic and social turmoil. In troubled times, governments often fail to function efficiently, they are corruption prone and lack electrical system management investment, leading to consumers overriding the electrical system (Smith, 2004:2071).

There are global perceptions that utilities render poor service, overcharge their customers and make exorbitant profits. Therefore, transgressors believe that electricity theft affecting operations and profitability will not destroy the electrical utility. Conversely, others say electricity theft is a crime and should not be condoned. Therefore, the International Utilities Revenue Protection Association (IURPA) was

established to promote the detection and prevention of electricity theft, thereby promoting financial security. Electricity revenue losses result in increased electricity prices. Locked into a “culture” of inefficiency and corruption, utilities have difficulty delivering a reliable service (Smith, 2004:2072).

The researcher chose to discuss the situation of illegal electricity connections in some countries more comprehensively, as their experiences are similar to situations prevalent in South Africa, which is struggling with this problem and is searching for new strategies to combat electricity theft.

3.2.1 Illegal electrical connections in India

Photograph 3.1: Unauthorised electrical connections in a market area situated in Chennai, South India.¹



Photograph 3.2: Unauthorised electrical connections in a residential area situated in Chennai, South India²

¹ This photograph was taken by the researcher on the 12 March 2012 in Chennai, India.

² This photograph was taken by the researcher on the 12 March 2012 in Chennai, India.



Mothae, Phasiwe, Rajpal & Rakau, (2016:23) report that India loses 33 per cent of electricity generated and 1 per cent of Gross Domestic Product owing to electricity theft. New Delhi Television reports that 40 per cent of electricity supplied remains unpaid. This represents losses five times more than China, the reason being that India is not developing as effectively as China. This confirms that the condition of electricity utilities, the seriousness of the revenue lost, and the poor economic growth of countries are related. The electrical power failures experienced by India in 2012, affecting 600 million people, was owing to network overloading as a result of lack of system maintenance and unauthorised electrical connections (Agarwal, 2012:2).

According to Denyer (2012:1), Uttar Pradesh State in India has the highest record of electricity theft and is the most inefficient electricity utility. Haryana introduced the “electricity theft informer scheme” whereby informers are rewarded financially for furnishing information regarding perpetrators who make unauthorised electrical connections. However, the risk involved is that the informer would have to be transferred, suspended or risk being killed by the perpetrators if they were caught exposing those perpetrators.

Several reasons are given for illegal electricity connections in India. Overhead wires are not insulated, aiding electricity theft. Moreover, ineffective law enforcement

eliminates fear (Agarwal, 2012:3). It must, however, be acknowledged that there have been some efforts in addressing the problem.

Madhoo, Parbhoo & Pillai (2013:4) report that Andhra Pradesh State in India initiated a law to address electricity theft, step up law enforcement, manage corruption, redesign business processes, improve management control and enhance customer service. As a result, monthly billing reached 98 per cent, losses were reduced by 12 per cent, unaccounted connections by 2.25 million and prosecutions were 16 times more than in the previous decade. This was owing to the implementation of recommendations, judicial enforcement and litigation. Unauthorised electrical connections were re-classified as a higher crime in the category of electricity theft. Other measures included right of duty, entry and restriction at stipulated times, state support, modern technological support, management information and control systems, quality metering, incentives and the punishing of collusion and poor performance.

The government of Karnataka state implemented a policy called “akrama-sakrama” which, when translated, means “legal-illegal”. This was the result of a partnership formed between the government and the farmers to fulfil both their needs. In Maharashtra State, 22 proprietors of Jalnas’ seven mini-steel plants were accused of 20 crore electricity theft using sophisticated equipment, detected in raids initiated by Maharashtra State electricity board (Jha, 1998:1). This proves that India requires stricter enforcement to combat electricity theft.

3.2.2 Illegal electrical connections in Nairobi, Kenya, East Africa

The top management of Kenya Power and Lighting Corporations, together with the World Bank, implemented a community-centred approach to electrify some of its largest, poorest urban neighbourhoods. The Marketing Officer at Kenya Power asserts that this approach of electrifying the informal settlements, where electricity-related fires and electrocutions were common, was one of their toughest challenges. During 2011 to 2013, the focus was on disconnection and removal of unauthorised electrical connections. ‘Legal’ customers were selling power to unauthorised users. The Managing Director and CEO of Kenya Power said:

“We would go into Kibera informal settlement and sense resistance. We established that the reason for resistance was a lack of involvement by the community. Presently people come to us, requesting us to light their communities. This is no longer a Kenya Power and Lighting Corporation project; it is the community’s project.”

Kenya Power and Lighting Corporations stopped disconnection and removals of unauthorised electrical connections – the community now fulfil this task. Together with the Kenya Informal Settlements Improvement Project (KISIP), a World Bank supported government programme with widespread networks and a strong reputation in informal settlements, they now focus on communicating the safety, reliability and affordability of legal electrical connections. Added to this approach, the World Bank and Global Partnership on Output Based Aid subsidise members of the community with material for each new electrical connection they connect themselves. This approach, taken from rural electrification programmes, assures that those individual households are electrified at cheaper rates by excluding the supplier. The World Bank’s Energy Sector Management Assistance Programme arranged a conference inviting electricity utility company employees and experts from Brazil, Colombia and South Africa. This led to the establishment of the community-centred approach, resulting in ‘dramatic change’. Presently, pre-paid metering (smart metering) is read safely and remotely from the top of the outside pole, combating unauthorised electrical connections. “Electricity here is cheap and can be paid in instalments” (Njiraini, 2015:3).

3.2.3 Illegal electrical connections in Pakistan

In 1998, Pakistan’s army deployed 35 000 officials to recover water and electricity and combat unauthorised electrical connections. They conducted audits and raids by deploying Water and Power Development Authority officials. In one year, the following crime statistics were produced: 100 993 detected criminal cases of electricity theft, ZAR2.4 billion, recovered in fines and sanctions and 1 188 people were arrested. Surprisingly, many unauthorised electrical connections were found in the dwellings, farms and mills of the ruling party legislators, and 13 were Water and Power Development Authority officials. The largest amounts owed were from government

agencies, including the army, with their Minister for Population resigning from her Cabinet post owing to theft of electricity charges (Rizvi, 2000:np).

3.2.4 Illegal electrical connections in Rio de Janeiro, Brazil

The United States of America (USA) loses USD\$6 billion, annually owing to electricity theft (Mothae et al., 2016:1). Novais (2012: 1) contends that electricity theft is caused by a lack of infrastructure in Brazilian cities. The poor were moved from the central business district (CBD) to the “*favelas*”, which is a Portuguese name for a ‘slum’ situated in a low-income, informal urban area, owing to development in Rio de Janeiro in Brazil. However, this area lacked electricity infrastructure. Electricity was stolen by joining wires called “*gatos*”, meaning ‘cat’ or ‘thief’. Here the “culture” of “free services” (*jeitinho brasileiro*) persists, even if electricity is affordable. In contrast, Agencies National de Energy Electrical (ANEEL) says that although theft is an alternative for the poor owing to lack of infrastructure, Companies Energy de Minas Gerais (CEMIG) reports that 75 per cent of revenue loss is owing to unauthorised electrical connections that are connected to luxurious properties.

3.2.5 Illegal electrical connections in Thailand

Tenaga is Malaysia’s privatised electrical utility. The Electricity Generating Authority of Thailand is a public electrical utility. Both utilities have similar transmission and distribution losses of 11 per cent. Public enterprises, Metropolitan electricity authority and provincial electricity authority receive electricity transmitted from the Electricity Generating Authority of Thailand. Discussions on privatising the Electricity Generating Authority of Thailand have been discussed for 20 years. However, the 32 000 employees belonging to the Electricity Generating Authority of Thailand’s union remains opposed. There are no efforts to combat electricity theft in Thailand. This is due to the high profit margins, employees are provided with free electricity worth 1.5 billion baht and an annual bonus of USD\$1000. In contrast, Tenaga must disclose its operations and profits to the public. When there is a negative profit, operations are then made efficient thereby reducing the 500 Malaysian dollar loss. Electricity utilities should exercise caution when promoting privatisation as a (guaranteed) cure for inefficiency (Smith, 2004:2075).

3.2.6 Illegal electrical connections in the United Kingdom

The United Kingdom loses an estimated £299 million per annum from gas and electricity theft. In 2004, more efficient operation of utilities was sought with specific reference to electricity offences. The importance of electricity theft detection and prevention was emphasised. Legislation at that stage was inadequate in supporting the utilities, as there was the belief that “electricity cannot be stolen as it is not cannot be measured and is not material” (Madhoo et al., 2013:4). According to the Electricity Act, unauthorised electrical connections are an offence. The legal framework of the Electricity Act supports the combating of electricity theft, which is maintained by an enforcement group (Madhoo et al., 2013:4).

In 1998, the United Kingdom Home Office produced a publication that summarised interventions that had worked in preventing crime as follows:

“The criminal justice system has a central role in providing the sanctions to enforce or reinforce compliance with the law, on which other crime reduction initiatives depend. Efforts to redirect funds to more effective crime reduction tools, within or outside this system, will only have a gradual impact on reducing crime. However, if the reductions claimed by the most promising approaches are realised, the long-term reductions in crime that would be achieved are substantial. Initiatives identified as promising will not reduce crime singlehandedly. Therefore, an effective crime combating strategy is a combined package of reliable practices leading to a consistent desired result over time” (Nuttall, 2008:17).

3.3 THE SOUTH AFRICAN PERSPECTIVE ON COMBATING UNAUTHORISED ELECTRICAL CONNECTIONS

Unauthorised electrical connections are so brazen in the Durban eThekweni Municipality area that these perpetrators, known as ‘*Izinyoka*’ (the Zulu language word for snakes), do not even try to hide these illegal electrical connections (Dawood, 2016:9). There is presently no generally accepted framework expounding electricity theft in South Africa. The researcher has observed that in South Africa, more similar

problems are experienced than those found internationally, where the impact is known but there is little success to combat the problem. The electricity theft estimate per annum in South Africa is approximately USD\$589 million or ZAR5.4 billion (Harvard, 2013:42). Widespread “load shedding” experienced in South Africa since 2008 attests that ESKOM cannot cope with the electricity demand (Van Niekerk, 2014:58).

Municipalities can enrich people’s lives by providing electricity (Liphoko, 2016:8). Electrical consultants say that in 2008, an infrastructure study (Anetos, 2016:1) revealed that there was a backlog of ZAR27.4 billion, which is required for maintenance, refurbishment and strengthening of ESKOM’s electricity systems. In 2014, an assessment of the backlog revealed that the electrical systems infrastructure had further deteriorated, resulting in a backlog of ZAR86 billion. This clearly indicates that investment in the electrical system infrastructure is a necessity (Anetos, 2016:1).

3.3.1 Urbanisation in South Africa

From 1948-1994, the National Party enforced a notorious political system – in the Afrikaans language called ‘apartheid’ – which means ‘separateness’ or ‘the state of being apart’. This was a system of racial segregation whereby the rights, associations and movement of ethnic groups (other than whites) were curtailed, and white minority rule was maintained. Had ‘apartheid’ not existed, urbanisation would have been a gradual and continuous process. However, this process was artificially exaggerated for many years. The researcher noted that the legacy of the apartheid regime and colonialism have had a progressive influence on unauthorised electrical connections in South Africa. The ‘poor’ lived in townships in the outlying, low-income, informal urban and rural areas where there was no electrical infrastructure. These areas had no source of electricity to which dwellings could make unauthorised electrical connections (no opportunity). The phenomenon of unauthorised electrical connections was practically unheard of during the apartheid era. After the abolishment of apartheid, urbanisation developed rapidly, changing the population dynamics and socio-economic conditions in South Africa. However, informal settlements in the cities attracted other rural dwellers and immigrants from surrounding countries, who engaged in electricity theft. During 1994, the new democratic government introduced the Reconstruction and Development Programme (RDP), focusing on:

- Providing for the basic needs of the people
- Developing human resources
- Expanding the economy
- Democratising the state and society
- Implementing the Reconstruction and Development Programme (Herbig & Van Vuuren, 2008:84).

Although Durban's eThekweni Municipality has a Land Invasion Control Department, it is hampered by the lack of clear legislative guidelines, such as the South African Prevention of Illegal Eviction from an Unlawful Occupation of Land, Act 19 of 1998. This means that the homeless cannot be evicted unless alternative accommodation is provided for them (Attwood, 2013:13). It was noted by the researcher that criminal prosecution is lengthy and seldom successful owing to the above legislation, coupled with a severe housing backlog in Durban's eThekweni Municipality.

3.3.2 Free basic electricity

The National Planning Commission is responsible for long-term strategic plans to promote a "culture" of energy efficiency (Madhoo et al., 2013:4). In 2003, free basic electricity was introduced to the poor. Ekurhuleni Municipality, Gauteng reports that 69 000 consumers will receive 100 units of free basic electricity per month. This costs ZAR30 million annually, but for the poor, it is of great value (Joel, 2012:37). However, the researcher highlights that even though this is a noble idea, it is counterproductive to promote a 'culture' of energy efficiency and saving.

3.3.3 Positive criminal convictions for installing unauthorised electrical connections

The South African criminal justice system disregards the defence: 'ignorance of the law' as a justification for breaking the law, since it undermines the criminal justice system. In exceptional cases, ignorance may be taken into consideration when

passing judgement, for example, in the case of an elderly person, in contrast to a young adult. Despite these challenges, a landmark ruling was made in the Johannesburg South High Court, Gauteng, South Africa, (S v. Ndebele and another, 2011) whereby two offenders were convicted of 78 280 charges for theft and the illegal selling of pre-paid and conventional electricity vouchers, unauthorised electrical connections and racketeering. Consequently, they were sentenced to 100 years imprisonment. This was the first time unauthorised electrical connections were treated with such severity by the South African courts and it overturned previous judgements that electricity was “incorporeal” and therefore not capable of being stolen (Van Kaam, 2010: 90). A Mozambican national was sentenced to six months imprisonment without the option of a fine at Malamulele Magistrates Court in Limpopo for installing unauthorised electrical connections.

3.3.4 Section 27 of the Criminal Procedure Act 51 of 1977 - Use of force to search premises in order to seize articles (unauthorised electrical connections)

According to South African law, generally, searches should be conducted using a search warrant, unless a statute specifically authorises a search without a warrant. According to Section 27(1) of the Criminal Procedure Act 51 of 1977, force may be used to gain entry to premises in order to conduct a search, where the use of force is necessary to conduct the search itself. The SAPS members may use force to gain entry to the premises if the official is, on reasonable grounds, of the opinion that any illegal article (unauthorised electrical connections), which is the subject of the search, may be destroyed or be disposed of if entry is audibly demanded and the purpose for which entry sought is stated. This section authorises the use of force to:

- gain entry to the premises so that a search may be conducted on the premises;
- conduct the search itself; and
- overcome resistance.

This Act authorises SAPS members to overcome resistance, using force to gain entry into premises to conduct a search of premises, without a warrant, as in the case of dwellings where stolen pre-paid and conventional electrical meters are used to

connect unauthorised electrical connections and dwellings that have unauthorised electrical connections connected (Bezuidenhout & Nel, 1997:202). The researcher adds that the time taken and the delay to obtain a search warrant will defeat the purpose of the search (to locate unauthorised electrical connections).

3.3.5 Awareness campaigns

According to Layton (2007:7), security knowledge management, awareness, education and training must be implemented in all government departments. Awareness campaigns, education and taking reasonable steps are ESKOM's, methods of ensuring that communities, especially pupils, refrain from installing unauthorised electrical connections. During the awareness campaign at Twislaagte Farm, Welkom, Free State OU, South Africa, primary school pupils were informed of the consequences of having a criminal record if caught stealing electricity (Motsoeneng, 2011:22).

In the case of *Carter v. Westcliff Hall Sidmouth Ltd* (1990), it was held that it is not enough to act when an electrocution as a result of unauthorised electrical connection occurs; and reasonable steps to combat unauthorised electrical connections must be proactively taken to prevent it from recurring. People will complain if they know they will be supported. An anonymous survey can be conducted to ascertain the nature and extent of the problem, for example the location of unauthorised electrical connections (Collier, 1995:6).

Durban's eThekweni Municipality Electricity Department awareness programmes took the following comprehensive, proactive measures:

- Teams were escorted by security officials to disconnect and remove unauthorised electrical connections; legal electrical connections were converted from underground lines to overhead lines.
- Perpetrators were arrested and charged using their Electricity Supply By-laws.
- Overhead copper cables were replaced with marked aluminium ABC conductors.
- Circuits were reconfigured; and short poles replaced with long poles limiting access to overhead lines (Marriah, 2016a:8).

The researcher notes that individual homeowners were co-operative when requested to monitor their own electrical transformers and to report any suspicious activities to the SAPS. However, criminal cases were closed owing to lack of evidence as witnesses refused to testify in a court of law as they feared for their lives and low fines were not a deterrent.

3.3.6 Operation Khanyisa

Figure 3.1 Operation Khanyisa emblem³



The figure depicted is the official Operation Khanyisa emblem that was used in this research study. Operation Khanyisa is a national partnership and concerted paradigm behavioural change campaign mobilising all South Africans to become legal, safe, efficient, and paying users of electricity and challenging the 'silent crime' of unauthorised electrical connections. Operation Khanyisa was launched to combat unauthorised electrical connections. This could enable the stability of the electricity supply and growth of South Africa. Khanyisa is the Zulu language word that means "to enlighten, explain, and light up or to give light" (Sonjica, 2017:25).

During August 2010, Operation Khanyisa conducted a national survey to determine attitudes and beliefs about electricity theft. The results revealed that 96 per cent indicated that theft was wrong and 74 per cent indicated that theft is a problem. In contrast, 33 per cent indicated that they knew about theft in their community; 16 per

³ The official Operation Khanyisa emblem was used with written permission from an Operation Khanyisa official on the 21 November 2016.

cent believed that they would get caught. In addition, 14 per cent believed they would get prosecuted while 13 per cent stated that consumers are responsible for policing electricity theft. This provided direction to Operation Khanyisa regarding its aim, knowledge management, awareness, education and concerted paradigm “behavioural” change (Harvard, 2013:42).

On 26 October 2010, ESKOM’s Energy Losses Management Programme and its core partners, as depicted in Chapter 1, launched Operation Khanyisa. The purpose of Operation Khanyisa is to steer the legal use of electricity, targeting concerted paradigm behavioural changes, with the reasoning that theft continues because it is allowed (Van Kaam, Maphaka & Sparg, 2013:43). To counteract this, Operation Khanyisa arranged an information campaign via radio, print, internet and outdoor advertising in order to combat the theft of electricity. During the period of December 2011 to February 2012, Operation Khanyisa reached 300 000 motorists at toll-booths. Messages were posted in places frequented by the public. A zero tolerance approach to theft was imposed at ESKOM, Free State Operating Unit and KwaZulu-Natal Operating Unit. These increased controls are seen to be effective by the number of fines, investigations, disconnections and removals. The following successes were achieved by Operation Khanyisa throughout South Africa since its inception in October 2010:

- 7 100 tip-offs;
- 76 931 disconnections;
- ZAR2 million, in recoveries;
- 12 000 people reached through activations and exhibitions;
- 60 convictions; and
- 112 arrests.

This was the first racketeering conviction for electricity theft and the proclamation of electricity theft to be classified as “corporeal”, therefore capable of being stolen (Van Kaam, Maphaka & Sparg, 2013:43).

During 21 October 2013, Operation Khanyisa implemented the Customer Compliance Approach, which takes a stronger stance against electricity thieves. This approach combines meter auditing, detection and investigations, knowledge management and

customer education and awareness, which target hotspots with high energy and revenue loss. Within two months of its implementation in the Free State OU, ZAR700 worth of tamper fines were issued and 14 000 illegal pre-paid electricity meters were recovered (Interviewee 7, 2017).

The ESKOM audit teams together with investigators, follow-up immediately with customers that have engaged in electricity theft to uncover information related to the electricity theft committed. This customer is given a fine, disconnected, has to pay a reconnection fee, and could be required to pay the revenue ESKOM has lost. This revenue loss is calculated for the period of illegal power consumption. A final warning is issued to illegal customers, and the information uncovered is followed-up to identify, arrest and prosecute those who render illegal electricity services (Maphaka, 2015:1).

Operation Khanyisa aims to teach the citizens of South Africa to be responsible consumers of electricity. This is executed by educating consumers about unauthorised electrical connections and its associated dangers. More importantly, citizens must not encourage unauthorised electrical connections in order to ensure all people have legal and safe use of electricity. However, the researcher observed that despite Operation Khanyisa's successes, Operation Khanyisa's objectives are not satisfied due to a lack of prosecution powers in legislation, resulting in the increase of unauthorised electrical connection cases received by ESKOM. To combat unauthorised electrical connections requires strategic national priority which the SAPS, NPA and criminal justice system have seen in a serious light with the inception of the Criminal Matters Amendment Act, 2015, Act No 18 of 2015, on the 24 May 2016 that classifies unauthorised electrical connections as a criminal offence. To be more effective, Operation Khanyisa initiatives require a concerted societal behavioural change that reinforces the responsible behaviour of electricity consumers. This must be enforced by the execution of the rule of law which will ensure legal power use.

On 10 July 2012, at the PRIMEDIA's Annual Star Awards, held in Johannesburg, South Africa, Operation Khanyisa was recognised for being a world class programme to combat electricity theft in partnership with the Crime Line initiatives with the speakers stating that:

“All South Africans fulfil a very important part in combating crime. Active citizenship produces results and the SAPS are proud to be involved in a public-private partnership in whistle blowing. Whistle blowing allows people to become the eyes and ears in communities” (Choeu, Mujakachi & Waja, 2013: 45).

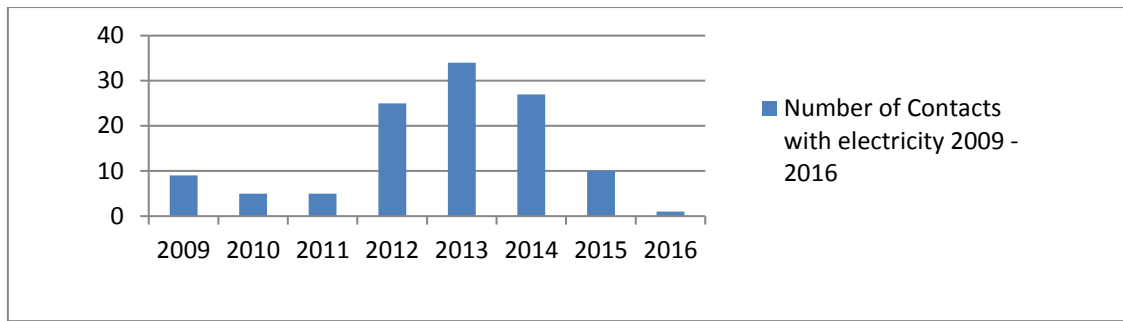
3.3.7 National electricity safety week

On 19 August 2014, ESKOM launched the National electricity safety week. At the launch in Zonkizizwe Section of Katlehong Township, Gauteng OU, ESKOM’s, Occupational, Health and Safety manager said that his commitment is to educate people about electricity safety. He emphasised the dangers of repurposing gas or paraffin appliances. In Winterveld, Gauteng, South Africa, ESKOM and the City of Tshwane Municipality jointly conducted removal of illegal electrical connections to assist network stability. During this national electricity safety week held from 11 August 2015 to 15 August 2015 in Winterveld, ESKOM’s Occupational, Health and Safety manager said that lives were lost owing to electricity and cable theft. He emphasised that one injury or fatality is one too many. Moreover, consumers were urged to refrain from illegally connecting to the electricity network as it is dangerous and contributes to “load shedding”. They were educated by means of plays. Communities are constantly motivated and encouraged to report suspected unauthorised electrical connections anonymously by phoning 0800112722 (Toll-free) or sending a detailed Short Message Service (SMS) to Crime Line 32211, which costs (ZAR1 per SMS) or by reporting directly to the SAPS, municipality or CPF in the area (Moodley, 2016:1).

The researcher notes however that although people know about the dangers of connecting electricity illegally, they continue with this behaviour unabatedly, therefore creating anarchy.

Figure 3.2: ESKOM KwaZulu-Natal Operating Unit’s contact with electricity statistics⁴

⁴ ESKOM KwaZulu-Natal Operating Unit, South Africa contact with electricity statistics due to unauthorised electrical connections for the period 2006–2016. The electricity contact statistics was provided by ESKOM, KwaZulu-Natal Operating Unit, South Africa Officer Risk Information, Mrs. L. Kisten and adapted by the researcher.



The theft of electricity negatively impacts the operations of electricity utilities. Johannesburg Mayor, Mpho Franklyn Parks Tau, in his State of the City address in Turfontein, Gauteng stated that: “the law to criminalise vandalism and to impose harsh sentences on perpetrators is welcomed” (Nkosi, 2016:3). A hotline, metering service, business unit and corruption busting plans were established by City Power to combat the theft of electricity, fraud, racketeering and corruption involving collusion between contractors, customers and employees. City Power reported that 15 employees had been implicated since the inception of the Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) on the 24 May 2016 (Mahlokwane, 2016:4).

The Minister of Police concurred that:

“...co-operation and not protesting violently as a result of poor service delivery of legal electricity is a democratic right and strengthens the partnership between the SAPS, Durban’s eThekweni Municipality Electricity Department and communities in their attempts to combat crime, for example, unauthorised electrical connections” (Mthethwa, 2014:5).

However, the researcher highlights that the Minister of Police’s request was not heeded by the community owing to 71 per cent of electricity service delivery protests that were recorded from 1 January 2016 to date 18 June 2016 (Dodds, 2016:7).

The Departments of Co-operative Governance, Traditional Affairs and Human Settlements formed a committee to address legal, electrical infrastructure at the Zandspruit informal settlement in Honeydew, North West of Johannesburg, Gauteng OU. This was due to the on-going conflict between the police and the community

regarding the removal of five truckloads of unauthorised electrical connections. In the interim, communities were urged not to steal electricity (Baloyi, 2016:1).

The researcher noted in her interaction with the SAPS and Durban's eThekweni Municipality Electricity Department with regards to the combating of unauthorised electrical connections, that they are not optimally effective, because they "fear" for their lives. This could be as a result of the 16 August 2012, Marikana, Rooikoppies, Rustenburg, North West Operating Unit, South Africa incident that was characterised by "*hasty, poor or no planning without input from the SAPS' Public Order Policing Unit*" (Interviewee 1, 2014). The SAPS has now taken the stance to have planning meetings prior to ESKOM scheduling disconnections and removals, in an attempt not to have a recurrence of the Marikana incident that occurred on 16 August 2012.

The researcher, with her experience in this field, could foresee that this strategy will inevitably result in a service delivery delay from ESKOM. Some electrical, industry and utility advisors state that: "electricity utilities must introduce an electricity theft informer scheme" whereby informers of unauthorised electrical connections are rewarded financially (Denyer, 2012:1). This is discussed furthermore under India's perspective in this chapter.

The researcher observed that a number of perpetrators have been arrested for possession of valuable ESKOM transformers and cable. This suggests that involvement of organised crime that is syndicate-driven and criminal activities that includes unauthorised electrical connections. These crimes should be handled by multi-disciplinary crime intelligence driven investigations, which include the National Prosecuting Authority (NPA), the Directorate for Priority Crime Investigation (DPCI) (hereinafter referred to as 'the Hawks'), SAPS' Organised Crime Unit, SAPS' Crime Prevention and Firearms, Liquor and Second Hand Goods (FLASH) Unit. To complement the fight against crime, ESKOM joined forces with the following organisations:

- Business against Crime South Africa (BACSA);
- Business Unity South Africa (BUSA);
- PRIMEDIA;

- Crime Line;
- Proudly South African;
- South African Local Government Association (SALGA);
- AgriSA;
- SAPS;
- Durban's eThekweni Municipality Electricity Department;
- Municipalities;
- Telkom South Africa State Owned Company Limited (Telkom);
- Transnet State Owned Company Limited (Transnet); and
- South African Chamber of Commerce and Industry.

Crime syndicates are involved in the theft of electricity using stolen credit dispensing units from legal ESKOM vendors, for example, Garages and Chain Stores. This results in the sale of false or stolen vouchers which are used in pre-paid electrical environment as units of electricity. However, power utilities can use Pelt technology to deactivate vouchers issued from stolen credit dispensing units. Customers can scan the 2D code on the voucher by using a smart phone. An application on the smart phone will indicate whether the voucher is fake or stolen. In addition, the utility will be notified of the location where the fake or stolen voucher was scanned. Moreover, officials can use this information to locate stolen vending machines and perpetrators (Parker, 2016:23).

Businesses sometimes take “shortcuts” on security systems owing to budget constraints, resulting in poor quality security. The ideal security solution would be tangible integration of physical security, multi-disciplinary SAPS’ Crime Intelligence gathering networks and technology, for example, visible physical, response guarding by security officials, traditional surveillance alarm monitoring, CCTV video surveillance cameras with thermal imaging capability, real-time threat monitoring and management, armed response, and follow-up investigations (Seldon, 2016:28).

The researcher noticed that ESKOM’s KwaZulu-Natal Operating Unit has a fully functioning Supervisory Control and Data Acquisition system in operation at their 24-hour manned control-centre in ESKOM Mkondeni Office Park, Pietermaritzburg KwaZulu-Natal. This system has software that processes, controls and gathers data

in real time from remote locations for purposes of controlling equipment and conditions. The Supervisory Control and Data Acquisition system sends alarms if there is any movement on the network. Presently, this system is not aligned, co-ordinated and integrated into the existing security efforts (visible physical security) and multi-disciplinary SAPS Crime Intelligence gathering network. Consequently, this creates an inefficiency of visible physical security mechanisms in the fight to combat unauthorised electrical connections. Surveillance and monitoring can be used to detect and deter offenders, prevent crime and provide evidence after a crime has been committed in unauthorised electrical connection hotspot areas identified as problematic for purposes of this study by the researcher and ESKOM's KwaZulu-Natal Operating Unit's Provincial Executive Committee, owing to their negative sales per customer.

In 2015, Huawei launched its new, cost effective, strategic, wireless communications network in Nairobi, Kenya in East Africa. This network links over 1 800 surveillance cameras with 195 organisations and 7 500 police officials. Moreover, the network is important with regard to national and economic security. Industry analysts state that this network links the National Police Service Commissioner's command-centre with 1 500 cameras, of which 200 cameras were installed at hotspots and wireless devices were allocated to officers on the field. This system accommodates cross-agency video sharing, real-time surveillance, video browsing and evidence collecting. Furthermore, the system provides analytical programmes to assist authorities to identify, classify and match stored data (Seldon, 2016:27).

Pelt technology tamper evident labels strategically stuck onto connectors or electricity meters on the distribution board of a dwelling will fragment when the distribution board or meter is tampered with. Should the connection be restored, the perpetrator will not be able to re-stick the label. This enables officials to establish whether an unauthorised electrical connection has been made (Parker, 2016:22). From the above literature overview, it is evident that the combating of electricity theft holds enormous challenges, and that the security culture in utilities must be enhanced and aligned to the values of the organisation.

The sections below will briefly describe some efforts implemented in selected municipalities of South Africa, with the view of combating unauthorised electrical connections.

A. Buffalo City Metropolitan Municipality, Eastern Cape, South Africa attempt to combat electricity theft

Gower (2010:24) listed the following solutions to combat unauthorised electrical connections, as was implemented in Buffalo City Metropolitan Municipality:

- The use of remote, pole mounted, low specification, high definition, wide angled, CCTV monitoring the modus operandi of offenders.
- A warrant to search must be obtained prior to the removal of unauthorised electrical connections as the delay will defeat the purpose of the search.
- Conducting more regular removals at night with utilities, SAPS and Durban's eThekweni Municipality Metropolitan Police Department targeting the week-end.
- Authorities must maintain an approved security of tenure to have the ability to perform their duty without endangering their lives.
- Provision of electricity to all combating unauthorised electrical connections and generating revenue.
- Electricity utility staff must be trained to interact with the community.
- Fines must be harsh, and offenders must be arrested.
- Global Positioning System co-ordinates must be assisting planning, audits and investigation.
- Enforcement of municipal Electricity Supply By-laws, and the Criminal Matters Amendment Act, 2015 (Act No 18 of 2015).

Table 3.1 Buffalo City Metropolitan Municipality, Eastern Cape, successful conviction for unauthorised electrical connections 2014-2016⁵

⁵ Statistics' provided by Mr. Chris Gower, Revenue Protection, Customer Services & Revenue Protection Manager, Electrical Operations, Buffalo City Metropolitan Municipality, Eastern Cape, South Africa, 4 September 2017.

TYPE OF CRIME	DATE ARRESTED	CAS NUMBER	CONVICTION
Illegal electrical connection to an informal settlement	24 March 2014	Beacon Bay SAPS Cas219/03/2014	3 years imprisonment.
Interfering with electrical apparatus (illegal electrical connection)	12 December 2014	Cambridge SAPS Cas161/12/2014	Admission of guilt of ZAR500 as per Buffalo City municipality, Electricity Supply By-laws, fines structure, in agreement with the Chief Magistrates Office.
Interfering with electrical apparatus (illegal electrical connection)	12 December 2014	Cambridge SAPS Cas162/12/2014	Admission of guilt of ZAR500 as per Buffalo City municipality, Electricity Supply By-law, fine structure, in agreement with the Chief Magistrates Office.
Interfering with electrical apparatus (illegal electrical connection)	12 December 2014	Cambridge SAPS Cas163/12/2014	Accused paid an admission of guilt fine of ZAR500 as per Buffalo City municipality, electricity supply by-law fine structure, in agreement with the Chief Magistrates Office.
Interfering with electrical apparatus (illegal electrical connection)	12 December 2014	Cambridge SAPS Cas164/12/2014	Accused paid an admission of guilt fine of ZAR500 as per Buffalo City municipality,

TYPE OF CRIME	DATE ARRESTED	CAS NUMBER	CONVICTION
			electricity supply by-law fine structure, in agreement with the Chief Magistrates Office.
Interfering with electrical apparatus (Illegal electrical connection)	18 August 2015	Cambridge SAPS Cas263/08/2015	9 months imprisonment.
Housebreaking with intent to steal and theft and tampering with the electricity network in contravention of the Criminal Matters Amendment Act, 2015 Act No 18 of 2015	4 August 2016	Cambridge SAPS Cas45/08/2016	8 years imprisonment.
A parent was charged for Culpable Homicide due to electrocution of her two year old child as she hired an illegal connector to electrify her dwelling	1 August 2016	Beacon Bay SAPS Cas2/08/2016	1 year imprisonment.

Bela-Bela Municipality is experiencing huge revenue losses owing to unauthorised electrical connections. Therefore, an audit company was appointed to prosecute unauthorised electrical connection offenders. To create awareness, it was urged that illegal activities and payments be made to official cashiers and not on the field. Any suspicious activity should be recorded with the physical address, time, vehicle registration number and description of vehicle and description of perpetrators (Bela-Bela Municipality, Limpopo, South Africa, 2009:1).

B. Edendale Township and Imbali Township, Pietermaritzburg, KwaZulu-Natal Operating Unit, Split Electrical Metering Implementation (Smart Electrical Metering) Pilot Project

An audit finding revealed a 30 to 60 per cent reduction in electricity theft can be achieved using split pre-paid electricity metering (smart electricity metering) technology. During 2007, ESKOM's KwaZulu-Natal Operating Unit piloted the Split Pre-paid Electrical Metering (Smart Electrical Metering) in 5 000 dwellings whereby a sensor disconnects once tampering on the meter box situated outside is detected. This minimised access to the electrical infrastructure and limited concealment of tampering from inside dwellings (Mndaweni, 2007:8).

C. Soweto Township, Johannesburg, ESKOM's Gauteng Operating Unit, South Africa Split Electrical Metering (Smart Electrical Metering) Pilot Project

In 2013, 53 000 Split Pre-paid Electrical Meters (Smart Electrical Meters) were installed resulting in a revenue increase of ZAR33 million during July 2014 to February 2016, supporting financial stability, reduced electrocutions and improved energy consumption (Lilley, 2016:48).

D. City Power, Gauteng, South Africa Split Pre-paid Electrical Metering (Smart Electrical Metering) Implementation Project

City Power experienced an increase in revenue losses owing to unauthorised electrical connections. To combat this challenge, City Power introduced split pre-paid electricity metering (smart electricity metering) to signal an unauthorised electrical connection owing to unusually high consumption (Nzimande & Pillai, 2015:78). This technology can be used to terminate the electrical service remotely, thereby combating corruption whereby unauthorised electrical connections are not reported for payment of a fee (Battaglia, 2013:1).

This challenge was highlighted by the City of Johannesburg Metropolitan Municipality, Executive Mayor, councillor, Mpho Parks Tau, who said: "50 per cent of City Power's electrical meters are split pre-paid electrical meters (smart electrical meters) and 32 per cent of electricity is lost through unauthorised electrical connections" (Vermeulen, 2015:1).

Telkom's prevention and protection strategies:

- Installation of fully serviced surveillance alarms on cable routes (on a zoned and priority basis) to detect tampering with the network to connect unauthorised electrical connections.
- Covering cable runs with concrete to prevent the theft of cable to be used to connect unauthorised electrical connections on ESKOM's network.
- Replacing overhead cables with underground cables which are placed two metres deep thereby ensuring time delays and difficulty to obtain the cable.
- Replacing wooden poles with steel or concrete poles which make it difficult for perpetrators to climb up the poles using climbing shoes or to steal the poles which will be used for unauthorised electrical connections.
- Securing the bottom of wooden poles with concrete or metal mesh barb wire. This makes it difficult for perpetrators to climb up the poles using climbing shoes to steal the cable or to steal the poles.
- Lashing overhead cables to steel wires to prevent the theft of cable to be used to connect unauthorised electrical connections on ESKOM's network.
- Changing conventional, aluminium, Telkom cables to optic fibre cables which cannot be used on ESKOM's network.
- Deployment of contracted armed response teams, including the use of helicopters to patrol the lines that have not yet been converted to fibre optic cable and as well as identified hotspot areas.
- Working together with stakeholders, for example, ESKOM and municipalities during their crime prevention initiatives combating unauthorised electrical connections (Smith, 2013:21).

3.4 THE PRESENT DAY SITUATION OF UNAUTHORISED ELECTRICAL CONNECTIONS IN KWAZULU-NATAL, SOUTH AFRICA

Photograph 3.3: Unauthorised electrical connections in Richards Bay, Empangeni, KwaZulu-Natal, South Africa⁶



3.4.1 Present day legislation

The South African Electricity Regulatory Act 4 of 2006 replaced the South African Electricity Act 41 of 1987. However, the new Act omitted to include unauthorised electrical connections and the illegal use of electricity as offences. The section that previously stipulated sanctions for offences of electricity crimes was not included in the new South African Electricity Regulation Act 4 of 2006. This was owing to adequate initiative to revise this section. Section 24(1) is relevant because it highlights that the rights of the apparatus used to supply electricity lies with the supplier, which is crucial when establishing prohibited usage. The old Act of 1987, Section 27(1) holds a perpetrator liable if any sections of the South African Electricity Act 41 of 1987 are contravened. Section 27(2) of the South African Electricity Act 41 of 1987 highlights the consequences for the perpetrator of misappropriating electricity and consumption and stipulates it as a statutory offence.

3.4.2 Areas most affected in KwaZulu-Natal, South Africa

⁶ Illegal electrical connection made to an existing barb wire boundary fence. This photograph was taken by the researcher on the 22 May 2010.

It has been reported by ESKOM's Kwazulu-Natal Operating Unit from January 2006 to present that the theft of electricity is widespread and rampant in the following 23 districts out of a total of 43 districts in KwaZulu-Natal, South Africa: Edendale Township, Danganya, Emona, Frasers, oThongathi, High Flats, Imbali Township, Ixopo, Jozini, Kokstad, KwaDumisa, KwaXimba, Madadeni, Magabeni, Manguzi, Marburg, Nchanga, Ncotshane, Ndwedwe, Nongoma, Osizweni, Sawoti, Sundumbili, Trado Farm, Vryheid, Umbumbulu, Umgababa, Umzinto and Uvongo rural (Mthethwa, 2016:1). Jamil (2013:10) states that increased electricity prices will not reduce financial instability for all electricity utilities, as long as the system is burdened with electricity theft and corruption.

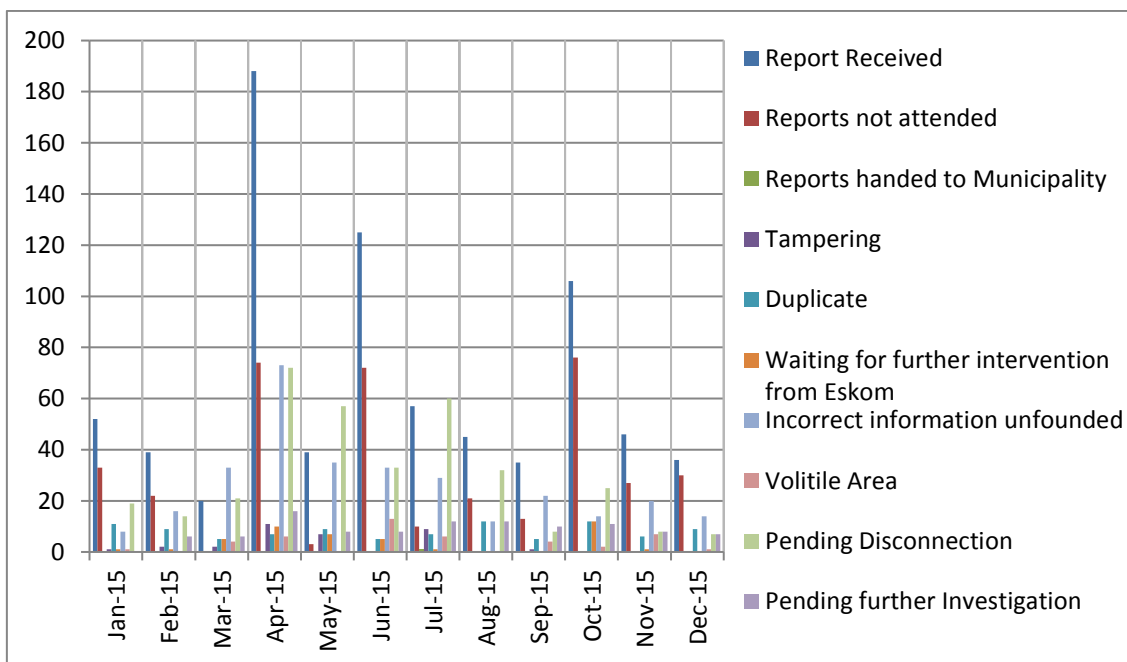
The Claire Estate Action Committee (CEAC) Chairperson said that unauthorised electrical connections are non-compliant. Due to a backlog of applications for legal electrical connections inherited from the previous apartheid government, it has decreased owing to foot and vehicle patrols conducted by members of the community. Informal settlements have increased in the last 30 years, resulting in an influx of unauthorised electrical connections. Dwellings and trees catch fire owing to unauthorised electrical connections, which create safety hazards and concerns (Marriah, 2016a:8).

Marriah (2016a:8) further contends that the state must help poor people and reduce unrest by building flats instead of houses to save land. The researcher found it noteworthy that the municipalities' initiative of building and distributing RDP houses is regarded as a noble cause. However, the question arises whether the municipality foresaw the increased strain on the network and provided for electricity supply and demand. Durban's eThekweni Municipality Mayor, Mr James Nxumalo, argued that electricity theft must be addressed by the joint effort of the SAPS, Durban Metropolitan Police Department, municipalities and communities.

A Durban eThekweni Municipality City spokesperson stated that the municipality has 436 informal settlements, which amounts to a rapidly growing figure of 2 060 dwellings, owing to the influx of people who migrate from the rural areas (Marriah, 2016b:8). He stated that 8 077 unauthorised electricity connections scheduled for conversion to legal connections were at feasibility stage, 3 859 at design stage, and 14 767 at

implementation stage. It is estimated that Durban’s eThekweni Municipality loses ZAR230 million annually due to electricity theft (Marriah, 2016b:8). Perpetrators must be stopped due to the impact on the economy and the dangers that unauthorised electrical connections pose for citizens. Energy analysts say that although citizens often blame Eskom for load shedding, it is partly owing to failure at distribution level where surplus electricity generated is stolen as a result of unauthorised electrical connections (Marriah, 2016b:8).

Figure 3.3: ESKOM’s KwaZulu-Natal Operating Unit illegal electrical connection crime reporting statistics⁷



⁷ Unauthorised electrical connection crime reporting statistics for the period January 2015 to December 2015 provided by Eskom, KwaZulu-Natal Operating Unit, South Africa Senior Clerk, Mr. Andile Mthethwa and adapted by researcher.

Photograph 3.4: Unauthorised electrical connections removals in Cato Ridge, Pietermaritzburg, KwaZulu-Natal South Africa⁸



Photograph 3.5: Unauthorised electrical connections in Emona, oThongathi, KwaZulu-Natal, South Africa⁹

⁸ This photograph was taken during a disconnection and removal operation. Note the resistance from the community by pulling the unauthorised electrical connection cable away from the removal teams. This area is classified as a problematic, volatile and rife with illegal electrical connections and violent protests as discussed in Chapter 3 of this study. This photograph was taken by the researcher on the 20 October 2015.

⁹ This photograph was taken during a disconnection and removal exercise. This area has been classified by ESKOM, KwaZulu-Natal Operating Unit's Provincial Executive Committee as an area that is volatile and rife with unauthorised electrical connections as discussed in Chapter 3 of this study. This photograph was taken by researcher on the 4 April 2015.



Photograph 3.6: Dangerous, exposed and sagging unauthorised electrical connection cable extending over a river in Umzinto, KwaZulu-Natal, South Africa¹⁰



3.4.3 Sonkombo, Ndwedwe, KwaZulu-Natal, South Africa

Emergency medical service spokesman said: “ESKOM conducted awareness campaigns regarding the dangers of electricity theft, but its fatal consequences were highlighted in Sonkombo Village, Ndwedwe, Ilembe Municipality, KwaZulu-Natal

¹⁰ Umzinto in KwaZulu-Natal, South Africa has been classified as problematic, illegally connected area where disconnections and removals cannot be executed owing to violent protests by the community that have been promised electricity by ESKOM. Note that both poles are slanting which will eventually result in the illegal line touching and energising the water in the river creating a safety concern. This photograph was taken by researcher on the 22 October 2015.

where a lady was electrocuted while walking barefoot, carrying a bucket of water on her head. The water in the bucket came into contact with an unauthorised electrical connection that was hanging low above her head as she was crossing (Vermeulen, 2015:2). On 3 May 2016, 2 000 dwellings were electrified for the first time in Sonkombo Village, Ndwedwe, Ilembe Municipality, KwaZulu-Natal by the Co-operative Governance, Traditional Affairs and Human Settlements Affairs Department as part of its ZAR19 million, project that was implemented in an attempt to combat unauthorised electrical connections.

This discussion emphasises that communities must be active in combating unauthorised electrical connections. They should take care of their electrical infrastructure and report all electricity theft (Ngwenya, 2016:1).

3.5 MEASURES IMPLEMENTED TO COMBAT UNAUTHORISED ELECTRICAL CONNECTIONS IN KWAZULU-NATAL, SOUTH AFRICA

Photograph 3.7: Dangerous unauthorised electrical connections that were buried underground being disconnected and removed.¹¹



¹¹ Dangerous and exposed unauthorised electrical connections that are being disconnected and removed by ESKOM's contracted illegal electrical connection removal teams. This area has been classified as a problematic area as discussed in Chapter 3 of this study. Note that there is steam emanating from the waterlogged soil at the site of the unauthorised electrical connections where pedestrians walk depicting that this puddle of water is energised creating a further safety concern. This photograph was taken by the researcher on the 4 April 2014.

Photograph 3.8: Dangerous and exposed unauthorised electrical connections made through storm water drains to dwellings in Manguzi, KwaZulu-Natal, South Africa¹²



Photograph 3.9: Dangerous and exposed unauthorised electrical connections in a “switch room” and sealed with plastic in Jozini, Northern, KwaZulu-Natal, South Africa¹³



As is the case globally, in KwaZulu-Natal, the popular method of stealing electricity is by connecting to streetlights for unauthorised electrical connections. This is easy to detect because they are above the ground. However, removing these connections is not easy. There are reports of officials being attacked or receiving death threats.

¹² This photograph was taken by the researcher during a disconnection and removal operation on the 2 November 2009.

¹³ In this community an unauthorised ‘switch room’ was made distributing illegal electricity to dwellings. The colour wire used in the switch room is attractive to innocent young children who are often the ones that are electrocuted owing to their inquisitive nature. Note an unauthorised electrical connection sealed with plastic as discussed in Chapter 3 of this study. This photograph was taken by researcher on the 22 May 2015.

Therefore, they require security escorting, response and guarding officials to be present when removing these lines (Smith, 2004:2069).

In contrast with streetlight connections, many other unauthorised electrical connections are not easy to detect because the perpetrators have their devices connected on the electricity network without a meter, and cable connections are concealed by tubes and walls of the dwelling or underground in the yard (Pavic, Stojkov & Trupinic, 2004:983).

Photograph 3.10: ESKOM's removal contractor removing unauthorised electrical connections from an overloaded transformer in Jozini, KwaZulu-Natal, South Africa¹⁴



A dedicated section for the investigation and removal of unauthorised electrical connections was launched by ESKOM's KwaZulu-Natal Operating Unit's Security Management Department on 1 January 2006. ESKOM's KwaZulu-Natal Operating

¹⁴ This photograph was taken by the researcher on the 22 May 2015.

Unit, Provincial Executive Committee noted an urgent need for the reporting, investigation and removal of unauthorised electrical connections. An Officer Crime Risk, Administration Clerk, private investigation contractors and private removal technical contractors were employed to manage this task. On 1 June 2016, these functions were transferred to ESKOM's Energy Protection Department for verification of unauthorised electrical connections reports, also utilising ESKOM's Technical Support Department for removal of unauthorised electrical connections, and the Security Management Department for investigation of unauthorised electrical connection reports received only if ESKOM employees or ESKOM contractors were involved. The investigation of unauthorised electrical connections function was split between three ESKOM's KwaZulu-Natal Operating Unit departments namely, Security Management Departments' internal investigators, deployed in the Pietermaritzburg, Newcastle and Empangeni zones, in KwaZulu-Natal Operating Unit's, South Africa.

3.5.1 Social marketing campaign

ESKOM's Energy Losses Management Programme Department as well as various corporates and organisations have partnered with ESKOM to introduce a social marketing campaign to reduce and combat electricity revenue losses owing to unauthorised electrical connections. The focus is on changing the members of the communities' mind-set and behaviour towards the theft of electricity to a more desired behaviour, for example, the use of legal electricity. This initiative requires the knowledge and understanding of what stage the people are in, in the process of change, their version of why they connect unauthorised electrical connections, incentives and the sustainability of such paradigm behavioural change. To initiate positive change of behaviour towards the combating of unauthorised electrical connections, the campaign required the alignment of a joint interest between the community's needs, company's goals, objectives and policies and the political situation. The impact, risk and the benefits of addressing the theft of electricity was highlighted to the target audiences (Erwee, Landsberg, Maphaka, Moodley & Van Kaam, 2010:8-17).

Objectives of ESKOM's Energy Losses Management Programme, social marketing campaign are as follows:

- Voluntarily influence the behaviour of the effected community to become legal users of electricity.
- Influence law-abiding citizens to, anonymously, report suspicious behaviour and combat unauthorised electrical connections to ESKOM Crime Line 32211 (ZAR1 per SMS) or 0800-112-722 (Toll Free) or sending a detailed SMS to 08600 ESKOM (37566); Telkom Crime Line 0800-124-000, Transnet 0800-003-056, Durban's eThekwini Municipality 031-3119611 or by reporting directly to the CPF, respective municipality and or SAPS.
- Combat illegal electricity consumption by building joint partnerships between communities and electricity utilities as a measure to combat unauthorised electrical connections (Maphaka et al., 2010).

Table 3.2: Behaviour change required from target audiences. Taken from a paper 14th Revenue Protection Convention, 29-30 July 2016, Gallagher Estate, Midrand, Gauteng, South Africa (Maphaka et al., 2010)

Behaviour change required from target audiences	
Present behaviour	New behaviour required
Engaging in illegal use of electricity, for example theft of electricity.	All citizens to become legal users and refrain from stealing electricity.
Non-compliant electrical connections are made to dwellings.	All dwellings to be electrically compliant.
Passive attitude from community with regard to the reporting of unauthorised electrical connections.	The reactive reporting of unauthorised electrical connections by the community.
Powerless attitude from communities with regard to the combating of unauthorised electrical connections.	All citizens to become advocates for legal use of electricity.

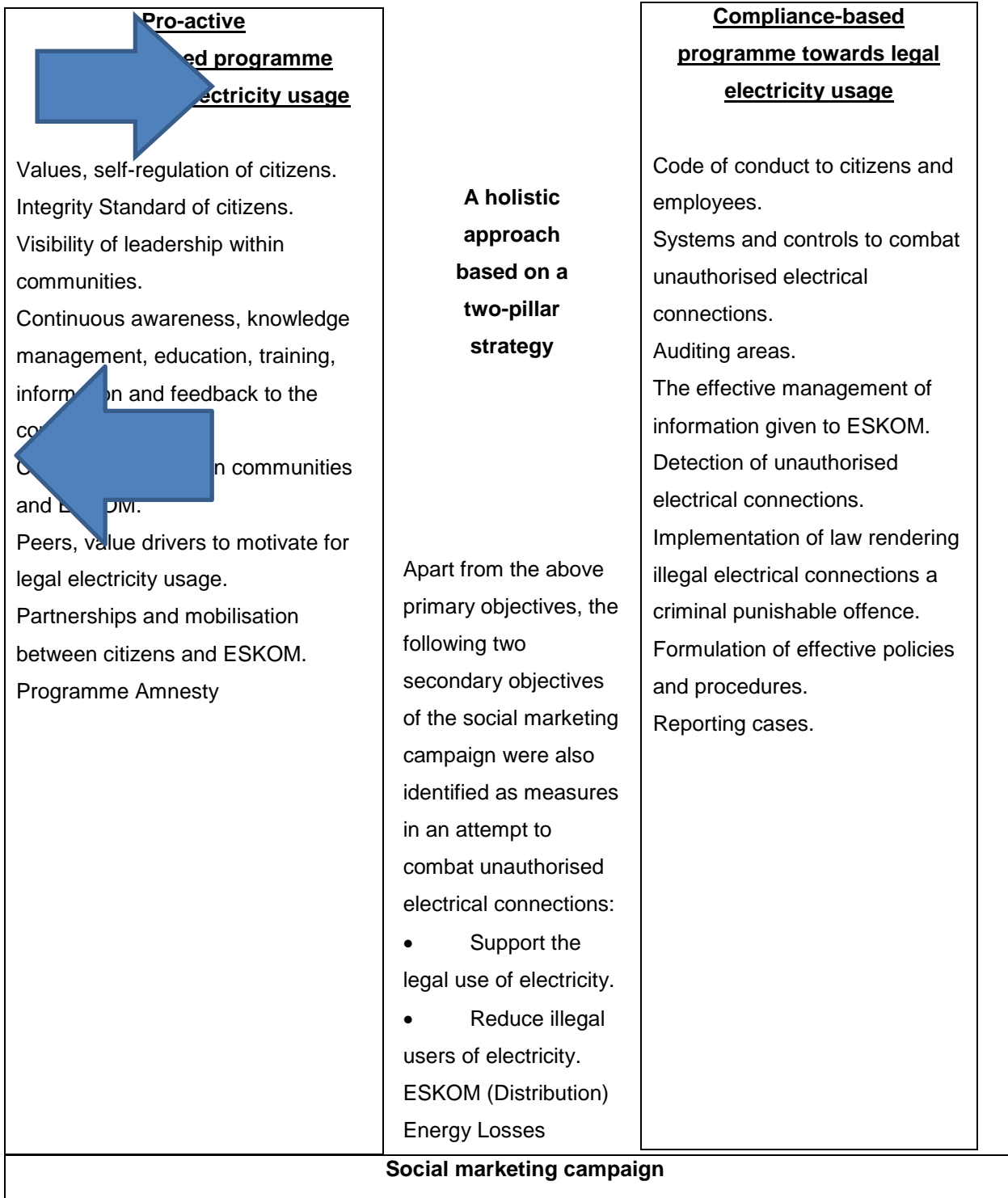
Table 3.3: Social marketing two integrated pillars. Table taken from a paper at the 14th Annual Revenue Protection Convention held between 29-30 July 2010, Gallagher Estate, Midrand, Gauteng, South Africa (Maphaka et al., 2010)

Social marketing two integrated pillars	
Pro-active integrity-based pillar	Compliance based pillar
Community values regarding unauthorised electrical connections.	Legislation combating unauthorised electrical connection

The efforts to combat unauthorised electrical connections should not be aligned to single units.	The efforts to combat unauthorised electrical connections to be aligned jointly to the community and electricity utilities.
The formation of a joint partnership between communities and ESKOM to combat unauthorised electrical connections.	Unauthorised electrical connections policies, procedures and strategies to be in place.

Table 3.4: Objective Behaviour change towards legal electricity usage. 14th Annual Revenue Protection Convention, 29-30 July 2010, Midrand, Gauteng, South Africa (Van Kaam, 2015: 1)

Objective Behaviour change towards legal electricity usage



Management

3.5.2 Campaign, Presented to the 14th Annual Revenue Protection Convention: Striving toward excellence by sustaining the effort. Gallagher Estate, Midrand, Gauteng, South Africa, 29-30 July 2010.

It was during this convention that it was recommended that ESKOM implement an amnesty campaign whereby perpetrators of unauthorised electrical connections were exempt from prosecution in exchange for voluntary information disclosure. This campaign identified illegal users and registering them on ESKOM's Customer Care and Interaction system. However, the following applies:

- ESKOM is committed to addressing unauthorised electrical connections.
- ESKOM is able to prosecute offenders.
- Offenders will be caught and prosecuted once the amnesty period has expired.

The following records of similar and successful amnesty campaigns were noted from the South African Revenue Service, South African Competition Commission and the New Delhi Amnesty in India. However, despite the recommendation to ESKOM for an amnesty campaign, to date there is no formal decision on the implementation of such an amnesty programme (Maphaka et al., 2010). The researcher noted that the implementation of this amnesty campaign would assist ESKOM to pinpoint unauthorised electrical connections preventing the need for costly audits, money that can be spent on connection of legal electrical connections.

3.5.3 Stakeholder management in KwaZulu-Natal, South Africa

During 2008, a stakeholder management initiative was established to ensure that ESKOM's KwaZulu-Natal Operating Unit was appropriately positioned with relevant stakeholders especially government departments, the Zulu royal household, traditional leadership, municipalities, business, industry, farmers unions and the media. The function was to establish objective plans, constructive and productive relationships and effective communication. The focus was on strategic intent, change management, advice, understanding legislature, protocol, identifying, tracing and managing risks and issues. This resulted in information sharing, and a practical and useful strategy on unauthorised electrical connections, which required stakeholder intervention (Sonjica, 2008:19).

The World Bank's Chief Economist stated that: "There is a need for better management of Eskom's assets" (Ka'Nkosi, 2015:1). Durban's eThekweni Municipality has conducted comprehensive, multi-disciplinary operations, i.e. disconnections and removal, in conjunction with Eskom, Telkom, private security, escorting, response and guarding companies, the SAPS, Durban eThekweni Metropolitan Police Department and the community, in an effort to combat unauthorised electrical connections owing to the negative sales per customer and the high volume of reports received (Marriah, 2016c:8).

Operation Khanyisa called on all community members to treat legal electricity consumption as part of good corporate governance in an attempt to combat unauthorised electrical connections. "After all, we all have to declare that we are tax compliant if we are to be taken seriously in the in the active business community. So why should the same not apply to electricity consumption?" (Interviewee 6, 2017). Combating unauthorised electrical connections is one of the elements of Operation Khanyisa's campaigns. Operation Khanyisa collaborates with the stakeholders as depicted to investigate syndicates involved in installing unauthorised electrical connections. It was acknowledged that a campaign of this nature must include a strong law enforcement component. Operation Khanyisa needs to demonstrate clearly that crime does not pay (Interviewee 6, 2017), and all stakeholders should be involved in this initiative.

3.5.4 Methods for reducing electricity theft

During the 14th African Utility Week conference held in Cape Town, Western Cape Operating Unit, South Africa, held from the 13 May 2014 to 14 May 2014, the following measures were discussed for implementation to manage energy losses, thereby protecting revenue. They include increasing measures; fixing customer installations; ring fencing electricity networks to balance energy delivery; implementing tested technologies; ensuring sustainability; communicating to and educating internal and external stakeholders (Maphaka, 2014a:8).

In support of these measures, the researcher will discuss additional procedures, such as technical or engineering methods, managerial methods and system change as initiatives that could enhance the combating of unauthorised electrical usage.

Technical or engineering methods

Electrical system investment for reducing losses are upgrading power lines and electrical meters; improving transformers; installing information technology monitoring systems; installation and maintenance of split pre-paid electrical meters (smart electrical meters), all of which are expensive and will require sound and complex infrastructure (Smith, 2004:2073). Technical methods, such as CCTV video surveillance cameras will create a “perimeter fence” that, if crossed, will allow early detection, confirming and validating alarms (Seldon, 2014:45). Electrical utilities will benefit from supplying intelligent, interactive and innovative security technology that can combat substation and pillar box vandalism by offering cable, conductor and distribution transformer alarms and overhead power line alarm systems (Seldon, 2014:16).

Managerial methods

Amalgamating technical improvements with a well-managed anti-electricity theft programme should result in significant improvements. Good management will support the effectiveness of technical measures. Management that allows repeated procedural violations undermines the psychological impact of technical methods such as CCTV video surveillance cameras (Donald, 2014:12). It is difficult for utilities to detect corruption because often it occurs through the collusion of utility employees with perpetrators. Investigation and surveillance have unveiled corruption whereby employees extort money to not disclose transgressions. Therefore, good management should ensure that all corrupt employees, including top management, are prosecuted.

System change

State-owned utilities are not always managed as true businesses. As a result, they do not prioritise profits because they are intertwined in political processes with few

incentives to reduce theft. The world trend is to transform public utilities to private utilities. However, this will eliminate state subsidies that have kept the electricity prices low. In the past decade, some systems have been privatised and had shares trading on the stock exchange. However, the electricity sector is difficult to privatise because this sector does not have competitors and people are forced to use their product.

Stakeholder involvement

The Chairperson of a community project called Community Orientated Policing (COP) in Brighton Beach Bluff maintains that community orientated policing deters and detects crime. This unit comprises of retirees, who could be relaxing, but are now becoming involved in foot patrols. In 2015, 1 000 hours were contributed voluntarily and free of charge through this project. The project is safe and effective because when the volunteer “bobbies” observe suspicious behaviour; the SAPS or Durban Metropolitan Police Department are summoned to make an arrest (Hanekom, 2016:2).

The researcher notes that these initiatives are noble, but there will be no sustained improvement unless citizens have concerted paradigm behavioural change, which requires “moral” and “cultural” awakening rather than the enforcement of legal sanctions. The researcher adds that the above methods have revealed that a single visible security system will not optimise success in the attempt to combat unauthorised electrical connections.

Fay (2011:411) maintains that people, processes and visible physical security are the three main parts of the integration of visible security systems. A CCTV video surveillance camera, for example, in a substation, by itself is not effective as a deterrent to perpetrators as it can only be used after the fact, i.e. footage to be viewed after the unauthorised electrical connections had been made depicting only the modus operandi and a vague description of the perpetrator. Furthermore, should the perpetrator tamper with the CCTV video surveillance cameras, field of coverage, the purpose of having the CCTV video surveillance cameras will be defeated as nothing significant will be recorded to assist the response, prevention, detection and the security investigation when tracing the perpetrator.

An integrated visible security system combining the use of visible sub security systems, for example, electronic article surveillance, CCTV video surveillance cameras, surveillance alarm systems, employees, policies and procedures backed by information communication technologies, for example, ESKOM's Supervisory Control and Data Acquisition system, can result in a positive incident investigation. The researcher concurs with Fay's statement that visible, sub-security systems that are purposefully integrated are more effective, reliable, dependable and accurate with the storage of information.

However, the combinations of expensive yet cost effective engineering measures are indispensable. They include converting copper cables to marked aluminium cables, connecting fully serviced surveillance alarms on hotspot transformers, incorporation of the Supervisory Control and Data Acquisition information technology monitoring systems, installation and maintenance of split pre-paid electrical meters (smart electrical meters) requiring sound and complex infrastructure. Technical visible security measures, for example, CCTV video surveillance cameras and surveillance alarm systems create a physical surveillance "perimeter fence" that, if crossed, will allow early detection, response times, and confirming and validating surveillance alarms. Electricity utilities will benefit by supplying intelligent, interactive and innovative visible security technology that can combat unauthorised electrical connections with the aid of cable, conductor and distribution transformer surveillance alarm systems. These engineering and technical visible security measures combined with sound managerial and stakeholder strategies could be a real deterrent to perpetrators of unauthorised electrical connections.

3.6 THE PRESENT DAY CHALLENGES OF COMBATING UNAUTHORISED ELECTRICAL CONNECTIONS IN KWAZULU-NATAL, SOUTH AFRICA

Approximately 95 per cent of South Africa's electricity is supplied by ESKOM. During the 2016/2017 financial year, ESKOM's KwaZulu-Natal Operating Unit electrification teams managed 86 electrification projects resulting in 51 757 houses being electrified.

During the 2017/2018, 57 projects are planned with 39 567 houses that are scheduled to be electrified (Zingoni, 2017:8).

Despite the implementation of best practices, the following challenges remain: a focus shift from maintenance to revenue protection; sustained growth rate; improved investment climate; reforms in supporting sectors; low investment and savings rates; skills shortage; building ties with emerging economies; and a rising middle class (Maphaka, 2014b:4).

In reviewing the literature for this section, the researcher identified the following additional challenges: lack of political motivation; shortcomings of new legislation after repealing the South African Electricity Act 41 of 1987; resistance from the community during removal of unauthorised electrical connections and lack of leadership support. The local election held on 3 August 2016 might have had a bearing on the attitude of local leadership; it remains to be seen whether they will support the removal of unauthorised electrical connections. A major challenge identified is the fact that the SAPS and Durban Metropolitan Police Department are not optimally effective, since they “fear” for their lives in the wake of the 16 August 2012 Marikana incident as discussed in Chapter 3 of this study (Interviewee 1, 2014).

Tangible losses are owing to the following challenges: reconnection of unauthorised electrical connections, Telkom cable used on ESKOM’s network, poor material management and threat of damage to property. Conversely, intangible losses are owing to the following challenges: the South African criminal judiciary process is too long, with long remands, low conviction rate and minimal sentences. Moreover, the judicial process is not cost effective; for example, the investigating officer attends court for five days at a rate of ZAR350 per hour, equalling ZAR1 400, and the perpetrator is fined ZAR1 500.

There are more challenges, such as: slow electrification; lost time and money owing to technicians attending court; material replacement costs; increased electricity prices; increased insurance cost; lost customer confidence and trust; ‘load shedding’; fraud not recognised as a priority crime; witnesses fear testifying due to intimidation and feared for their lives; costly removals; safety of field service officers that request visible

security while attending to faults as a result of electricity theft; legal consumers connecting illegally to enjoy 'free' electricity; a 'culture' of crime; conflict between illegal consumers and legal customers; councillors fearing for their lives following murders of their colleagues. This resulted in Durban's eThekweni Municipality appointing bodyguards costing ZAR20 million, annually.

An alarming reality, observed by the researcher, is that the number of rural community members who gather during disconnections and removals, far outnumber the visible armed escorting and response security officers deployed to the area. The deploying of visible armed escorting and response security officers as a physical security measure defeats the purpose, as the rural community will over power the unauthorised electrical connection removal teams. This could result in fatalities and malicious damage to property. To overcome this challenge ESKOM's KwaZulu-Natal Operating Unit's Provincial Executive Committee suggested that the SAPS, Durban Metropolitan Police Department, leaders of communities, councillors, as well as ESKOM's leadership meet prior to removals to keep the community informed about the removal exercise and prevent an incident similar to the 16 August 2012, Marikana incident discussed in this Chapter 3 of this study. This too was a futile exercise as the community removed most of the unauthorised electrical connections prior to the agreed removal exercise. ESKOM has now taken a stance to convert all unauthorised electrical connections into legal connections. This stance is creating the wrong message that if you have an unauthorised electrical connection, you will be quickly connected legally and those that have applied will have to wait in a queue to have electricity connected legally.

The estimated cost of disconnections and removal of unauthorised electrical connections can amount to approximately R20 000 per ESKOM task order issued per day. This is calculated as follows:

Nine hours per day:

- Electrician @ ZAR140 per hour;
- Skilled labourer @ ZAR79 per hour;
- Linesman @ ZAR40 per hour; and
- Accommodation @ ZAR400 per day.

Customer service employees play an important role by delivering a quality service, empowering the entire business to meet or exceed customer needs (Manning, 1990:1). Customers are known to be impatient. If they are not happy they go where their needs are met, that is, unauthorised electrical connections.

3.6.1 Legislation binding unauthorised electrical connections

Until 24 May 2016, perpetrators could not be prosecuted for theft of electricity since electricity was not regarded as moveable, tangible or 'corporeal moveable property' and was therefore difficult to quantify or measure without a meter. The reason for this is that in 2006, the South African Electricity Regulatory Act 4 of 2006 replaced the South African Electricity Act 41 of 1987. The former legislation provided for electricity theft and infrastructure damage to be classified as a criminal offence, punishable by law. The new South African Electricity Regulation Act No 4 of 2006 did not provide for electricity theft and infrastructure damage to be classified as a criminal offence, punishable by law.

At that stage, the legal landscape posed a huge legal challenge for South African electrical utilities that had to ensure that unauthorised electrical connection cases were prosecuted successfully beyond reasonable doubt, which was only possible if all role players understood the impact of electricity theft within the judiciary system (Madhoo et al., 2013:1). Utilities have always had little support from the SAPS' judiciary and criminal justice system in creating deterrence and prosecuting perpetrators. To combat the theft of electricity, utilities have outsourced the investigation function. It was therefore critical to reinstate the revised section of the preceding South African Electricity Act 41 of 1987 into existing legislation. The revised Act should provide a clear definition of electricity theft (Madhoo et al., 2013:1). The latter define electricity theft as the means by which electricity can be considered stolen and unauthorised electrical connections to be treated as common law theft and therefore electricity should be regarded as moveable, tangible or 'corporeal moveable property' as per the definition of theft depicted in Chapter 1.

On 24 May 2016, the South African Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) created a new offence by providing stiffer punishment relating to bail and sentencing for perpetrators who ‘tamper’ with and damage, ‘essential’ electrical infrastructure. This new law considers economic sabotage, damage to the economy, society and electrical infrastructure. Electrocutions and unemployment were the motivations for promulgating the new law (Child, 2016:1). The justice system removed the onus of police officials and prosecutors to grant bail and made it the duty of the criminal court. Prosecution and the conviction rate will have a true deterrent effect on human behaviour and public safety. Perpetrators now face a maximum conviction of 30 years imprisonment and businesses face a maximum fine of ZAR100 million. The Department of Justice and Constitutional Development spokesperson requested communities as well as the private sector to furnish law enforcement agencies with information resulting in the successful prosecution of perpetrators (Tankiso, 2016:1).

The researcher acknowledges and welcomes the new legislation that would significantly contribute to the combating of unauthorised electrical connections.

3.7 CONCLUSION

Electricity utilities globally experience revenue losses owing to the ‘chronic’ problem of unauthorised electrical connections. The combating of unauthorised electrical connections internationally and nationally, more especially in the ‘previously allocated Black Townships’ and Black Reserves in KwaZulu-Natal, South Africa was discussed in this chapter. The chapter revealed that the impact of unauthorised electrical connections internationally is similar to its impact in KwaZulu-Natal, South Africa. The multi-faceted approach of introducing awareness and training campaigns, amnesty campaigns, technology aligned with security initiatives, partnership policing, reviewing of current policies and procedures, proper electrical infrastructure development and effective information systems, was revealed. The chapter highlighted relevant legislation and how it could exacerbate or alleviate the problem. Emphasis was placed on electricity utilities to contact consumers to find ways of combating this problem to meet their needs. The researcher recommends that unauthorised electrical connections can be combated in KwaZulu-Natal through the implementation of these approaches. This will enhance and inculcate the attitude of leadership within electricity

utilities toward security measures, thereby assisting utilities to better manage the phenomenon of unauthorised electrical connections. Chapter 4 will present and interpret the actual data obtained from this study.

CHAPTER 4

DATA PRESENTATION, INTERPRETATION AND DEDUCTION

4.1 INTRODUCTION

This chapter consists of the analysis, interpretation and deductions made from the raw data obtained from the study. The collected data were transcribed, processed, and analysed using tables to convey to the reader and other interested groups that the data had been sufficiently analysed. The headings in the tables coincide with the measuring instruments. Data were logically interpreted to make deductions. Even

negatives were analysed, interpreted and reported on, since it is just as important to know that two variables are not related as it is to know that they are related.

The following research questions guided the analysis of the actual, raw, data obtained from the study:

- What is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?
- How are unauthorised electrical connections presently being combated in KwaZulu-Natal, South Africa?
- What measures may be implemented to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

4.2 DATA PROCESSING

The raw mass of collected data was analysed and reduced to a readable format that brought meaning to the research findings. The purpose of analysing the raw data was to interpret it for deductions, findings, recommendations and conclusions to this research study. The raw mass of collected data for this research was gathered through one-on-one interviews, site observation and criminal case docket analysis. The one-on-one interviews were conducted with 50 interviewees who worked in direct contact with unauthorised electrical connections within their departments. The interviewees included the following:

- ESKOM officials from the visible Security Management and Investigation Department;
- Revenue Protection, Process Control and Assurance Department;
- Plant Sector Department;
- Customer Network Centre;
- Safety, Health, Environment and Quality Department;
- Operation Khanyisa Marketing Campaign;
- Contracted Private Visible Security Escorting and Response Company;
- Officials from Durban's eThekweni municipality Electricity Customer and Retail Services Department;
- Maintenance Planning Department;

- Revenue Protection Department;
- Energy Control Department;
- Contracted Private Visible security, Escorting and Response Company;
- SAPS' Crime Prevention;
- CPF; and
- Members of the community from where scenes of unauthorised electrical connections were observed.

A field journal was utilised to record the one-on-one interviews in writing, after which they were transcribed, analysed and interpreted to make deductions. Analysed data is presented in table format based on frequency and percentage, together with the interpretation and deduction of each variable.

Site observation was conducted in the field by physically visiting ten scenes of unauthorised electrical connections in KwaZulu-Natal. These visits assisted the researcher to confirm the responses of the interviewees during the one-on-one interviews. The data were analysed and interpreted to make deductions.

The criminal case docket analysis was conducted by means of the careful perusal and analysis of 50 ESKOM KwaZulu-Natal Operating Unit's unauthorised electrical connection criminal case dockets. The data lifted from the criminal case docket analysis pro forma was interpreted to make deductions.

4.3 DATA ANALYSIS

4.3.1 Demographic details

This section explains the demographic details of the 50 interviewees who were interviewed for this study.

4.3.1.1 Gender (*Annexure A Question 1*)

Table 4.1 Gender of interviewees (N=50)

Gender	Frequency	Percentage (%)
Male	45	90
Female	5	10
Totals	50	100%

- **Interpretation**

The analysis of the data shows that the majority of the interviewees who voluntarily participated in this study were males at 90 per cent, as opposed to the minority of female interviewees at 10 per cent.

- **Deduction**

The data on gender were used merely for demographic purposes.

4.3.1.2 Age (*Annexure A Question 2*)

Table 4.2 Age of interviewees (N=50)

Age Group	Frequency	Percentage (%)
15-20 years of age	2	4
21-30 years of age	1	2
31-40 years of age	15	30
41-50 years of age	18	36
51-60 years of age	11	22
61-70 years of age	3	6
70-80 years of age	0	0
Totals	50	100%

- **Interpretation**

The analysis of the data shows that the majority of the interviewees were in the age group 41 to 50 at 36 per cent, and the minority of interviewees were in the 21 to 30 age groups at 2 per cent.

- **Deduction**

The analysis of the data shows that the majority of interviewees who participated in this research were in the age group 41 to 50 which are associated with management levels, positions with the relevant experience and knowledge. Conversely, the minority

of interviewees were from a younger age group of 21 to 30 years, who had possibly joined the workforce more recently, having minimal experience and knowledge. Furthermore, the common age group of perpetrators that are arrested for installing unauthorised electrical connections is from the 21 to 30 age group.

Many of the population from this age group were not keen on participating in this research. This could be as people born in this generation are known as the Generation Z that has been using the Internet from a young age. This age group gained knowledge and grew up during the Great Recession of 2008, which affected their childhoods owing to financial stresses felt by their parents and historical events, thereby giving them a feeling of unsettlement and insecurity effecting their realism and world-view having a direct bearing on the combating of unauthorised electrical connections.

4.3.1.3 Race (Annexure A Question 3)

Table 4.3 Race of interviewees (N=50)

Race	Frequency	Percentage (%)
Indian	19	38
Asian (other than Indian)	0	0
Black	26	52
Coloured	1	2
White	4	8
Totals	50	100%

- **Interpretation**

The analysed data shows that the majority of the interviewees were from the Indian ethnic group at 38 per cent, and the minority of interviewees at 2 per cent were from the coloured ethnic group.

- **Deduction**

The analysis of the data shows that the majority of the interviewees who voluntarily participated in the one-on-one interviews were, like the researcher, from the Indian ethnic group. The researcher requested 19 interviewees from the Indian ethnic group to participate in the study and all of them responded. Therefore, the results of the

interviews maybe subjective and biased as the topic of unauthorised electrical connections is very sensitive and controversial in nature and emotions could have been involved in the choice of responses.

4.1.3.4 Educational qualification (Annexure A Question 4)

Table 4.4 Educational qualification of interviewees (N=50)

Educational qualification	Frequency	Percentage (%)
Did not attend school	0	0
Standard eight/Grade ten and below	7	14
Standard nine/Grade 11	2	4
Standard ten/Grade 12	19	38
Certificate	3	6
Diploma (three years)	11	22
Degree	5	10
Postgraduate degree	3	6
Totals	50	100%

- **Interpretation**

The study indicates that the majority of interviewees, 38 per cent of those who participated, had passed Standard Ten/Grade 12. The minority of interviewees, 4 per cent of those who participated, had obtained Standard nine/Grade 11.

- **Deduction**

The analysis of the data clearly shows that the majority of interviewees were sufficiently educated and understood the phenomenon of unauthorised electrical connections.

4.1.3.5 Occupation (Annexure A Question 5)

Table 4.5 Occupation of interviewees (N=50)

Occupation	Frequency	Percentage (%)
Executive director	1	2

Director	1	2
Superintendent	2	4
Officer	11	22
Inspector	8	16
Councillor	0	0
Leader	2	2
Community leader	1	2
Member of the community	20	40
Other	4	8
Totals	50	100%

- **Interpretation**

The analysed data indicates that the majority of the interviewees were members of the community (40%) or inspectors (22%), who were employed in a supervisory or at management level, associated with sufficient knowledge of how to combat the problem of unauthorised electrical connections.

- **Deduction**

Most of the interviewees were members of the SAPS, because they are used to providing protection to communities and are thoroughly involved in the prevention and investigation of unauthorised electrical connections. The analysed data offers a clear indication of the knowledge level of the interviewees and the validity of their answers. However, most of the leadership figures within ESKOM, Durban's eThekweni Municipality Metropolitan Police Department and the SAPS who are in charge of strategic planning, make decisions and effect changes, did not participate in the one-on-one interviews. The researcher contacted them on numerous occasions, emphasising the importance of their participation. Nevertheless, this did not convince them to participate. It is acknowledged that this could have had a negative bearing on the research outcome. This study contends that the reluctance of leadership figures to participate in such research, displays their inadequate interest and level of commitment in combating unauthorised electrical connections. However, the fact that one interviewee has served as an official of a law enforcement agency, does not necessarily make him/her a good security manager (Ortmeier, 2002:16).

4.3.2 Nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa

4.3.2.1 Understanding the concept of unauthorised electrical connections (Annexure A Question 6)

Table 4.6 Understanding the concept of ‘unauthorised electrical connections’ (N=50)

What is your understanding of the concept ‘unauthorised electrical connections’?	Frequency	Percentage (%)
Connecting a cable on the electrical network without the correct consent or authorisation from the service provider, for example, ESKOM or municipality, for dwellings homes and businesses causing widespread damage equipment failure.	23	46
An unauthorised electrical connection is whereby cables are secured to the network to benefit free electricity.	4	8
Stealing electricity directly from the source, e.g. a street light to a stove.	3	6
Theft of electricity as a result of by-passing or tampering with existing electricity meters.	9	18
Not paying for electricity that is used.	3	6
Purchasing of illegal pre-paid electricity vouchers.	5	10
It is impossible for ESKOM to accurately, calculate the daily kW consumption required by customers owing to the number of illegally connected consumers connected on the electricity network that contributes to system overload.	3	6
Totals	50	100%

• Interpretation

The analysed data indicates that the majority of the interviewees (46%) mentioned that their understanding of the concept ‘unauthorised electrical connections’ is connecting a cable on the electrical network without authority, for dwellings homes and

businesses, thereby causing widespread damage an infrastructure failure. All the interviewees had their own understanding of the concept 'unauthorised electrical connections' according to their individual experiences.

- **Deduction**

All interviewees had a clear idea of what unauthorised electrical connections were and therefore able to respond accordingly as their lives were some way negatively affected by unauthorised electrical connections.

4.3.2.2 Knowledge of unauthorised electrical connections (Annexure A Question 7)

Table 4.7 Knowledge of unauthorised electrical connections (N=50)

Do you know how unauthorised electrical connections are carried out in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Yes	50	100
No	0	0
Totals	50	100%

- **Interpretation**

All the interviewees (100%) understood how unauthorised electrical connections are carried out in KwaZulu-Natal.

- **Deduction**

All interviewees understood how unauthorised electrical connections are carried out owing to their site observations, experience and knowledge.

4.3.2.3 Explanation of unauthorised electrical connections (Annexure A Question 8)

Table 4.8 Explanation of unauthorised electrical connections (N=50)

If your response to Question 7 is “Yes”, explain in your own words how these unauthorised electrical connections are carried out in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Electrical connections are made to the existing electricity network without any electrical protection depending on the accessibility of the electrical network.	12	24
Connecting to a service connection supply or main electricity network by means of by-passing or tampering with existing electricity meters by those that have the electricity service and want to pay as little as possible.	14	28
Installing unauthorised electrical connections to underground network cables.	8	16
Perpetrators install stolen transformers that are used to connect unauthorised electrical connections on the network.	5	10
Electrical connections are made from tapping or hooking onto bare overhead line conductors, aerial bundle conductors which are connected from electrical substations or electricity distribution units.	4	8
Illegal electricity cables are connected directly from street lights directly to appliances in the dwellings.	7	14
Totals	50	100%

- **Interpretation**

The majority of the interviewees at 24 per cent indicated that perpetrators connect electricity directly to the existing electricity network without any electrical protection. On the contrary, the minority of interviewees (8%) mentioned that perpetrators installed illegal transformers on the network and used bare overhead conductors, and aerial bundle conductors that are connected from mini-substations.

- **Deduction**

The findings indicate that the interviewees understood how unauthorised electrical connections are carried out in KwaZulu-Natal, according to their personal site observation, experience and knowledge.

4.3.2.4 Description of the different types of unauthorised electrical connections (Annexure A Question 9)

Table 4.9 Description of the different types of unauthorised electrical connections (N=50)

Can you describe the different types of unauthorised electrical connections observed by you in KwaZulu-Natal, South Africa?	Frequency	Percentage(%)
More organised neat connections according to ESKOM standard.	9	18
Electricity cables are connected directly from street lights directly to appliances in the dwellings and businesses.	7	14
'Spider webs' on the ground with twin flex wires connected on to the service mains.	6	12
Bare wires running across the road connected to streetlights resembling 'spider webs'.	5	10
The buying and selling of illegal pre-paid electricity vouchers through a stolen or ghost Credit Dispensing Unit.	3	6
Illegal electrification schemes whereby the perpetrator of illegal electrical connections gets paid every month for his service.	4	8
Meter tampering and meter by-passing in all areas.	9	18
ESKOM's electricity losses in the business environment are more than the residential. This is because businesses consuming a larger volume of electricity than dwellings as a result of electrical meters that were tampered in a very sophisticated manner. For example, one business that made an unauthorised electrical connection has a greater electricity loss impact than an unauthorised electrical connection made to a dwelling.	5	10
Households in townships running illegal electrical connections.	2	4
Totals	50	100%

- **Interpretation**

The findings indicate that the majority of interviewees (18%) mentioned that they observed more organised, neat connections according to ESKOM standards. Similarly, 18 per cent mentioned that they noticed more meter tampering and by-

passing in the outlying rural areas. In contrast, the minority four per cent observed households in townships running illegal electrical connections.

- **Deduction**

The findings indicate that the interviewees had a wealth of knowledge regarding the different types of unauthorised electrical connections. This is because the majority of the interviewees are members of the very same community where unauthorised electrical connections are widespread. However, in Question 33, as many as 70 per cent of the interviewees mentioned that they had not reported unauthorised electrical connections. This suggests that while the community does have good knowledge about unauthorised electrical connections, they fail to report it. The researcher found this alarming and on further probing, it was revealed that the interviewees are affected by unauthorised electrical connections. The interviewees and members of the community failed to report unauthorised electrical connections, as they feared for their lives, feeling intimidated and having lost confidence and trust in seeking ESKOM's assistance as they do not receive effective attention when complaining, or do not have money to purchase airtime to phone authorities, for example, the CPF chairperson.

4.3.2.5 Site observation of areas where unauthorised electrical connections are taking place (Annexure A Question 10)

Table 4.10 Site observation of areas where unauthorised electrical connections are taking place (N=50)

In which areas in KwaZulu-Natal, did you observe unauthorised electrical connections?	Frequency	Percentage (%)
All sectors of society throughout KwaZulu-Natal, South Africa.	5	10
Informal settlements.	3	6
Townships where unemployment is rife.	2	4
North Coast, KwaZulu-Natal.	2	4
Chatsworth Township, KwaZulu-Natal.	4	8
Lamontville Township, KwaZulu-Natal.	1	2
Abattoir, Pietermaritzburg, KwaZulu-Natal.	2	4
Georgedale, Pietermaritzburg, KwaZulu-Natal.	2	4
Cato Ridge Pietermaritzburg, KwaZulu-Natal.	1	2

In which areas in KwaZulu-Natal, did you observe unauthorised electrical connections?	Frequency	Percentage (%)
Inchanga, Pietermaritzburg, KwaZulu-Natal.	1	2
Umgababa, Pietermaritzburg, KwaZulu-Natal.	1	2
Edendale and Mbali Townships, KwaZulu-Natal.	2	4
Umlazi Township, Durban, KwaZulu-Natal.	2	4
KwaMashu Township, Durban, KwaZulu-Natal.	2	4
Masinenge informal settlement, Uvongo, KwaZulu-Natal.	2	4
Kenville Informal Settlement, Ramchand Road, Durban, KwaZulu-Natal.	2	4
Breamar, Umzinto, KwaZulu-Natal.	2	4
Sanathan informal settlement, Umzinto, South Coast, KwaZulu-Natal.	2	4
Railway Houses, Highflats, Ixopo, KwaZulu-Natal.	2	4
Frasers Informal Settlement, oThongathi, Durban, KwaZulu-Natal.	2	4
Emona rural, oThongathi, Durban, KwaZulu-Natal.	2	4
Textile Road, Umzinto, Durban South, KwaZulu-Natal.	2	4
Dududu Rural, Park Rynie, Durban South, KwaZulu-Natal.	2	4
Network Breaker71, Driefontein rural, oThongathi, Durban, KwaZulu-Natal.	2	4
Totals	50	100%

- **Interpretation**

The findings indicate that the majority of the interviewees (12%) observed unauthorised electrical connections in all areas owing to their observation skills, general knowledge and exposure to the field in KwaZulu-Natal. The minority of interviewees at 1 per cent mentioned Lamontville Township, Cato Ridge and Inchanga as areas where unauthorised electrical connections were observed.

- **Deduction**

The findings indicate that the interviewees observed unauthorised electrical connections in different areas of KwaZulu-Natal, which depended on their willingness to be interviewed, the area they frequented, their observation skills, interests, and general knowledge. This indicates that unauthorised electrical connections are extensive and widespread throughout KwaZulu-Natal. The researcher concurs with

this indication that corroborates with her site observation while working in direct contact with unauthorised electrical connections.

4.3.2.6 Observation of unauthorised electrical connections taking place in KwaZulu-Natal, South Africa (Annexure A Question 11)

Table 4.11 Observation of unauthorised electrical connections taking place in KwaZulu-Natal, South Africa (N=50)

In your own observation, are the unauthorised electrical connections taking place throughout KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Yes	50	100
No	0	0
Totals	50	100%

- **Interpretation**

The findings indicate that all (100%) interviewees observed unauthorised electrical connections taking place throughout KwaZulu-Natal.

- **Deduction**

The findings indicate that all the interviewees (100%) observed unauthorised electrical connections in different areas, which depended on the area they frequented and their observation skills, more especially in the outskirts, low-income, informal areas of cities and rural areas. This suggests that this phenomenon is endemic and clearly identifiable in all areas within KwaZulu-Natal, South Africa. This finding is aligned to the discussion in Chapter 3 which indicated that in Rio de Janeiro, Brazil and Thailand, the poor were moved from central business districts to the outskirts, low-income, informal areas of cities that lacked electrical infrastructure.

4.3.2.7 The nature and extent of unauthorised electrical connections in KwaZulu-Natal (Annexure A Question 12)

Table 4.12 The nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

What, in your opinion, is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Domestic customers in the informal settlements and industrial customers tamper with existing Eskom conventional electrical meters.	7	14
Connections to network using stolen material.	6	12
'Spider webs' on ground with twin flex cable.	5	10
Connected directly from light pole to the house.	3	6
Unauthorised electrical connections are not classified as a priority crime although high revenue is lost.	9	18
There are no existing proper unauthorised electrical connection policies, procedures and regulations guiding electricity utilities on how to identify exactly which sections of the legal system needs to be improved.	9	18
A Job loss owing to load shedding has an effect on productivity and businesses close creating joblessness.	5	10
Unauthorised electrical connections contributes to higher tariffs and consumer goods paid by legal electrical consumers.	6	12
Totals	50	100%

- **Interpretation**

The findings indicate that the majority of the interviewees (18%) mentioned that there are no existing proper unauthorised electrical connection policies, procedures and regulations in place. The latter are supposed to guide electricity utilities on how to identify exactly which sections of the legal system needs to be improved or corrected. Consequently, there are job losses owing to load shedding that has an effect on productivity and businesses closing creating joblessness. The minority (6%) mentioned unauthorised electrical connections made directly from a light pole to the dwelling.

- **Deduction**

The findings indicate that the majority of the interviewees had observed tampering with existing Eskom conventional (pay-as-you-go) electrical meters. This could be as a result of observing this type of unauthorised electrical connections in people's houses they visited, since it is not always easy to identify unauthorised electrical connections in the field as they often resemble legal electrical connections. During Eskom National Electricity Safety Week held from 22 August 2016 to 28 August 2016, the utility showed the community how to identify the dangers of unauthorised electrical connections, what must be done if they are spotted, and requested them to assist by avoiding unauthorised electrical connections.

4.3.3 Present combating of unauthorised electrical connections in KwaZulu-Natal

4.3.3.1 Present Understanding of the concept 'Combating' (Annexure A Question 13)

Table 4.13 Understanding of the concept 'Combating' (N=50)

What is your understanding of the concept 'Combating'?	Frequency	Percentage (%)
Investigation of unauthorised electrical connection reports.	12	24
Crime prevention measures by means of knowledge management, education and awareness campaigns targeting pupils.	6	12
Harsher sanctions, methods or structural plans instituted to act against a transgression.	8	16
Conducting more frequent SAPS' Crime Intelligence and Durban's eThekweni Municipality Metropolitan Police Department networking initiatives in unauthorised electrical connection areas.	4	8
Preventative measures by the installation of integrated security systems incorporating CCTV video surveillance cameras and fully serviced surveillance alarms on the electricity network.	5	10
The proactive use of reliable informers that specialise in the reporting unauthorised electrical connection syndicates or perpetrators.	9	18

What is your understanding of the concept 'Combating'?	Frequency	Percentage (%)
The anonymously reporting of electricity theft to the free telephone number 0800112722 or sending a detailed Short Message Service (SMS) to Crime Line 32211, which costs (ZAR1 per SMS) or by reporting directly to the SAPS, municipalities or CPF in the area.	3	6
Combat is an attempt to fight, eliminate, reduce stop unauthorised electrical connections using effective security measures.	3	6
Totals	50	100%

- **Interpretation**

The majority of interviewees (24%) referred to combating as the investigation of unauthorised electrical connection reports. In contrast, the minority (6%) mentioned the anonymously reporting of electricity theft to ESKOM Crime Line 32211 (ZAR1 per SMS) or 0800-112-722 (Toll Free) or sending a detailed SMS to 08600 ESKOM (37566); Telkom Crime Line 0800-124-000, Transnet 0800-003-056, Durban eThekweni Municipality 031-3119611 or by reporting directly to the CPF, respective municipality and or SAPS. Furthermore, 6 per cent mentioned that combat is an attempt to stop unauthorised electrical connections using effective security measures.

- **Deduction**

The findings indicate that all the interviewees understood the concept of 'combating'. This could be as a result of having a broad general knowledge owing to their experience and education in the fields of security management, revenue protection and electrification within their organisations. Electricity theft is a serious crime that adversely affects society. However, ESKOM does not encourage the community to take the law into their own hands when dealing with these perpetrators, since it is dangerous and can have repercussions such as vigilante activity by means of 'Kangaroo Courts' or the use of '*mob justice*'. Accordingly, ESKOM encourages citizens to report suspected crimes by sending detailed anonymous tip-offs to ESKOM Crime Line 32211 (ZAR1 per SMS) or 0800-112-722 (Toll Free) or sending an SMS to 08600 ESKOM (37566); Telkom Crime Line 0800-124-000, Transnet 0800-003-056, Durban eThekweni Municipality 031-3119611 or by reporting directly to the CPF,

respective municipality and or SAPS. There is also an Operation Khanyisa website, www.operationkhanyisa.co.za, that furnishes more information on how to report unauthorised electrical connections.

4.3.3.2 *Understanding of the concept ‘theft of electricity’ (Annexure A Question 14)*

Table 4.14 Understanding of the concept ‘theft of electricity’ (N=50)

What is your understanding of the concept ‘theft of electricity’?	Frequency	Percentage (%)
Theft of electricity occurs when a suitable metering device approved by ESKOM or municipality is not measuring the consumption of electricity, resulting in non-payment.	50	100
Totals	50	100%

- **Interpretation**

The findings show that all the interviewees (100%) understood the concept ‘theft of electricity’.

- **Deduction**

All the interviewees understood the concept ‘theft of electricity’. This could be as a result of having a broad general knowledge owing to being highly skilled, their personal experiences, observation skills, knowledge management, education and awareness in the field of security management and revenue protection and personal experiences with theft of electricity.

4.3.3.3 *Understanding of the concept ‘Fraud’ (Annexure A Question 15)*

Table 4.15 Understanding of the concept ‘Fraud’ (N=50)

What is your understanding of the concept ‘fraud’?	Frequency	Percentage (%)
‘Fraud’ is when people use electricity illegally by stealing it and not paying for it.	12	24
Misrepresentation of financial funds or resources.	12	24

What is your understanding of the concept 'fraud'?	Frequency	Percentage (%)
Behavioural or intentional act to deceive resulting in financial gain.	5	10
Misrepresentation of the electricity meter's actual data as a result of by-passing and tampering with the metering hardware. This result in the recording of a decreased consumption and less payment than what was consumed, resulting in the loss of revenue.	12	24
Falsifying the actual consumption of electricity to the electricity utility providing the electricity.	9	18
Totals	50	100%

- **Interpretation**

The majority of the interviewees (24%) mentioned that 'fraud' is when people use electricity illegally by stealing it and not paying for it, misrepresentation of financial funds or resources and misrepresentation of electricity meters actual reading due to unauthorised electrical connections. In contrast, the minority (10%) understood 'fraud' to be a behavioural or intentional act to deceive, resulting in financial gain (non-payment for usage of electricity).

- **Deduction**

All interviewees understood the concept 'fraud'. This could be as a result of having a broad general knowledge owing to their skill, experience and education in the field of Security Management and revenue protection within their different organisations and their different organisations and their personal experiences with unauthorised electrical connections.

4.3.3.4 *Involvement in preventing and investigating (combating) unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 16)*

Table 4.16 Involvement in preventing and investigating unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

Who is involved in preventing and investigating (combating) unauthorised electrical connections in KwaZulu-Natal?	Frequency	Percentage (%)
The SAPS' Crime Prevention; municipalities, Telkom, ESKOM, Security Management, Revenue Protection, Revenue Recovery and Energy Trading Departments.	30	60
The National Director of Public Prosecution (NDPP) is responsible for the prosecution of perpetrators based on the information in the criminal case docket.	14	28
Private investigation companies and private security industry.	6	12
Totals	50	100%

- **Interpretation**

The majority of interviewees (60%) mentioned that the SAPS' Crime Prevention; municipalities, Durban's eThekweni Municipality Metropolitan Police Department, Telkom, ESKOM, KwaZulu-Natal Operating Unit's Security Management Department, Revenue Recovery and Energy Trading Departments' involved in preventing of unauthorised electrical connections are all involved in preventing and investigating unauthorised electrical connections. In contrast, the minority of interviewees (12%) mentioned that private investigation companies and private security industry are involved in the prevention and investigation of unauthorised electrical connections.

- **Deduction**

The majority of the interviewees know who is involved in preventing and investigating (combating) unauthorised electrical connections in KwaZulu-Natal. This could be as a result of having a broad general knowledge owing to their skill, knowledge management, experience and education in their field of security management, investigation, crime prevention, safety, environment, customer network services, revenue protection, revenue losses and their personal experiences with unauthorised electrical connections. The community knows about these unauthorised electrical connections but fails to report it.

The policies and procedures within utilities are constantly being updated and at the time of these interviews, ESKOM's KwaZulu-Natal Operating Unit's Security Management Department was involved in prevention and investigation. Presently, the Revenue Recovery and Energy Trading Departments are involved in prevention and ESKOM's KwaZulu-Natal Operating Unit's Security Management Department is involved in investigation.

Since 2014, ESKOM has ceased using contracted private security investigation companies to investigate unauthorised electrical connections. Utilities must be aware that as the visible security industry becomes bigger, offenders get a chance to gain access into it (Kole, 2015:73). This infiltration of offenders into utilities will negatively affect all efforts in preventing (combating) and investigating unauthorised electrical connections. To combat this shortcoming, all general consumers of visible, escorting and response company security services must confirm whether security background checks or security clearance (vetting) have been conducted on their employees and whether they have proper security clearance and security certification in place, i.e. company and personnel registered with Private Security Industry Regulatory Authority (PSiRA) and whether all training was properly sanctioned as well as Safety and Security, Sector Education and Training Authority certified (Kole, 2015:7).

4.3.3.5 *Prevention methods combating unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 17)*

Table 4.17 Prevention methods in combating unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

What prevention methods are used in combating unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Annual public safety knowledge management, education and awareness programmes to be run by ESKOM, SAPS' Crime Prevention, partnership policing, safety network, neighbourhood watch, knowledge management, awareness and education campaigns aimed at communities as well as pupils. They should be educated about the risk of unauthorised electrical connections, how to use electricity wisely, how to stay safe around electricity and what must be done when encountered with an unauthorised electrical connection.	7	14
The use of electric fences, CCTV video surveillance cameras and surveillance alarm systems on ESKOM's electricity network.	5	10
The SAPS, Durban's eThekweni Municipality Metropolitan Police Department, and utilities to identify investigate and prosecute any perpetrator that tampers with the electrical network.	4	8
Providing amnesty for those found guilty of unauthorised electrical connections.	2	4
Electricity utilities executing door-to-door electricity meter audits.	1	2
The police stations, dedicated, rapid response, visible, private security personnel, neighbourhood watches, and members of, reactive security teams, SAPS' Crime Prevention members' and Durban's eThekweni Municipality Metropolitan Police Department to perform frequent, daily foot and vehicle patrols in hotspot areas where unauthorised electrical connections are widespread.	1	2
Since SAPS vehicles do not fit between informal dwellings the SAPS members must conduct foot patrols, with a flashlight at night, to ascertain unauthorised electrical connection scenes.	1	2
Commitment and support from government, cabinet, National Energy Regulator of South Africa (NERSA), utilities, AgriSA, Correctional Services Department to combat unauthorised electrical connections.	7	14

What prevention methods are used in combating unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Communities must be encouraged to report suspected crimes, anonymously by reporting to ESKOM Crime Line 32211 (ZAR1 per SMS) or 0800-112-722 (Toll Free) or sending detailed SMS to 08600 ESKOM (37566); Telkom Crime Line 0800-124-000, Transnet, Durban eThekweni Municipality 031-3119611 or by reporting directly to the CPF, respective municipality and or SAPS.0800112722 (Toll-free) or Short Message Service (SMS) to Crime Line 32211, which costs (ZAR1 per SMS) or by reporting directly to the SAPS, municipalities, or CPF in the area.	8	16
Construction of electricity networks that is difficult to access, for example, the implementation of split metering implementation (smart electrical metering).	2	4
Review of ESKOM's critical safety requirements aimed to prevent people installing unauthorised electrical connections to the electrical network.	2	4
Totals	50	100%

- **Interpretation**

The majority of the interviewees (16%) identified that the community must become more active and be encouraged to report suspected crimes. This could be done anonymously by reporting to 0800112722 (Toll-free) or sending a detailed Short Message Service (SMS) to Crime Line 32211, which costs (ZAR1 per SMS) or by reporting directly to the SAPS. Furthermore, they could report electricity theft in municipalities or CPF in the area social crime prevention, and partnership policing. Other platforms to resolve electricity theft include community safety networks, neighbourhood watch, knowledge management and awareness and education campaigns aimed at pupils as preventative measures being taken.

In contrast, the minority 2 per cent mentioned that electricity utilities execute door-to-door electricity meter audits, collaborate with police stations. Moreover, they work with dedicated, rapid response, visible, private security personnel, neighbourhood watch, community reactive security teams, SAPS' Crime Prevention members and Durban's

eThekweni Municipality Metropolitan Police Department. Together with these stakeholders, the interviewees perform frequent, daily foot and vehicle patrols in hotspot areas where unauthorised electrical connections are widespread can be used as prevention methods are used in combating unauthorised electrical connections.

Informal dwellings are inaccessible to SAPS vehicles, forcing the SAPS members to conduct foot patrols using a flashlight at night to ascertain unauthorised electrical connection scenes. More importantly, ESKOM and municipalities are undertaking door-to-door meter audits (5%) and are undertaking foot and vehicle patrols (5%) to prevent unauthorised electrical connections. Furthermore, some of the interviewees (4%) added that the construction of electricity networks that is difficult to access can be used to combat unauthorised electrical connections.

- **Deduction**

All the interviewees know of examples of which prevention methods are used in combating unauthorised electrical connections in KwaZulu-Natal. All the interviewees have either been personally affected by unauthorised electrical connections or have a broad general knowledge or an interest in unauthorised electrical connections. This is owing to their knowledge management, skill, observation skills, experience, education and awareness in their field of employment in security management, investigation of crime, CP, safety, environment, revenue protection and revenue losses environment.

4.3.3.6 *Investigation methods used to combat unauthorised electrical connections KwaZulu-Natal, South Africa (Annexure A Question 18)*

Table 4.18 Investigation methods used in combating unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

Which investigation methods are used in combating unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Use of reinforced protective enclosures for equipment, converting under-ground cables to overhead cables, conducting more regular visual inspections and electricity meter audits on low consumption accounts.	12	24
ESKOM and the municipality employ informers from communities, as well as private investigators to gather information, open criminal cases, present evidence in a court of law and work with prosecutors to prosecute perpetrators.	18	36
Preventative measures by the installation of remote monitoring systems and heighten surveillance alarms on the electricity network.	4	8
The use of the Criminal Matters Amendment Act, 2015 Act No 18 of 2015 rendering illegal electrical connections to be classified as a criminal offence.	2	4
Sufficient SAPS and Durban's eThekweni Municipality Metropolitan Police Department members must be deployed to the rural areas where unauthorised electrical connections are widespread.	5	10
The use of SAPS' multi-disciplinary Crime Intelligence Officers to network, infiltrate and observe the areas where unauthorised electrical connections are widespread to ascertain the perpetrators, kingpins and syndicates involved in installing unauthorised electrical connections.	6	12
Totals	50	100%

- **Interpretation**

The findings show that the majority (36%) of the interviewees mentioned that ESKOM and the municipality employ informers from communities, as well as private investigators to gather information, open criminal cases, present evidence in a court of law and work with prosecutors to prosecute perpetrators. Crime prevention and

investigation measures such as reinforced protective enclosures for equipment, converting to under-ground cables, visual meter audit inspections and meter audits of low consumption customers, and installation of remote monitoring system on the electricity network could be used. Another crime prevention measure that interviewees (24%) mentioned was the use of reinforced protective enclosures for equipment, converting overhead cables to under-ground cables, conducting more regular visual inspections, and meter audits on low consumption accounts. This will make it difficult for the perpetrators to find a point to connect to the electricity network.

- **Deduction**

Most interviewees knew which investigation methods are being used in combating unauthorised electrical connections in KwaZulu-Natal. This could be as a result of having a broad general knowledge owing to their knowledge management, skill, experience and education in their fields of security management, investigation, crime prevention, safety, environment, revenue protection, and revenue loss. The majority knew which investigation methods are used in combating unauthorised electrical connections in KwaZulu-Natal since they are directly involved in the investigation of unauthorised electrical connections.

During March 2015, after a cost-to-benefit exercise was conducted, ESKOM's KwaZulu-Natal Operating Unit's Provincial Executive Committee decided to terminate the investigation contract with the contracted, private investigation company that was investigating unauthorised electrical connections. The cost-to-benefit exercise revealed that it was costly to verify and investigate unauthorised electrical connections reports since the conviction rate was low owing to no legislation supporting proper conviction of perpetrators, as discussed in Chapter 1. On 24 May 2016, the Criminal Matters Amendment Act (Act No 18 of 2015), was promulgated and the installation of illegal electrical connections became a criminal and punishable offence. The researcher noted that prior to 1 June 2016, ESKOM's KwaZulu-Natal Operating Unit had registered informers and contracted investigators, who were investigating unauthorised electrical connections in a period when illegal electrical connections was not legislated as a criminal offence as discussed in Chapter 3 of this study.

After 1 June 2016, the investigation of unauthorised electrical connections function was split among three ESKOM KwaZulu-Natal Operating Unit Security Management Departments' internal investigators, working in the Pietermaritzburg, Newcastle and Empangeni zones, in KwaZulu-Natal. These ESKOM investigators were tasked to only investigate ESKOM employees and ESKOM contractors that connect illegal electrical connections, only if the informer is willing to submit a written statement sworn to under oath or affirmed and is willing to give evidence at a disciplinary or criminal case. Nevertheless, the researcher critiques this strategy, as it does not maximise the recovery rate, assist with the gathering and analysing of crime trends and tendencies and is not proactive, particularly in the context of before this study, which revealed that perpetrators operate in all areas. All the crime intelligence gathered by the former ESKOM private investigation contractor that was investigating unauthorised electrical connections has, as a result, been lost. It is contended that the ideal situation would be to have a dedicated in-house internal appointed investigator working with the verification and removal teams.

4.3.3.7 Challenges confronting law enforcement with regard to the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 19)

Table 4.19 Challenges confronting law enforcement with regard to the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

What are the challenges confronting law enforcement with regard to the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Community members block the roads instructing the removal teams that includes two police members in a marked police vehicle, to hand back the cables that were removed from the illegal transformer.	11	22
Verbal abuse and <i>crimen injuria</i> using vulgar language.	8	16
Resistance from perpetrators since dwellings doors were locked while occupants were inside not allowing access to the connections point.	4	8

What are the challenges confronting law enforcement with regard to the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
There are no proper role out and implementation of the new Criminal Matters Amendment Act, 2015 Act No 18 of 2015.	2	4
The Justice Departments' slow processes relating to unauthorised electrical connections are inadequate as theft of electricity is not classified as a priority crime by the Criminal Justice System.	7	14
Law enforcement officials are not competent to identify unauthorised electrical connections.	3	6
Communities reconnect unauthorised electrical connections immediately after the removal teams leaves the area installing the removals a futile attempt to combat unauthorised electrical connections.	4	8
The effected communities have a disregard for the current municipal Electricity Supply By-laws.	5	10
There is a lack of lack of resources, knowledge, political motivation, leadership support, good financial management, and proper administration of electricity utilities.	4	8
The escalation in the number of serious contacts with electricity incidents and fatalities (many of them are children) reported to ESKOM and the SAPS that require in-depth SAPS inquest investigation.	1	2
Municipalities are not legally authorised to legislate on behalf of ESKOM using their Electricity Supply By-law.	1	2
Totals	50	100%

- **Interpretation**

The majority of the law enforcement interviewees (45%) identified resistance from the community, who blocked roads and instructed the removal teams, which included two police members in a marked police van, to hand back the cables that were removed from the illegal transformers. The minority of law enforcement interviewees (2%) identified the escalation in the number of serious contacts with electricity incidents and

fatalities reported to ESKOM and the SAPS. Many victims are children who require in-depth inquest investigation and municipalities are not legally authorised to legislate on behalf of ESKOM using their Electricity Supply By-laws.

- **Deduction**

The law enforcement interviewees were confronted with the following challenges:

1. Community members block the road using boulders, stoves, fridges and burning tyres. They instruct the removal teams, which includes two police members in a marked police van, to hand back the cables that were removed from the illegal transformer. The SAPS' Public Order Policing Unit was summoned from Port Shepstone, KwaZulu-Natal to escort the removal teams, out of the area. However, the removal teams' vehicles were stoned while being escorted out of the area by the Public Order Policing Unit. There were no injuries, but their vehicles and equipment sustained serious damage.
2. Verbal abuse and *crimen injuria* using vulgar language and intimidation stating that they will be killed if they return to the area to remove unauthorised electrical connections. This conduct too can be classified as crime.
3. Resistance from perpetrators since dwellings doors were locked while occupants were inside not allowing access to the connection point. This results in the disconnection and removal teams, cutting the unauthorised electrical connections cable from the closest point to the house thereby enabling easy reconnection of unauthorised electrical connections when the teams, leaves the area.
4. There has been no proper rollout and implementation of legislation, for example, the Criminal Matters Amendment Act, 2015 Act No 18 of 2015, condoning of illegal electrical connections resulting in perpetrators not being criminally charged. Perpetrators are aware of this gap, weakness, vulnerability and shortcoming in the legislation.
5. The Justice Departments processes relating to unauthorised electrical connection are slow as unauthorised electrical connections is not legislated as a priority crime; since there are no specialised SAPS' Detective Investigating Officers, specialised Public Prosecutors, specialised Magistrates and specialised Magistrate Courts to which unauthorised electrical connections criminal cases are allocated to. It gives the impression that not much effort has been put into the combating of unauthorised electrical connections.

6. Law enforcement manpower is not competent to identify unauthorised electrical connections owing to lack of training. This weakness must be rectified by having an unauthorised electrical connections and cable theft education and awareness programme incorporating officials from the SAPS, Durban's eThekweni Municipality Metropolitan Police Department, municipalities and Justice Department officials that work directly with unauthorised electrical connections.
7. Communities reconnect unauthorised electrical connections immediately after the removal teams, comprising of ESKOM officials and law enforcement officers leave the area resulting in costly and futile attempts to combat unauthorised electrical connections.
8. In KwaZulu-Natal, there is a shortage of personnel from the SAPS deployed to the rural areas where unauthorised electrical connections are widespread.
9. Affected communities have a noted blatant disregard for current Municipal Electricity Supply By-laws, as well as the rule of law since they are under the impression that there is a lack of SAPS members on the ground to undertake operations against illegal electrical connections in rural areas.
10. There is a lack of leadership support confronting law enforcement with regard to the combating of unauthorised electrical connections.
11. The numerous contacts with electricity incidents and fatalities reported to ESKOM and SAPS as a result of unauthorised electrical connections, as discussed in Chapter 3 of this study, creates an increase in the number of inquest case dockets opened. This places a heavier burden on the already overburdened investigation departments within ESKOM and SAPS whose efforts could more effectively be used in other criminal cases.
12. The municipalities in South Africa have developed Electricity Supply By-laws, to combat the problem of unauthorised electrical connections and prosecute offenders in a municipal court of law, should they be apprehended for the installation of unauthorised electrical connections to the official municipal networks. However, these municipalities are not legally authorised to legislate on behalf of ESKOM which is a national electricity utility. The Durban eThekweni Municipality, Electricity Supply By-laws, Section 26: Offences and Penalties, which provides for the fining of an offender, only applies to Durban eThekweni Municipality.

4.3.3.8 *The dangers of installing unauthorised electrical connections (Annexure A Question 20)*

Table 4.20 The dangers of installing unauthorised electrical connections (N=50)

What are the dangers of installing unauthorised electrical connections?	Frequency	Percentage (%)
Unsafe unauthorised electrical connections results in people being electrocuted.	19	38
Loss of electricity revenue.	4	8
Networks overload resulting in unsafe conditions and electricity supply interruptions.	13	26
Out of control.	10	20
Houses are burnt.	4	8
Totals	50	100%

- **Interpretation**

The study shows that the majority of interviewees (38%) identified that electricity theft leads to the loss of innocent lives. Many children, adults and even pets die annually as a result of electrocution by unsafe unauthorised electrical connections. In contrast, the minority (8%) responded that the danger of installing unauthorised electrical connections is that houses might also burn down.

- **Deduction**

The majority of the interviewees mentioned that they knew of many dangers of installing unauthorised electrical connections, but emphasised the danger of animals and people, especially children, getting electrocuted. The researcher observed that in all awareness activities implemented by ESKOM, it was reiterated that the loss of revenue is not as important as the loss of lives.

4.3.3.9 *ESKOM's role in combating unauthorised electrical connections in your area (Annexure A Question 21)*

Table 4.21 ESKOM's role in combating unauthorised electrical connections in your area (N=50)

How does Eskom combat unauthorised electrical connections in your area?	Frequency	Percentage (%)
By normalising the unauthorised electrical connections by installing split pre-paid electrical meters (smart electrical meters).	15	30
Awareness campaigns, education and taking reasonable steps among ward councillors, communities, as well as pupils.	9	18
Investigation only if Eskom employee or Eskom contractor is involved.	6	12
Frequent disconnections and removals of unauthorised electrical connections and tampered and by-passed electrical meters.	4	8
Electricity meter audits of high consumption areas and issuing of tamper fees to perpetrator to recover lost revenue.	6	12
Frequent patrols by Eskom technicians working in the areas where unauthorised electrical connections are widespread.	8	16
Informers are granted a cash incentive for any person that furnishes valuable information regarding the installation of unauthorised electrical connections.	2	4
Totals	50	100%

- **Interpretation**

The majority of interviewees (30%) mentioned that by normalising the unauthorised electrical connections by installing split pre-paid electrical meters (smart electrical meters), Eskom will combat unauthorised electrical connections. In contrast, the minority (2%) mentioned that Eskom is trying to combat the problem by means of meter audits in areas where there is a high consumption of electricity areas.

- **Deduction**

The majority of the interviewees mentioned that Eskom is trying to combat unauthorised electrical connections through normalising and converting to safe, legal

electrical connections by installing split, pre-paid electrical meters (smart electrical meters). This strategy ensures that consumers will have to buy and pay for electrical services by means of a pre-paid electricity card system before using electricity. Furthermore, this strategy enables a sensor to safely, automatically and remotely disconnect the electricity supply if there is tampering on the meter box which, is mounted on an outside pole situated on the road. The researcher further substantiates and discusses this finding in the site observation section.

4.3.3.10 The adequacy of ESKOM’s efforts in combating unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 22)

Table 4.22 The adequacy of ESKOM effort in combating unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

Are ESKOM’s efforts in combating unauthorised electrical connections in KwaZulu-Natal, South Africa adequate?	Frequency	Percentage (%)
Yes	13	16
No	37	74
Totals	50	100%

• Interpretation

The majority of interviewees (74%) mentioned that ESKOM’s efforts in combating unauthorised electrical connections were inadequate. In contrast, the minority of the interviewees (16%) mentioned that ESKOM’s efforts in combating unauthorised electrical connections in KwaZulu-Natal were adequate.

• Deduction

The majority of the interviewees said ESKOM’s efforts in combating unauthorised electrical connections in KwaZulu-Natal Operating Unit were inadequate. The researcher noted during her interaction with the interviewees that they believed that ESKOM contributes to the problem of unauthorised electrical connections, since they do not put joint efforts with communities to combat unauthorised electrical connections owing to their numerous reports not receiving the necessary attention.

4.3.3.11 *Help in combating unauthorised electrical connections in your area (Annexure A Question 23)*

Table 4.23 Help in combating unauthorised electrical connections in your area (N=50)

Indicate which one of the following will help in combating unauthorised electrical connections in your area?	Frequency	Percentage (%)
Giving the homes legal electricity.	17	35
Arresting people who are installing unauthorised electrical connections.	16	30
Giving the homes free electricity.	9	18
Awareness talks to the people who have unauthorised electrical connections installed.	8	16
Totals	50	100%

- **Interpretation**

In answering Question 23, most of the interviewees (35%) mentioned that dwellings and homes should be provided with legal electricity. Other significant suggestions were: arresting people who install unauthorised electrical connections (30%); giving the dwellings and homes free electricity (18%); and awareness talks presented to those who have unauthorised electrical connections (16%).

- **Deduction**

The majority of the interviewees said that supplying legal electricity to communities would assist in combating unauthorised electrical connections. The researcher further substantiates and discusses this finding in the site observation section later in this chapter.

4.3.3.12 *SAPS' combating of unauthorised electrical connections in your area (Annexure A Question 24)*

Table 4.24 SAPS' combating unauthorised electrical connections in your area (N=50)

How do the SAPS combat unauthorised electrical connections in your area?	Frequency	Percentage (%)
Combating of unauthorised electrical connections is a unified team, effort between the SAPS, municipalities, Durban's eThekweni Municipality Metropolitan Police Department, private visible security companies and communities conducting more regular foot and vehicle patrols, arresting perpetrators, open criminal cases based on the information provided.	12	24
The SAPS arrest those who are in possession of stolen electrical material resulting in criminal prosecution.	10	20
Site observation at the time of day that unauthorised electrical connections occur, either by using visible physical security or electronically by means of CCTV video surveillance cameras.	7	14
The SAPS do nothing to combat unauthorised electrical connections except visible policing during disconnections and removals.	8	16
The SAPS National Commissioner's Office should circulate a minute to all SAPS police stations informing them of the newly implemented Criminal Matters Amendment Act, 2015 Act No 18 of 2015 rendering illegal electrical connections to be classified as a criminal offence.	5	10
Only during disconnection and removals of unauthorised electrical connections do the SAPS forcefully, saturate the area before going back to inaction and safety of their offices.	3	6
The SAPS has a Witness Protection Programme if the informer feels that they are in danger. Active community members that have information are assured not to be fearful or feel intimidated and report unauthorised electrical connections to the authorities.	4	8
There is a lack of sufficient policing by the SAPS and Durban's eThekweni Municipality Metropolitan Police Department members as very few officials are deployed to the outlying rural areas where unauthorised electrical connections are rife.	1	2
Totals	50	100%

- **Interpretation**

In answering this question, most of the interviewees (24%) mentioned that the combating of unauthorised electrical connections is a unified effort and requires collaboration by the SAPS, Durban's eThekweni Municipality Metropolitan Police Department, municipalities, visible escorting and response private security companies and communities, whereby criminal cases are opened, and perpetrators arrested based on information provided. In contrast, some interviewees (20%) mentioned arresting those found in possession of stolen material. Furthermore, 14 per cent mentioned site observation at the time of day that unauthorised electrical connections occur, while 16 per cent stated that the SAPS do nothing to combat unauthorised electrical connections except visible policing during disconnections and removals. In addition, 10 per cent indicated that SAPS National Commissioner's Office should circulate a minute to all SAPS police stations informing them of the newly implemented Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) rendering illegal electrical connections to be classified as a criminal offence.

About 6 per cent mentioned that during disconnection and removal of unauthorised electrical connections, the SAPS act forcefully and saturates the area before reverting back to inaction and retracting to the safety of their offices. Only 8 per cent mentioned that the SAPS has a Witness Protection Programme and if the informer feels that if he/she fears for his/her life, they can be placed on the Witness Protection Programme. About 2 per cent indicated that there is a lack of sufficient policing by the SAPS and Durban's eThekweni Municipality Metropolitan Police Department members, as very few officials are deployed to the rural areas in the outskirts where unauthorised electrical connections are rife, either by way of visible physical security or electronically by means of CCTV video surveillance cameras and conducting more regular foot and vehicle patrols in conjunction with sector policing strategies (25%). The minority (15%) mentioned site observation at a time of day that unauthorised electrical connections occur, either by using visible escorting and response physical security or electronically by means of CCTV video surveillance cameras.

- **Deduction**

The majority of the interviewees mentioned that the combating of unauthorised electrical connections should be a joint operation between the municipalities, Durban's eThekweni Municipality Metropolitan Police Department and the SAPS, whereby they will open criminal cases and arrest perpetrators based on the information provided. The researcher observed that prior to 26 May 2016, some SAPS police stations assisted by arresting perpetrators for unauthorised electrical connections or fraud. Some of the SAPS police stations were afraid to arrest perpetrators since they stated that there was no legislation deeming illegal electrical connections a criminal offence and they themselves as the SAPS will be charged for unlawful arrest of perpetrators installing unauthorised electrical connections. This may have been as a result of the schedule of interview questions being completed prior to the promulgation of the Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) as discussed in Chapter 3 of this research study.

Before 1994, the South African Police Service (then called the South African Police Force) was pre-occupied with the enforcement of the then laws of the apartheid government of the day. During that time, it was perceived that the SAPS protected a minority of citizens and oppressed the majority of citizens. This conduct created a bad image of the SAPS with the majority of citizens in South Africa. This negative image of the SAPS will take time to be corrected (Kole, 2015:76). This discussion concurs with the reaction of many of the interviewees, especially members of the community, who reiterated during the one-on-one interviews that they do not have confidence and trust in the effectiveness of the SAPS when attending to their unauthorised electrical connections reports that remain investigated. The researcher cautions that if the community does not have confidence and trust in the SAPS, it might lead to a relationship breakdown and lawlessness.

4.3.3.13 *The adequacy of SAPS' efforts in combating unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 25)*

Table 4.25 The adequacy of SAPS' efforts in combating unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

Are the SAPS' efforts in combating unauthorised electrical connections in KwaZulu-Natal, South Africa adequate?	Frequency	Percentage (%)
Yes	34	68
No	16	32
Totals	50	100%

- **Interpretation**

The majority of the interviewees (68%) mentioned that the SAPS' efforts in combating unauthorised electrical connections were adequate. Conversely, the minority (32%) mentioned that the SAPS' efforts in combating unauthorised electrical connections were inadequate, which indicates that they have lost faith in the SAPS.

- **Deduction**

The majority of interviewees, owing to their experience and knowledge, mentioned that the SAPS' efforts in combating unauthorised electrical connections were adequate. In contrast, the minority of interviewees mentioned the contrary as a result of their personal experiences while reporting unauthorised electrical connections. The researcher observed that there was confusion within the SAPS owing to the usage of the concept of 'fraud' when charging perpetrators. Some of the SAPS police stations proved to be ignorant of this instruction and often refused to act on this crime and to charge perpetrators. The promulgation of the Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) has solved this confusion and ignorance, thereby assisting with the combating of unauthorised electrical connections. Therefore, it is one thing to open a criminal case with the SAPS, and it is another to achieve a successful prosecution. The interviewees also mentioned the inadequacy of the SAPS owing to corruption, laziness and conspiring with perpetrators, which drastically hampered efforts to combat unauthorised electrical connections.

4.3.3.14 Adequacy of methods combating unauthorised electrical connection KwaZulu-Natal, South Africa (Annexure A Question 26).

Table 4.26 The adequacy of methods to combat unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

Are the methods of combating unauthorised electrical connections in KwaZulu-Natal, South Africa adequate?	Frequency	Percentage (%)
Yes	0	0
No	50	100
Totals	50	100%

- **Interpretation**

All the interviewees (100%) mentioned that the methods of combating unauthorised electrical connections are inadequate.

- **Deduction**

The electricity utilities' approach has the following inadequacies:

- Not having awareness and training programmes
- Amnesty campaigns
- Not using integrated electrical technology aligned with security systems, not engaging in partnership policing
- Not reviewing current unauthorised electrical connections policies and procedures
- No proper electrical infrastructure development and effective information systems
- Not having a dedicated investigator working with the unauthorised electrical connections verification
- Removal teams are inadequate to combat unauthorised electrical connections.

Moreover, this inadequate approach does not serve the intended outcome of combating unauthorised electrical connections. To overcome this inadequacy, the following approach must be adopted:

- Awareness and training;
- Amnesty campaigns;
- Use of integrated electrical technology aligned with security systems;
- Engaging in partnership policing, the reviewing of current unauthorised electrical connections policies and procedures;
- Proper electrical infrastructure development and effective information systems, and
- Having a dedicated investigator working with the unauthorised electrical connections verification and removal teams.

The SAPS must use extraordinary policing and think out of the box on how to combat crime. The promulgation of the Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) will assist the SAPS to contribute to the combating of illegal electrical connections. The onus is on the SAPS and electrical utilities to implement this Act.

4.3.3.15 Combating unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 27).

Table 4.27 Combating unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

What, in your opinion, should be done to effectively and efficiently combat unauthorised electrical connections in KwaZulu-Natal?	Frequency	Percentage (%)
Disconnection and removal of unauthorised electrical connections.	8	16
Switch of electricity networks where these unauthorised electrical connections are widespread.	6	12
Councillors and members of the community should engage and educated to have a concerted paradigm 'cultural mind-set' and 'behavioural change' toward unauthorised electrical connections.	4	8
Improved Revenue Protection processes, technologies and normalisation by installing split, pre-paid electrical meters (smart electrical meters) in the houses that are located in pockets, in-between legally connected houses.	6	12
Perpetrators' must be issued with tamper notices. They must be prosecuted, and the sanction should be that they pay for the use of the electricity on a pro rata bases.	8	16
Material management by utilities during projects.	1	2
Implement effective disciplinary or corrective processes to manage corruption, redesign business processes, improve management control, right of duty, entry and restriction at stipulated times, state support, modern technological support, management information and control systems, quality metering, incentives, punishment for collusion, poor performance and	4	8

What, in your opinion, should be done to effectively and efficiently combat unauthorised electrical connections in KwaZulu-Natal?	Frequency	Percentage (%)
enhance customer service for Eskom employees and Eskom contractors caught installing unauthorised electrical connections.		
Universal access of services and electrification of informal settlements using split, pre-paid electrical meters (smart electrical meters).	1	2
Electricity meter audits.	1	2
Recommendations, judicial enforcement and criminal litigation must be implemented and monitored by electricity utilities.	1	2
Informers must be rewarded financially for furnishing information regarding perpetrators who make unauthorised electrical connections.	1	2
Provision of Free Basic Services to those who cannot afford (indigents).	1	2
Collaboration, infiltration and networking between the South African Defence Force (SADF), Hawks, SAPS' Organised Crime Unit, SAPS' Crime Prevention, FLASH, SAPS' Crime Intelligence and Durban's eThekweni Municipality Metropolitan Police Department into the community affected by unauthorised electrical connections. Foot and vehicle patrols in areas where unauthorised electrical connections are widespread.	4	8
Communities must take ownership of their spaces by ensuring that unauthorised electrical connections are eradicated from their own areas.	4	8
Durban's eThekweni municipality Disaster Management and Emergency Control Department and South African National Roads Agency Limited (SANRAL) have entered into a partnership of sharing CCTV visuals using SANRAL's cameras along the KwaZulu-Natal freeways.	2	4
Totals	50	100%

- **Interpretation**

The majority of the interviewees (16%) indicated disconnection and removal of unauthorised electrical connections, while 12 per cent switch off electricity networks where these unauthorised electrical connections are wide spread. In addition, eight per cent stated that councillors and members of the community should have a concerted paradigm 'cultural mind-set' and 'behavioural change' toward unauthorised electrical connections. Furthermore, 6 per cent indicated normalisation by installing split, pre-paid electrical meters (smart electrical meters) in the houses that are located in pockets, in-between legally connected houses.

About 16 per cent stated that perpetrators must be issued with tamper notices. They must be prosecuted, and the sanction should be that they pay for the use of the electricity on a pro rata bases. On the contrary, 2 per cent is allocated to material management during projects and 2 per cent to implement effective disciplinary or corrective processes to manage corruption, redesign business processes, improve management control, right of duty, entry and restriction at stipulated times. Furthermore, the same 2 per cent is allocated to state support, modern technological support, management information and control systems, quality metering, incentives, punishment for collusion, poor performance and enhance customer service for ESKOM employees and ESKOM contractors caught installing unauthorised electrical connections.

Approximately 2 per cent indicates electrification of informal settlements using split, pre-paid electrical meters (smart electrical meters). In the same vein, 2 per cent goes to electricity meter audits and similarly, 2 per cent goes to recommendations, judicial enforcement and criminal litigation must be implemented and monitored by electricity utilities. Similarly, 2 per cent state that informers must be rewarded financially for furnishing information regarding perpetrators who make unauthorised electrical connections. Another 2 per cent is allocated to foot and vehicle patrols in areas where unauthorised electrical connections are widespread, 8 per cent on infiltration and networking of the SADF, the Hawks, SAPS Organised Crime Unit, SAPS Crime Prevention, FLASH, SAPS Crime Intelligence and Durban's eThekweni Municipality Metropolitan Police Department into communities affected by unauthorised electrical connections. Similarly, 8 per cent indicated that communities must take ownership of their environment by ensuring that unauthorised electrical connections is eradicated

from their own area. On the contrary, 4 per cent mentioned that Durban's eThekweni Municipality Disaster Management and Emergency Control Department and SANRAL have entered into a partnership of sharing CCTV visuals, using SANRAL's cameras along the KwaZulu-Natal freeways.

- **Deduction**

The majority of interviewees (16%) knew what should be done to effectively and efficiently combat unauthorised electrical connections. In addition, 2 per cent highlighted material management during projects and 2 per cent were concerned about implementing effective disciplinary or corrective processes to manage corruption, redesign business processes, improve management control, right of duty, entry and restriction at stipulated times, state support, modern technological support, management information and control systems, quality metering, incentives, punishment for collusion, poor performance and enhance customer service for ESKOM employees and ESKOM contractors caught installing unauthorised electrical connections. A further 2 per cent suggested electrification of informal settlements using split, pre-paid electrical meters (smart electrical meters) and electricity meter audits. Similarly, 2 per cent suggested that recommendations, judicial enforcement and criminal litigation must be implemented and monitored by electricity utilities, and that informers must be rewarded financially for furnishing information regarding perpetrators who make unauthorised electrical connections. In the same vein, 2 per cent recommended foot and vehicle patrols in areas where unauthorised electrical connections are widespread.

4.3.4 Measures to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa

4.3.4.1 *What measures are to be put in place by law enforcement in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 28)*

Table 4.28 Measures to be put in place by law enforcement in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

What measures should be put in place by law enforcement in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Strict, high, fines or sanctions in the form of long imprisonment must be imposed on perpetrators and scrap dealers to set the precedence that unauthorised electrical connections is a serious crime in the country.	12	24
Removal of unauthorised electrical connections.	8	16
Accept electricity theft as a serious crime and work closely with ESKOM and municipalities in combatting and investigating this crime.	7	14
Foot and vehicle patrols by the SAPS' Crime Prevention and Durban's eThekweni Municipality Metropolitan Police Department members in hotspot areas.	11	22
Arrest all perpetrators installing unauthorised electrical connections.	7	14
Knowledge management, education and awareness to the community aimed at pupils emphasising the unauthorised electrical connections.	3	6
Recruitment of Informers from the area.	2	4
Totals	50	100%

- **Interpretation**

The majority of the interviewees (24%) are of the view that law enforcement by means of strict enforcement and high, fines, and sanctions in the form of long prison terms must be imposed on perpetrators to set the precedence that unauthorised electrical connections is a serious crime in this country. In contrast, 4 per cent mentioned the recruitment of informers from the area.

- **Deduction**

The majority at of the interviewees want stricter law enforcement because of the gravity of the problem in KwaZulu-Natal. Accordingly, the promulgation of the Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) will enhance confidence and trust in law enforcement agencies to combat illegal electrical connections.

4.3.4.2 Measures to be put in place by ESKOM to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa (Annexure A Question 29)

Table 4.29 Measures to be put in place by ESKOM to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa

What measures should be put in place by ESKOM to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
Recruitment of Security Management staff to combat unauthorised electrical connections.	5	10
Effective law enforcement to prosecute transgressors.	5	10
All ESKOM cables and electrical meters must be accounted for.	2	4
Work together with other electricity utilities to combat unauthorised electrical connections.	2	4
Disconnection and removal of unauthorised electrical connections.	2	4
Electrification programmes incorporating the installation of split pre-paid electrical meters (smart electrical meters) in areas where unauthorised electrical connections are rife.	9	18
Continuous knowledge management, education and awareness of the dangers of unauthorised electrical connections aimed at pupils.	8	16
ESKOM's meter auditing contractors should be educated on how house-to-house audit findings are executed.	3	6
ESKOM's auditing contractors must be vetted by signing the, legally binding, legal power-vetting certificate or security clearance which is valid for three years in an attempt to prevent corruption and collusion with home owners.	2	4
CCTV video surveillance systems must be included in the installation of split pre-paid electrical meters (smart electrical meters) that will identify and place ESKOM employees at the scene installing unauthorised electrical connections.	3	6

What measures should be put in place by ESKOM to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
The link between meter boxes and transformers in an area rife with unauthorised electrical connections must be monitored thereby locating unauthorised electrical connections point of supply.	2	4
Annual service of surveillance alarm systems and monthly testing of the security system connected to the electricity network.	6	12
All ESKOM employees and ESKOM contractors are bound by ESKOM's Code of Ethics, which describes acceptable ESKOM behaviour. Failure to act in accordance with the code, for example, the installing of unauthorised electrical connections constitutes unethical practice or behaviour. This transgression can result in disciplinary action, criminal charges and legal proceedings, both with financial repercussions.	1	2
Totals	50	100%

- **Interpretation**

The majority of interviewees (18%) mentioned electrification programmes incorporating the installation of split pre-paid electrical meters (smart electrical meters) in areas where unauthorised electrical connections are rife. In contrast, the minority (2%) mention all ESKOM employees and ESKOM contractors are bound by ESKOM's Code of Ethics, which describes acceptable ESKOM behaviour. Failure to act in accordance with the code, for example, installing unauthorised electrical connections constitutes unethical practice or behaviour. Consequently, this transgression can result in disciplinary action, criminal charges and legal proceedings, both with financial repercussions.

- **Deduction**

All electricity utilities must employ security management staff that can assist in combating unauthorised electrical connections and work with law enforcement to prosecute customers benefiting from unauthorised electrical connections. Moreover, all ESKOM cables and electrical meters must be accounted for. ESKOM must work

together with other electricity utilities to combat unauthorised electrical connections and disconnect and remove unauthorised electrical connections. Electrification programmes should incorporate the installation of split pre-paid electrical meters (smart electrical meters) in areas where unauthorised electrical connections are rife. Continuous knowledge management, education and awareness of the dangers of unauthorised electrical connections aimed at pupils should be conducted.

Furthermore, ESKOM auditing contractors should be educated on how house-to-house audit findings are executed. In addition, ESKOM auditing contractors must be vetted by signing the legally binding, legal power-vetting certificate or security clearance which is valid for three years in an attempt to prevent corruption and collusion with home owners. CCTV systems must be included in the installation of split pre-paid electrical meters (smart electrical meters) that will identify and place ESKOM employees at the scene installing unauthorised electrical connections. The link between meter boxes and transformers in an area rife with unauthorised electrical connections must be monitored, thereby locating unauthorised electrical connection points of supply. More importantly, the annual service of surveillance alarm systems and the monthly testing of the security system should be conducted to monitor the installation of new unauthorised electrical connections. All ESKOM employees and ESKOM contractors are bound by ESKOM's Code of Ethics, which describes acceptable behaviour. Failure to act in accordance with the code, for example, the installation of unauthorised electrical connections constitutes unethical practice or behaviour. Consequently, this transgression can result in disciplinary action, criminal charges and legal proceedings, both with financial repercussions.

4.3.4.3 *Measures to be put in place by SAPS to be effective in combating unauthorised electrical connections in KwaZulu-Natal (Annexure A Question 30)*

Table 4.30 Measures to be put in place by the SAPS to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa (N=50)

Which measures should be put in place by the SAPS to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
High fines and law enforcement for installing unauthorised electrical connections. .	8	16
Visible policing during meter audits, disconnection and removal of unauthorised electrical connections.	9	18
Knowledge management, education and awareness to the community and pupils regarding their safety, being responsible, and the dangers of unauthorised electrical connections and what features must be recorded of perpetrators connecting unauthorised electrical connections, for example, vehicle registration numbers, type colour, facial description, appearance and distinguishing bodily marks e.g. tattoos and scars.	7	14
Re-establishment of street committee crime combating structure incorporating the SAPS, CPF and councillors and members of communities.	5	10
Work with ESKOM's Security and Revenue Protection Departments to thoroughly investigate consumers benefiting from unauthorised electrical connections.	6	12
The introduction of a special unit investigations unit to be established to target hotspot areas with high levels of energy and revenue loss.	2	4
Effective assistance with arrests and prosecution of perpetrators, kingpins and syndicates.	2	4
Report suspected unauthorised electrical connections, anonymously, by reporting to 0800112722 (Toll-free) or sending a detailed Short Message Service (SMS) to Crime Line 32211, which costs (ZAR1 per SMS) or by reporting directly to the SAPS, municipalities, or CPF in the area.	2	4
Unauthorised electrical connections crime statistics should be registered as part of the National SAPS crime statistics to highlight its seriousness and the SAPS' attitude toward unauthorised electrical connections.	2	4
The SAPS, Durban's eThekweni Municipality Metropolitan Police Department and private security	1	2

Which measures should be put in place by the SAPS to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?	Frequency	Percentage (%)
escorting and response companies must create an open, hand-in-hand, partnership with the CPF and communities to combat unauthorised electrical connections.		
Fully equipped SAPS satellite police stations to be deployed at hotspot areas where unauthorised electrical connections are widespread.	1	2
Legally the defence attorney in a criminal case will question how many kilo watts of electricity was consumed, what was the alleged cost of the alleged electricity consumed and how was the alleged electricity that was consumed measured to strengthen their defence. Legislation should be promulgated to be able to defend these questions.	1	2
Totals	50	100%

- **Interpretation**

The majority of the interviewees (18%) reported that visible policing during meter audits, disconnection and removal of unauthorised electrical connections resulted in harsher law enforcement as an important measure in combating unauthorised electrical connections. On the contrary, the minority of interviewees (2%) mentioned that the SAPS, Durban's eThekweni Municipality Metropolitan Police Department and private security escorting and response companies must create an open, hand-in-hand partnership with the CPF and communities to combat unauthorised electrical connections.

Fully equipped SAPS satellite police stations should be deployed at hotspot areas where unauthorised electrical connections are widespread. Legally, the defence attorney in a criminal case will question how many kilowatts of electricity was consumed, what the alleged cost of the alleged electricity consumed was and how the alleged electricity that was consumed was measured to strengthen their defence. Accordingly, legislation should be promulgated to be able to defend these questions. Some requested that a special unit be established to target hotspot areas identified

with high levels of energy and revenue loss, and also suggested effective assistance with arrests and prosecuting of perpetrators, kingpins and syndicates (5%).

- **Deduction**

Question 30 was asked to test the adequacy of measures that are currently in place by the SAPS in the combating of unauthorised electrical connections in KwaZulu-Natal. The Southern African Revenue Protection Association Convention was held in Bloemfontein between 24 August 2016 and 25 August 2016. During this convention, the Head of OK, an Eskom-led anti-electricity theft campaign, underscored that Operation Khanyisa is steadily making progress as it continues to flex its muscle against electricity thieves and will continue to expose, arrest and prosecute perpetrators conducting electricity theft. Despite the low percentage of people who believe that they will be prosecuted for stealing electricity, Eskom has progressed through OK, which is aimed at promoting the legal, safe and efficient use of electricity. Furthermore, since the launch of Operation Khanyisa in 26 October 2010, 50 electricity theft perpetrators were arrested, and 26 criminal cases were opened and are on the court roll. Moreover, Eskom continues to put in place numerous strategies aimed at combating energy losses as discussed in Chapter 3 of this study. These include the removal of unauthorised electrical connections, subsidising low-income customers, tamper fines as well as the replacement of faulty electrical meters as part of the company's maintenance and refurbishment programmes. The researcher urges members of the active South African community to take a stand against electricity thieves by anonymously reporting suspected electricity theft.

4.3.4.4 *Speaking to the public about the dangers of unauthorised electrical connections (Annexure A Question 31)*

Table 4.31 Speaking to the public about the dangers of unauthorised electrical connections (N=50)

Will coming into your area, and speaking to you about the dangers of unauthorised electrical connections, improve the combating of unauthorised electrical connections in KwaZulu-Natal?	Frequency	Percentage (%)
Yes	18	36
No	32	64
Totals	50	100%

- **Interpretation**

The majority (64%) responded “No” while the minority (36%) responded “Yes” to Question 31 of whether coming into the area and speaking about the dangers of unauthorised electrical connections will improve the combating of unauthorised electrical connections.

- **Deduction**

The majority mentioned that education and awareness programmes would not assist if communities do not have a ‘cultural mind-set’ and ‘behavioural change’ concerted paradigm.

4.3.4.5 Will the provision of electricity in this area solve the problem of unauthorised electrical connections (Annexure A Question 32)?

Table 4.32 Will the provision of electricity in the area solve the problem of unauthorised electrical connections (N=50)

Will the provision of electricity in this area solve the problem of unauthorised electrical connections?	Frequency	Percentage (%)
Yes	41	82
No	9	18
Totals	50	100%

- **Interpretation**

An overwhelming majority of the interviewees (82%) answered “Yes” and the minority of the interviewees (18%) answered “No” to Question 32 on whether the provision of electricity in an area will solve the problem of unauthorised electrical connections.

- **Deduction**

The majority responded positively to Question 32 on whether the provision of electricity in an area will solve the problem of unauthorised electrical connections. An improvement of revenue recovery to the amount of ZAR39 million in Soweto during the 2014/2015 financial year was recorded after the installation of split pre-paid electrical meters (smart electrical meters). This has resulted in a gradual increase in sales (Erwee et al., 2016:2).

4.3.4.6 Reporting unauthorised electrical connections to the CPF (Annexure A Question 33)

Table 4.33 Reporting unauthorised electrical connections to the CPF (N=50)

Have you reported unauthorised electrical connections to the CPF in your area?	Frequency	Percentage (%)
Yes	15	30
No	35	70
Totals	50	100%

- **Interpretation**

Majority of the interviewees (70%) reported “No” and minority (30%) answered “Yes” to Question 33.

- **Deduction**

These figures suggest that interviewees do not have an interest in reporting unauthorised electrical connections to a CPF, or they do not have the confidence and trust to report because their reports do not receive the necessary attention. The new democratic South Africa brought with it the dawn of the concept ‘partnership policing’, using stakeholders, namely, the public, the SAPS, Durban’s eThekweni Municipality Metropolitan Police Department, visible private security escorting and response companies, small, medium and micro enterprise (SMME) and community organisations to combat crime. This phenomenon of ‘partnership policing’ in SAPS Crime Prevention requires that all stakeholders agree to work together to protect the community. Another concept, ‘safety network’, is a phenomenon whereby private security companies, together with that community, establishes and funds a non-profit

community security company within the communities that they protect (Béni-Gbaffou, 2006:6). In South Africa, electricity theft remains one of the most serious but most under-reported crimes in spite of the fact that the country loses at least ZAR20 billion annually owing to electricity theft.

4.3.5 General

4.3.5.1 Additional information (Annexure A Question 34)

Table 4.34 Additional information (N=50)

Do you want to add anything further?	Frequency	Percentage (%)
Yes	27	40
No	23	60
Totals	50	100%

- **Interpretation**

The majority of the interviewees (60%) declined to add further information as their concerns had been covered by the schedule of interview questions. Conversely, the minority of the interviewees at (40%) had additional information that they wanted to add owing to their interest in the combating of unauthorised electrical connections in KwaZulu-Natal.

- **Deduction**

The additional further information provided by the interviewees high-lights that there are inadequate measures that are currently in place to combat unauthorised electrical connections in KwaZulu-Natal.

The researcher recorded the following additional information during the one-on-one interviews:

1. ESKOM is mainly to be blamed with regard to the process for the legal application for electricity, as many people were promised legal electrical connections. The people applied for legal electricity connections approximately twenty years ago. Some people paid the quotation fee for legal electrical connections. According to records, to date, they have not received legal electrical connections. This creates

- anger in people and they lose trust in ESKOM as a result of their poor planning. Consequently, people then connect unauthorised electrical connections.
2. People are promised free basic electricity by ESKOM and this is why they connect without authority to the electrical network and refuse to pay for their electricity consumption.
 3. It is not fair that people who are living in the city must pay over-escalated prices for their use of electricity while people in the majority of townships and rural areas do not pay for electricity that they consume illegally.
 4. It is sad that innocent people and animals die when they are exposed to unauthorised electrical connections. Even sadder is that innocent young children are often the victims of unauthorised electrical connections.
 5. In some cases, the entire line is built illegally to electrify a group of people or an entire village.
 6. Any unqualified person working on any electrical utilities electricity network installing electrical connections is committing a crime.
 7. The type of cable used on ESKOM's electricity network is not according to ESKOM's specification and therefore unsafe.
 8. Owing to the public reporting unauthorised electrical connections to the CPF and members of the South African Police Service: Crime Prevention, Durban's eThekweni Municipality Metropolitan Police Department were able to work in conjunction with the Durban's eThekweni Municipality to remove illegal electrical connections resulting in a 60 per cent success rate.
 9. Unauthorised electrical connections are politically driven as during the apartheid era no electricity infrastructure was installed in the rural areas which are presently rampant with unauthorised electrical connections. However, unauthorised electrical connections are against the law.
 10. A benchmark case of theft of electricity was registered at SAPS Bellair.
 11. In the case of perpetrators living in Grace Place informal settlement, Bellair, the docket was sent to Durban Magistrates Court and the Public Prosecutor decided to prosecute. The Magistrate found the suspect guilty and imposed a fine of ZAR500.
 12. The perpetrators are often undeterred as they are acquitted in a criminal court owing to lack of evidence or because theft of electricity cannot be quantified owing to the very nature of the crime. Hopefully, the Criminal Matters Amendment

Act, 2015 Act No 18 of 2015 will enhance the confidence of the criminal courts decisions.

13. An article published in *The Daily News* dated 30 October 2015 referred to a proclamation that the disruption of electrical infrastructure would not be regarded as a minor crime but considered as a serious economic crime.
14. The sooner electricity utilities install electricity legally to all houses, the sooner unauthorised electrical connections will cease to exist in its present enormity.
15. Electricity utilities should explore innovative methods and invent new technology that cannot be tampered with, making it virtually impossible for unauthorised electrical connections to be made which will be cost effective and also reduce the time taken to electrify.
16. The CPF is tired of the increase in unauthorised electrical connections criminal cases that have been observed.
17. South Africa has a large number of citizens that are unemployed. This results in community members installing illegal electrical connections to make a living and create an income to sustain their extended families, for example, by sewing and alteration of clothes, baking or catering of food, tuckshops and rental of a portion of the house.
18. The community's needs, societal norms, cultural and a concerted paradigm behavioural mind-set, attitude, value systems, beliefs, practices and tradition shape the way things are done and why they are done. Therefore, it would take a very strong principled person not to get involved in deviant behaviour of installing unauthorised electrical connections.
19. ESKOM must attempt to largely improve the reliability and accommodate new generation capacity on its transmission and distribution network to accommodate the backlog of new legal and illegal electrical connections.
20. Increasing poverty levels encourages anarchy and the deviant behaviour of installing illegal electrical connections.
21. Communities are aware that the SAPS and visible security agencies are under-resourced and over-burdened and do not have time to combat unauthorised electrical connections.
22. Affected communities lack moral awareness, moral intent, moral judgement and moral behaviour and values that require a paradigm 'cultural mind-set' and concerted 'behavioural change' starting with its leadership.

23. The community makes unethical decisions not because they are 'bad people' but because psychological, social, organisational and situational influences affect their decisions, for example, the tendency to follow the crowd (neighbours) and their ideas and connect unauthorised electrical connections.
24. Communities that install unauthorised electrical connections as they cannot pay for legal electricity since this service is too expensive.
25. The community is easily approached by corrupt ESKOM employees and ESKOM contractors to connect unauthorised electrical connections for a minimal price in relation to what they would pay if they had a legal electrical connection.
26. According to legislation, ESKOM employs and teaches members of communities how to connect legal electrical lines during scheduled 'New Build' electrification programmes. When these projects are concluded, these members of the community are left with the skill to make unauthorised electrical connections and continue to earn an income.
27. ESKOM makes promises to communities that they will be connected legally but nothing happens.
28. The community has been using free electricity for an extended period of time and have now become accustomed to not paying for it, and they therefore convey tremendous resistance during disconnections and removals.
29. Connecting legal split pre-paid electrical meters [smart electrical meters] is a good idea to combat theft. Accordingly, this will eliminate the need for cash deposits, application forms, meter readings, billings, billing errors, disconnections, queries, and re-connections. In addition, it will reduce the workload at call-centres, only if there was public partnership and the residents were informed of the intention of the project. For example, ten independent municipalities appointed electrical contractors and the homeowner can choose the service provider.
30. A climate of political bloodshed, intolerance and violence in KwaZulu-Natal should be of great concern to all citizens before the ANC presidential elective conference to be held during December 2019 as they form part of the pluralist democracy of the country. Our public representatives need to lead by example, ideally be beyond reproach and someone who is a good and moral person, even when bestowed with power.

31. Leaders of religious organisations are silent as they do not have a clear corrective response to practices that are dangerous, harmful or unethical and in conflict with the rule of law.
32. Informal settlements have not been supplied with legal electricity connections.
33. If people are stealing electricity and nothing is being done about it, why must we as honest citizens pay for electricity? Crime is acceptable and free for all.
34. Rewards and recognition are insufficient for information on unauthorised electrical connections.
35. Inconsistent legal system in South Africa.
36. Inadequate systems and controls within ESKOM.
37. The fear of discovery is not the most important deterrent to crime.
38. The combatting of electricity theft is a multidisciplinary process, which needs close collaboration from various sectors of the community, electricity utilities and municipalities, Law Enforcement Agencies, Government, technology developers/suppliers. If any of the above is weakened, the fight against electricity theft becomes that much difficult.

4.3.6 Site Observation

A site observation was conducted using a Site Observation Checklist (see Annexure B). The researcher physically conducted a site observation in the field as depicted in Chapter 5, by visiting ten unauthorised electrical connection scenes in KwaZulu-Natal during the period of 1 January 2015 to 31 December 2015. The objective of the site observation was to observe the modus operandi used in the problematic areas as depicted in Chapter 3. These areas were classified as problematic for purposes of this study by the researcher and ESKOM's KwaZulu-Natal Operating Unit's Provincial Executive Committee. This is owing to the negative sales per customer, high volume of reports received, deductions and perceptions that were made during the formulation of the monthly unauthorised electrical connection crime statistics as well as the researcher's observation owing to the number of telephonic reports she had received and their high volatility rating.

The researcher recorded the following challenges using a Site Observation Checklist:

- High number of houses with unauthorised electrical connections;

- Reports of injuries or fatalities;
- Power cuts and 'load shedding' experienced by legal customers;
- Damage to ESKOM's transformer boxes due to fire as a result of an oil leak;
- Damage to ESKOM's pre-paid and conventional electricity meter boxes due to network overload;
- Unsafe conditions such as live cable exposed to public and livestock;
- Dwellings burnt and damaged property, for example a fridge;
- Cable touching iron roofs; poor economic growth in the area; damaged electrical infrastructure;
- Many unemployed people;
- Homeowners are not prosecuted for having unauthorised electrical connections;
- Dwellings doors were locked while occupants were inside, thereby hindering accurate site observations, disconnections and removals;
- Informal dwellings were burnt due to unsafe unauthorised electrical connections, and
- Removal teams were verbally threatened and warned that they would be killed if again seen in the area.

The researcher recorded that perpetrators removed the unauthorised cable once they noticed the removal convoy approaching. To combat this challenge, the researcher scheduled her site observations, disconnections and removals on a 'need-to-know basis' whereby only officials that needed to know details of the scheduled disconnection and removal operation were informed. If the researcher failed to strategize the scheduled disconnections and removals, it would have resulted in a futile exercise, since most of the cables would have been removed by the offending community prior to the removal teams arriving at the scene. The removal teams do not approach community members during removals, as that specific community member would then be implicated as being the one that reported the unauthorised electrical connections to ESKOM. To overcome this challenge, the researcher contacted the informers telephonically prior to executing removals to clarify details of the report. The researcher observed that after exiting the area, the perpetrators immediately reconnected unauthorised electrical connections.

Table 4.35 Address, dates and times which were observed at ten scenes of unauthorised electrical connections in KwaZulu-Natal, South Africa

SCENE 1
ADDRESS: Mobile Telecommunication Network (MTN) Tower, Masinenge informal settlement, Uvongo, KwaZulu-Natal, South Africa
DATE VISITED: 10 June 2015
TIME VISITED: 09:00
SCENE 2
ADDRESS: Kenville informal settlement, Ramchand Road, Durban, KwaZulu-Natal, South Africa
DATE VISITED: 22 June 2015
TIME VISITED: 11:00
SCENE 3
ADDRESS: Luvisi Township, Nqutu, Vryheid, Northern KwaZulu-Natal, South Africa
DATE VISITED: 17 April 2015
TIME VISITED: 12:00
SCENE 4
ADDRESS: Sanathan informal settlement, Umzinto, South Coast, KwaZulu-Natal, South Africa
DATE VISITED: 6 January 2015
TIME VISITED: 11:00
SCENE 5
ADDRESS: Railway Houses, Highflats, Ixopo, KwaZulu-Natal, South Africa
DATE VISITED: 3 January 2015
TIME VISITED: 09:00
SCENE 6
ADDRESS: Frasers, oThongathi, Durban, KwaZulu-Natal, South Africa
DATE VISITED: 1 October 2014
TIME VISITED: 14:00
SCENE 7
ADDRESS: Emona, oThongathi, Durban, KwaZulu-Natal
DATE VISITED: 3 January 2015
TIME VISITED: 08:00
SCENE 8
ADDRESS: Textile Road, Umzinto, Durban South, KwaZulu-Natal, South Africa
DATE VISITED: 3 January 2015
TIME VISITED: 11:00
SCENE 9
ADDRESS: Dududu, Park Rynie, Durban South, KwaZulu-Natal, South Africa
DATE VISITED: 3 January 2015
TIME VISITED: 12:00

SCENE 10
ADDRESS: Electricity Network Breaker71, Driefontein, oThongathi, Durban, KwaZulu-Natal, South Africa
DATE VISITED: 14 April 2014
TIME VISITED: 09:00

- **Deduction**

The researcher observed ten unauthorised electrical connection scenes, which were chosen as problematic for purposes of this study by the researcher and ESKOM's KwaZulu-Natal Operating Unit's Provincial Executive Committee. This was owing to the negative sales per customer and a high volume of reports received as depicted in Figure 3.3 of this study, deductions and perceptions that were made during the formulation of the monthly unauthorised electrical connection crime statistics, and the researcher's observations owing to the number of telephonic reports received by her department. This site observation exercise was conducted to determine the actual time each scene was visited for verification purposes.

- **Interpretation**

The dates and times that were recorded on the site observation checklist are irrelevant, since these are the actual dates and times the ten scenes were visited by the researcher when she conducted the site observation and have no bearing on the results of the research study and crime trends. These dates and times were used merely for site observation and verification purposes. The dates and times when the unauthorised electrical connections had been installed are unknown, owing to the nature of unauthorised electrical connections. The informants did not see the installation of unauthorised electrical connections, which according to the researcher's informers were connected during the night. Therefore, they were unable to supply the actual dates and times when the unauthorised electrical connections had been installed.

Table 4.36 Modus operandi observed at ten scenes of unauthorised electrical connections in KwaZulu-Natal, South Africa

Modus operandi	Frequency	Percentage (%)
Insulation of cable using plastic packets.	5	50

Easily available Telkom cable and pre-paid and conventional electrical meters used on ESKOM's electricity network.	5	50
Use of barbed wire fencing material, twin flex, bare copper line, steel reinforcing material, stay wires and ESKOM cable.	5	50
Big rocks or boulders used to secure the cable on the ground.	5	50
ESKOM's pre-paid and conventional electrical meters used.	4	40
Cable installed above road level.	2	20
Trenchers used to install cable under concrete or tar surfaces.	2	20
Cable installed through sewage lines or storm water drains to camouflage theft.	2	20
Live conductor connected from another transformer to a medium voltage line (11 kilovoltage) connected near the points of unauthorised electrical connections.	2	20
The use of trees and derelict buildings as distribution points.	2	20
Connections to MTN and Society for the Prevention of Cruelty to Animals (SPCA).	1	10
<i>The use of Muti</i> , (South African traditional medicine) e.g. wings, skin and dead birds, placed on the unauthorised electrical connections to scare the person doing removals and visible security escorting and response guards.	1	10

- **Interpretation**

Half of the ten scenes (50%) visited showed evidence of the following modus operandi: Insulation of cable using plastic packets; use of easily available Telkom cable used on ESKOM's electricity network; use of barbed wire fencing material; twin flex; bare copper line; steel reinforcing material; stay wires; ESKOM airdec cables and big rocks or boulders used to secure the cable on the ground.

- **Deduction**

The researcher observed that easily available Telkom cable that is used for telecommunication services, as well as ESKOM's airdec cable, was used to connect unauthorised electrical connections on ESKOM's electricity network. These cables are sourced from unattended infrastructure belonging to the stakeholder. This material is found on the open fields and is therefore vulnerable to vandalism and theft. The researcher observed that big rocks or boulders are placed on unauthorised cables, trees and derelict buildings are used as distribution points to the dwellings. The community knows that these are dangerous no-go points for them.

4.3.7 Case Docket Analysis

The Case Docket Analysis (see Annexure C) was conducted by means of a careful perusal and analysis of 50 ESKOM KwaZulu-Natal Operating Unit's unauthorised electrical connections criminal case dockets that were investigated during the period 1 January 2014 to 31 December 2014. The researcher used ten ESKOM KwaZulu-Natal Operating Unit's criminal case dockets from ten of the worst areas in KwaZulu-Natal where unauthorised electrical connections are widespread. These include: Emona informal settlement oThongathi; Fraser's oThongathi; Highflats Umzimkhulu; Masenenge informal settlement Uvongo; and Braemar Umzinto. These areas were classified as problematic for purposes of this study by the researcher and ESKOM's KwaZulu-Natal Operating Unit's, Provincial Executive Committee. This is owing to the negative sales per customer, high volume of reports received; deductions and perceptions that were made during the formulation of the monthly unauthorised electrical connections crime statistics; researcher's observation skills owing to the number of telephonic reports she had received and as its high volatility rating. All the raw data collected during the criminal case docket analysis phase of this study was recorded in a case docket analysis pro forma using the following variables:

- (a) Date;
- (b) Time;
- (c) Place;
- (d) Modus operandi;
- (e) Nature and extent of damage;
- (f) Unauthorised use of cables;
- (g) Instruments used;

- (h) Number of houses with unauthorised electrical connections, and
- (i) Injuries or fatalities reported.

4.3.8 Reporting of unauthorised electrical connections

During the criminal case docket analysis phase of this research study, it was discovered that all the cases were reported to ESKOM's 24-hour call-centres which are located throughout South Africa. These call-centres were functioning satisfactory, regarding the allocation of cases, despite call-centre staff shortages. However, many cases have been finalised as undetected or false, because insufficient information was obtained and recorded during the call-centre reporting stage. Extensive, further information needs to be retrieved, for example: first name, aliases, surname; details or directions of place or address, street names, pole numbers, sections and landmarks or the name of the specific ESKOM Customer Network Centre. It is also necessary to determine and record the name of the chief, 'Induna' or councillor; the house number; a description of the house; name of the suburb, reserve, town, city, municipal jurisdiction, province or the name of the ESKOM energised area; three contact phone numbers; the perpetrator's name; and the nature and extent of the problem. More importantly, the ESKOM appointed private investigation contractors investigators have taken it upon themselves to obtain this missing information to be included in the ESKOM KwaZulu-Natal Operating Unit's criminal case dockets and used for further investigation. This exercise has proved expensive and futile since communities do not co-operate and furnish the investigators with outstanding information, because they fear intimidation and fear for their lives and being intimidated since they would be implicated as informers. All reported cases were recorded in the illegal electrical connection data base. The information in the data base was updated once the consolidated report from ESKOM's Private Investigation Contractor was received.

- **Interpretation**

The initial recording of information was executed through ESKOM call-centres which are located throughout South Africa. If the information is not clear, the investigation contractor's investigators must contact the informer either telephonically or visit him or her personally to retrieve further vital information required for further investigation.

- **Deduction**

The community are willing to report unauthorised electrical connections. However, electrocutions owing to unauthorised electrical connections are not reported to ESKOM because communities' fear prosecution or possible liability. It was further observed that as a result of the cases being reported to ESKOM's, 24-hour call-centres which are located throughout South Africa valuable contact information is not retrieved as the personal at the call-centres do not know specific areas in each province, unclear reporting procedures and the high temporary staff turnover at the call-centres. They merely record the name of the rural reserve. Further, the cases are reported by people living in the urban area as there are no telephone infrastructures in many of the rural areas. This creates a break in communication as the investigator is unable to speak directly to the person being affected by the illegal electrical connection. This resulted in the researcher and the investigation contractor's investigators wasting time, money and resources to contact the informer either telephonically or visit him or her personally to retrieve further vital information required for further investigation. The impact of the initial insufficient recording of information therefore results in very few criminal cases being investigated in contrast to the total amount of criminal cases that are actually reported. All the criminal cases were allocated individual task order numbers and are recorded in the illegal electrical connection data base which is time consuming.

4.3.9 Investigation of unauthorised electrical connections criminal case dockets

These reports were allocated to the researcher and task order numbers were issued to these reports for purposes of filing, investigation and document control. All dockets had photographs taken before and after removal. This proves and verifies that removals were executed, should there be an enquiry regarding an electrocution or fatality. This study revealed that all task orders were filed in ESKOM KwaZulu-Natal Operating Unit's criminal case dockets.

- **Interpretation**

All reports were issued with an ESKOM task order number that was filed in the ESKOM criminal case docket together with photographs taken before and after removal that proves and verifies that removals were executed, should there be an enquiry regarding an electrocution or fatality. Many of ESKOM KwaZulu-Natal Operating Unit's criminal case dockets were closed prior to investigations owing to prior disconnections and removals that were executed.

- **Deduction**

The allocation task order to each report adopted by ESKOM was operating well. The researcher found that it is necessary to have photographs taken before and after the removal of illegal electrical connections to verify that ESKOM had removed the illegal electrical connection should there be an enquiry regarding an electrocution. This study revealed that all reports were recorded in ESKOM KwaZulu-Natal Operating Unit's criminal case dockets that can be used for future reference.

4.3.10 Modus operandi of unauthorised electrical connections

When conducting the criminal case docket analysis, the researcher's main focus was on the modus operandi of unauthorised electrical connections made at the scene of the 50 ESKOM KwaZulu-Natal Operating Unit's criminal case dockets perused. The researcher made notes of all raw data found during the criminal case docket analysis in a criminal case docket analysis pro forma.

- **Interpretation**

For purposes of this research, only ESKOM KwaZulu-Natal Operating Unit's criminal case dockets with the charge of unauthorised electrical connections were chosen by the researcher. It was recorded that the common modus operandis were unauthorised electrical connections from the transformer and detailed the modus operandi to be owing to illegal pre-paid and conventional electrical meters, electrocutions and requests for the scheduling of a sting operation to remove unauthorised electrical connections.

- **Deduction**

From the case dockets chosen, the common modus operandi was insulating cable using plastic packets and connecting this cable directly from the transformer to the electrical appliance in the dwelling.

Other types of modus operandi used were:

- Easily available Telkom cable and Telkom meters used on ESKOM's electricity network;
- Barbed wire fencing material;
- Twin flex;
- Bare copper conductor;
- Steel reinforcing material;
- Stay wires;
- ESKOM airdac cables;
- Huge rocks or boulders used to secure the cable on the ground;
- Cable installed above road level;
- Trenchers used to install cable under concrete or tar surfaces;
- Cable installed through sewage lines or storm water drains, which are used as a camouflage;
- Trees and derelict buildings are used as distribution points, and
- *Use of muti*, e.g. wings, skin and dead birds, placed on the unauthorised electrical connections to scare the person doing removals and visible security escorting and response guards.

As discussed in Chapter 3 of this study, CCTV video surveillance cameras can be used to view the perpetrator as well as his or her modus operandi.

4.3.11 Disposal of unauthorised electrical connections criminal case dockets

The following methods of disposing of criminal case dockets are used by ESKOM's KwaZulu-Natal Operating Unit: guilty; not guilty; withdrawn; undetected; area rated as volatile; pending investigations and solved. The following criminal cases were recorded as solved:

- Emona oThongathi disconnected and removed;

- Frasers oThongathi transformer moved into customer's premise;
- Braemar Umzinto, area is volatile, therefore disconnections and removals are not executed;
- Highflats Umzimkhulu, the pre-paid electricity meter box reinstalled after being burnt' and
- In Masenenge informal settlement, the community removed the cable prior to the investigator attending the scene after a cow had been electrocuted.

ESKOM's KwaZulu-Natal Operating Unit contracted investigator reports that the area has a high volatility rating and that they were chased out of the area previously. The docket was immediately closed as ESKOM's KwaZulu-Natal Operating Unit's Provincial Executive Committee reiterates 'Safety First'.

- **Interpretation**

The researcher observed that none of the ESKOM KwaZulu-Natal Operating Unit's criminal case dockets analysed reflected whether follow-up unauthorised electrical connection audits were conducted after the disconnection and removal operation. In addition, it should be mentioned here that all ESKOM KwaZulu-Natal Operating Unit's criminal case dockets are destroyed after a period of five years.

- **Deduction**

A follow-up unauthorised electrical connection audit must be conducted after the disconnection and removal operation to ascertain whether the illegal electrical connection has been reconnected. However, it is observed by the researcher that this process will be long and costly. This revenue could be allocated to new electrification projects concentrating on dwellings that have illegal electrical connections.

4.4 CONCLUSION

This chapter dealt with the serious nature and challenges of combating unauthorised electrical connections and how data from one-on-one interviews, site observations and

ESKOM KwaZulu-Natal Operating Unit's criminal case dockets were analysed, interpreted and deductions made aligned to the research questions. The chapter was divided into three sections, each dealing with the analysis of a specific data collection instrument.

The first section dealt with data obtained from the one-on-one interviews with interviewees from ESKOM's Security Management, Revenue Recovery and Energy Trading Departments; Durban's eThekweni municipality Security Management and Revenue Protection Department, South African Police Service: Crime Prevention members and CPF chairpersons of ten SAPS police stations in KwaZulu-Natal, South Africa. The second section dealt with the data collected by using a site observation checklist while visiting and observing ten unauthorised electrical connection scenes. The third section dealt with data collected from 50 ESKOM KwaZulu-Natal Operating Unit's criminal case dockets pertaining to unauthorised electrical connection criminal cases reported. The findings obtained from 50 one-on-one interviews and ten site observations of ten unauthorised electrical connection scenes were statistically presented in the form of a frequency and percentage tables, together with the researcher's interpretations and deductions. The 50 ESKOM KwaZulu-Natal Operating Unit's criminal case docket raw data was consolidated into categories, analysed and interpreted accordingly as revealed in the actual criminal case dockets perused.

CHAPTER 5

FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

This study was conducted as a result of the huge challenges that unauthorised electrical connections pose to electricity utilities globally. These challenges include public safety risks, fatalities, property damage and overloading of electrical networks, resulting in transformer and infrastructure failures, as well as prolonged and unplanned power cuts. Consequently, unauthorised electrical connections will lead to the interruption of electricity supply to 'compliant customers', increased repair and maintenance costs, the loss of energy and lost revenue, often with disastrous effects on critical services such as clinics, hospitals and schools. The aim of this study was to ascertain the nature and extent of unauthorised electrical connections in KwaZulu-Natal to determine how unauthorised electrical connections are at present being combated, and to explore which measures may be implemented to improve the combating of unauthorised electrical connections. The data collected through one-on-one interviews, site observations and case dockets were analysed, interpreted and deductions were made and presented in Chapter 4. This chapter presents the findings and recommendations for this study.

5.2 RESEARCH OVERVIEW

Electricity is vital within all communities because life is easier when using electricity for modern conveniences such as cellular phones, computers, traffic lights, stoves, and water pumps. Unauthorised electrical connections are a major problem globally. This non-technical loss has a negative effect on the already overburdened electricity supply. Electricity utilities are more concerned with the loss of lives caused by unauthorised electrical connections, as opposed to the loss of revenue. Accordingly, this study sought to provide methods to combat unauthorised electrical connections in KwaZulu-Natal. Furthermore, the research sought to overcome challenges experienced by electricity utilities to combat unauthorised electrical connections in KwaZulu-Natal. In South Africa, unauthorised electrical connections are not classified as priority crimes within the criminal justice system. Furthermore, the value of stolen

electricity cannot be measured accurately owing to the covert nature of the crime. This results in legal cases addressing unauthorised electrical connection being finalised with minimal sentences or even dismissed. In this study, one-on-one interviews were conducted with 50 interviewees who worked directly with incidences of unauthorised electrical connections within their departments. These interviewees were from ESKOM's various departments, external entities that procure electricity from ESKOM and community organisations, as discussed in Chapter 3 of this study.

5.3 RESEARCH FINDINGS

5.3.1 Research Question 1: What is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?

It was found that:

1. Electricity utilities do not have legally binding unauthorised electrical connection policies, procedures and regulations which would offer guidelines to combating unauthorised electrical connections and identifying which sections of the legal system needs to be improved or corrected.
2. Utilities do not use reinforced protective enclosures for equipment; converting to under-ground cables; visual meter audit inspections and meter audits of low consumption customers; installation of a remote monitoring system on the electricity network; use of reinforced protective enclosures for equipment; converting under-ground cables to overhead cables; and conducting regular visual inspections and meter audits on low consumption accounts.
3. Illegal electrical connections are installed in various areas throughout KwaZulu-Natal, South Africa namely Chatsworth, Lamontville, Pietermaritzburg, Cato Ridge, Inchanga, Umgababa, Edendale, Mbali, Umlazi, KwaMashu, Masinenge, Kenville, Clare Estate, Umzinto, Ixopo, oThongathi, oThongathi and Park Rynie.

5.3.2 Research Question 2: How are unauthorised electrical connections presently being combated in KwaZulu-Natal, South Africa?

It was found that:

1. Communities do not take ownership of their environment by ensuring that unauthorised electrical connections are eradicated from their own area.
2. Electricity utilities, government, municipalities and stakeholders do not join forces to combat the theft of electricity. There is no positive, political motivation, leadership support, management and administration of electricity utilities in the fight against unauthorised electrical connections. Leaders of religious organisations are silent about this practice that is dangerous, harmful or unethical and in conflict with the rule of law. Communities are not encouraged to report suspected crimes to the various anonymous crime telephone lines dedicated for this purpose or by reporting directly to the SAPS, municipalities or CPF in the area.
3. All electricity utilities do not employ dedicated security management teams that can assist in combating unauthorised electrical in collaboration with stakeholders. These staff are not vetted and do not have proper security registration with the Private Security Industry Regulatory Authority (PSiRA). Electricity utilities must implement effective disciplinary or corrective processes to manage corruption. All ESKOM employees and ESKOM contractors are bound by ESKOM's Code of Ethics, which describes acceptable ESKOM behaviour. The installation of unauthorised electrical connections constitutes unethical practice or behaviour. These transgressions can result in disciplinary action, criminal charges and legal proceedings, both with financial repercussions.
4. Collaborations between the SAPS, private security personnel, neighbourhood watches, communities, SAPS Crime Prevention members and Durban's eThekweni Municipality Metropolitan Police Department are not fostered. This would entail foot and vehicle patrols in hotspot areas where unauthorised electrical connections are widespread or electronically by means of CCTV video surveillance cameras. Thereafter the 'Safety network' phenomenon can be implemented whereby private security companies within communities that they protect, together with that community, establishes and funds a non-profit community based security company.

5. There is no infiltration and networking of the SADF, the Hawks, SAPS' Organised Crime Unit, SAPS' Crime Prevention, SAPS' FLASH, SAPS' Crime Intelligence and Durban's eThekweni Municipality Metropolitan Police Department into communities affected by unauthorised electrical connections.
6. Informers are not recruited from communities since this is where most of the information regarding perpetrators who install unauthorised electrical connections could be gathered. The SAPS' Witness Protection Programme is not used to protect informers that feel that they are in danger, despite the fact that this could encourage members of communities who have valuable information not to be fearful or feel intimidated and report unauthorised electrical connections.
7. The SAPS National Commissioner's Office must circulate a minute to all SAPS police stations informing them of the newly implemented Criminal Matters Amendment Act, 2015 (Act No 18 of 2015) rendering illegal electrical connections to be classified as a criminal offence.
8. All utilities' integrated electrical technology is not aligned with security systems that have proper electrical infrastructure and effective information systems.

5.3.3 Research Question 3: What measures may be implemented to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

It was found that:

1. The contractors that are contracted by utilities to do audits are not vetted and do not sign the legally binding, legal power-vetting certificate or security clearance which is valid for three years in an attempt to prevent corruption and collusion with home owners.
2. All electricity utilities do not execute frequent audits on their lines to ascertain points of unauthorised electrical connections and high consumption of electricity.
3. Perpetrators are not issued with tamper notices, sanctioned or prosecuted by law enforcement to pay for the use of electricity based on the number of rooms and number of people residing in the house.
4. All electrical utilities do not have proper material management and controls.

5.4 SITE OBSERVATION FINDINGS

It was found that:

1. There are many areas where theft of electricity is widespread.
2. There are unauthorised electrical connections that are unsafe and not according to ESKOM standards.
3. Telkom cables that are stolen from the field is used on ESKOM's network.
4. Pre-paid and conventional electrical meters belonging to ESKOM is not signed and accounted for according to its serial number using ESKOM's Material Asset Tracking System.

5.5 CASE DOCKET ANALYSIS FINDINGS

It was found that:

1. All reports are not allocated with an investigation task order number, which can be used for filing, investigation and document control.
2. There is no proper pro forma that is used by ESKOM call-centres to correctly record information required for the further investigation by the investigators.
3. All case dockets did not contain photographs of the investigated scenes, which were taken before and after the disconnection and removal of unauthorised electrical connections to prove that ESKOM has tried to combat unauthorised electrical connections at that scene should there be a fatality due to an electrocution.
4. All electrocutions owing to unauthorised electrical connections were not reported to ESKOM by the SAPS or communities to enable the scene to be normalised, made safe and the case investigated.
5. ESKOM does not schedule 'sting removal operations' to locate, disconnect and remove unauthorised electrical connections.

6. No audits are conducted in the areas where unauthorised electrical connections were removed to prevent resulting in duplication of investigation task orders, disconnections and removals.

5.6 RECOMMENDATIONS

5.6.1 Research Question 1: What is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?

It is recommended that:

- **Policies and procedures are formulated by electricity utilities**
Electricity utilities must immediately formulate and implement theft of electricity policies, procedures and regulations.
- **Prevention of unauthorised electrical connections**
Utilities must implement preventative measures.
- **Extent of unauthorised electrical connections**
These are the areas identified as hot spots where crime combatting operations should be formed: Chatsworth, Lamontville, Pietermaritzburg, Cato Ridge, Inchanga, Umgababa, Edendale, Mbali, Umlazi, KwaMashu, Masinenge, Kenville, Clare Estate, Umzinto, Ixopo, oThongathi, oThongathi & Park Rynie.
- **Community involvement**
Communities must take ownership of their environment by ensuring that unauthorised electrical connections are eradicated from their own area.

5.6.2 Research Question 2: How are unauthorised electrical connections presently being combated in KwaZulu-Natal, South Africa?

It is recommended that:

- **Stakeholder support**

Electricity utilities, government leadership, municipalities and stakeholders must join forces to combat unauthorised electrical connections.

- **Utilities involvement in security management**

All electricity utilities must employ and vet dedicated, PSiRA registered, Security Management teams that can assist in combating unauthorised electrical in collaboration with stakeholders.

- **Private Security involvement with utilities**

Collaborations should be fostered with police stations, private security personnel, neighbourhood watches, communities, SAPS' Crime Prevention members and Durban's eThekweni Municipality Metropolitan Police Department.

- **Crime Intelligence**

There should be crime intelligence infiltration and networking of the SADF, the Hawks, SAPS' Organised Crime Unit, SAPS' Crime Prevention, SAPS' FLASH, SAPS' Crime Intelligence and Durban's eThekweni Municipality Metropolitan Police Department into communities affected by unauthorised electrical connections.

- **Recruitment of informers**

Informers must be recruited from communities rife with unauthorised electrical connections.

- **The Criminal Matters Amendment Act, 2015 (Act No 18 of 2015)**

The SAPS National Commissioner's Office must circulate a minute to all SAPS police stations informing them of the newly implemented Criminal Matters Amendment Act, 2015, Act No 18 of 2015, rendering illegal electrical connections to be classified as a criminal offence.

- **Use of technology**

All integrated electrical technology should be aligned with security systems that have proper electrical infrastructure and effective information systems.

5.6.3 Research Question 3: What measures may be implemented to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

It is recommended that:

- **Vetting of Audit Contractors**
Audit contractors should be vetted.
- **Auditing of electrical lines**
All electricity utilities must frequently visually audit their lines.
- **Issuing of tamper notices and sanctions**
Perpetrators' must be issued with tamper notices, sanctioned and or prosecuted by law enforcement.
- **Material management at utilities**
All electrical utilities must implement proper material management and controls using ESKOM's Meter Auditing Tracking System (MATS).

5.7 SITE OBSERVATION RECOMMENDATIONS

It is recommended that:

1. The areas where theft of electricity is widespread must be immediately connected with legal electricity.
2. All unauthorised electrical connections that are unsafe and not according to ESKOM's standard must be removed and replaced with legal electrical connections.
3. Telkom must convert their easily available cable to optic fibre that is not compatible to be used on ESKOM's network.
4. Pre-paid and conventional electrical meters belonging to ESKOM must be signed and accounted for according to its unique serial number using ESKOM's Meter Auditing Tracking System (MATS).

5.8 CASE DOCKET ANALYSIS RECOMMENDATIONS

It is recommended that:

1. All reports be allocated with an investigation task order number.
2. An unauthorised electrical connection pro forma must be used by the ESKOM call-centres to correctly record information required for the investigation.
3. Photographs must be taken of the investigated scenes, before and after the disconnection and removal of unauthorised electrical connections.
4. All electrocutions owing to unauthorised electrical connections must be reported to ESKOM by the SAPS or communities to enable the scene to be normalised and made safe.
5. ESKOM should schedule 'sting removal operations' to locate, disconnect and remove unauthorised electrical connections.

6. Audits must be conducted in the areas where unauthorised electrical connections were removed to prevent duplication of investigation task orders, disconnections and removals.

5.9 RECOMMENDATIONS FOR FURTHER RESEARCH

This study focused on the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa. However, there is a requirement for further research on revenue losses, safety concerns, methods used to install unauthorised electrical connections, new legislation deeming unauthorised electrical connections to be classified as a priority crime as well as their serious impact on the electricity network and on the South African economy. This will benefit academia and electricity utilities.

5.10 CONCLUSION

This research focused on the combating of unauthorised electrical connections. The goal of this study was to enhance the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa. It was established that through its employees, contractors, processes, systems and technology, ESKOM has the capacity to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa. No alternative can supplement this power and ensure its future sustainability. Appropriate awareness of the problem is required for it to be effectively treated and managed. The emphasis was placed on utilities to contact consumers and stakeholders to find ways of combating this problem. Practical recommendations were formulated based on the research findings, which could help electricity utilities to combat unauthorised electrical connections.

This study aims to amplify the serious nature of unauthorised electrical connections, explored the repercussions of this escalating crime, and proposed an efficient security risk management approach towards improving security measures within electricity utilities.

Although it became clear that it will be a long complicated process, there are heartening signs. An Eskom newsletter of 21 November 2016 announced that the Marketing Department would be running a community media radio campaign in November and December 2016 to change the mind-set of the electricity users and the public at large. The newsletter states that it is critical to educate the semi-rural to rural communities' and pupils about the dangers of illegal and unsafe connections and the impact of this behaviour which can ultimately result in anarchy, loss of limbs or life. It is announced that Operation Khanyisa will be rolling out initiatives aimed at influencing behavioural change and reducing safety incidents by helping communities understand the dangers of electricity. The researcher is hopeful and positive that such initiatives combined with escorting, response, visible security risk control measures and an approach based on crime prevention will make positive contributions to the combating of unauthorised electrical connections.

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Interviewee 32, 2015, CPF chairperson from the South African Police Service in KwaZulu-Natal, South Africa that is affected by unauthorised electrical connection, 10 November.

Interviewee 33, 2015, CPF chairperson from the South African Police Service in KwaZulu-Natal, South Africa that is affected by unauthorised electrical connections, 4 November.

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Interviewee 36, 2017, CPF chairperson from the South African Police Service in KwaZulu-Natal, South Africa that is affected by unauthorised electrical connection, 28 September.

Interviewee 37, 2017, CPF chairperson from the South African Police Service in KwaZulu-Natal, South Africa that is affected by unauthorised electrical connection, 02 October.

Interviewee 38, 2017, CPF chairperson from the South African Police Service in KwaZulu-Natal, South Africa that is affected by unauthorised electrical connection, 26 September.

Interviewee 39, 2017, CPF chairperson from the South African Police Service in KwaZulu-Natal, South Africa that is affected by unauthorised electrical connection, 13 October.

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Interviewee 43, 2017, Interview with community member from the scene at Breamar, Umzinto, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, 23 September.

Interviewee 44, 2017, Interview with community member from the scene at Sanathan informal settlement, Umzinto, South Coast, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, 23 September.

Interviewee 45, 2017, Interview with community member from the scene at Railway Houses, Highflats, Ixopo, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, 22 September.

Interviewee 46, 2017, Interview with community member from the scene at Frasers Informal Settlement, oThongathi, Durban, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, 27 September.

Interviewee 47, 2017, Interview with community member from the scene at Emona rural, oThongathi, Durban, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, 27 September.

Interviewee 48, 2017, Interview with community member from the scene at Textile Road, Umzinto, Durban South, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, 23 September.

Interviewee 49, 2017, Interview with community member from the scene at Dududu Rural, Park Rynie, Durban South, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, South Africa, 23 September.

Interviewee 50, 2017, Interview with community member from the scene at Network Breaker71, Driefontein rural, oThongathi, Durban, KwaZulu-Natal, South Africa where unauthorised electrical connection where observed, 27 September.

ANNEXURE A

SCHEDULE OF INTERVIEW QUESTIONS

THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS IN KWAZULU-NATAL, SOUTH AFRICA

SECTION A

Demographic details

Indicate your choice by marking the appropriate selected blank block with an "X"

The following questions are for statistical purposes only:

1. Gender

Male	1	
Female	2	

2. Age range

15-20 years	1	
21-30 years	2	
31-40 years	3	
41-50 years	4	
51-60 years	5	
61-70 years	6	
70-80 years	7	
80 years +	8	

3. Race

Indian	1	
Asian (other than Indian)	2	
Black	3	
Coloured	4	
White	5	

4. Highest educational qualification obtained

Did not attend school	1	
Standard 8 / Grade 10 and below	2	
Standard 9 / Grade 11	3	
Standard 10 / Grade 12	4	
Certificate	5	
Diploma (3 years)	8	
Degree	10	
Postgraduate degree	11	

5. What is your rank / occupation/position in your community?

Executive Director	1	
Director	2	
Superintendent	3	
Officer	4	
Inspector	5	
Councillor	6	
Leader	7	
Community Leader	8	
Member of the Community	9	
Other	10	

SECTION B

Nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa

Indicate your choice by marking the appropriate selected blank block with an “X” or write a response in the space provided

6. What is your understanding of the concept unauthorised electrical connections?

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7. Do you know how unauthorised electrical connections are carried out in KwaZulu-Natal, South Africa?

Yes	1	
No	2	

8. If your response to question 2 is “Yes” explain in your own words how these unauthorised electrical connections are carried out in KwaZulu-Natal, South Africa.

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9. Can you describe the different types of unauthorised electrical connections observed by you in KwaZulu-Natal, South Africa?

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10. In which areas in KwaZulu-Natal, South Africa, did you observe these unauthorised electrical connections?

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11. In your own observation are the unauthorised electrical connections taking place throughout KwaZulu-Natal, South Africa?

Yes	1	
No	2	

12. What in your opinion is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?

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SECTION C

Present combating of unauthorised electrical connections in KwaZulu-Natal, South Africa

Indicate your choice by marking the appropriate selected blank block with an "X" or write a response in the space provided

13. What is your understanding of the concept combating?

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14. What is your understanding of the concept theft of electricity?

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15. What is your understanding of the concept fraud?

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16. Who is involved in preventing and investigating (combating) unauthorised electrical connections in KwaZulu-Natal, South Africa?

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17. What prevention methods are used in combating unauthorised electrical connections in KwaZulu-Natal, South Africa?

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18. What investigation methods are used in combating unauthorised electrical connections in KwaZulu-Natal, South Africa?

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19. What are the challenges confronting law enforcement with regard to the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

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20. What are the dangers of installing unauthorised electrical connections?

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21. How does ESKOM combat unauthorised electrical connections in your area?

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22. Are ESKOMS' effort in combating unauthorised electrical connections in KwaZulu-Natal, South Africa adequate?

Yes	1	
No	2	

23. Indicate which of the following will help in combating unauthorised electrical connections in KwaZulu-Natal, South Africa?

Giving the homes free electricity	1	
Giving the homes legal electricity	2	
Arresting people who are installing unauthorised electrical connections	3	
Awareness talks to the people who have unauthorised electrical connections installed	4	
Other	5	

24. How does the South African Police Service combat unauthorised electrical connections in your area?

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25. Are the South African Police Services' efforts in combating unauthorised electrical connections in KwaZulu-Natal, South Africa adequate?

Yes	1	
No	2	

26. Are the methods of combating unauthorised electrical connections in KwaZulu-Natal, South Africa successful?

Yes	1	
No	2	
I don't know	3	

27. What in your opinion should be done to effectively and efficiently combat unauthorised electrical connections in KwaZulu-Natal, South Africa?

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SECTION D

Measures to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa

Indicate your choice by marking the appropriate selected blank block with an "X" or write a response in the space provided

28. What measures should be put in place by law enforcement in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

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29. What measures should be put in place by ESKOM to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

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30. What measures should be put in place by South African Police Service to be more effective in the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

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31. Will coming into your area and speaking to you about the dangers unauthorised electrical connections improve the combating of unauthorised electrical connections?

Yes	1	
No	2	

32. Will the provision of electricity in this area solve the problem of unauthorised electrical connections?

Yes	1	
No	2	

ANNEXURE B

SITE OBSERVATION CHECKLIST

TITLE:

THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS IN
KWAZULU-NATAL, SOUTH AFRICA

The following key research questions guided the study:

- **What is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?**
- **How are unauthorised electrical connections presently being combatted in KwaZulu-Natal, South Africa?**
- **What measures may be implemented to improve the combatting of unauthorised electrical connections in KwaZulu-Natal, South Africa?**

THE FOLLOWING VARIABLES WERE OBSERVED AT TEN SCENES OF
UNAUTHORISED ELECTRICAL CONNECTIONS IN KWAZULU-NATAL,
SOUTH AFRICA

- a) Date
- b) Time
- c) Place of incident
- d) Modus operandi
- e) Nature and extent of damage
- f) Unauthorised use of cables
- g) Instruments/equipment used
- h) Number of houses with unlawful connections
- i) Any injuries or fatalities reported
- j) Power outages experienced by legal customers
- k) Load shedding

- l) Substandard material used, e.g. barbed wire and twin flex with pieces of plastic
- m) Plastic packets used to tie and join the cables together
- n) Damage to transformer boxes leaking oil due to overload
- o) Damage to Eskom, KwaZulu-Natal, South Africa pre-paid meter boxes
- p) Infrastructure damage
- q) Dangerous nature to public and livestock
- r) Homes are burnt down
- s) Property damaged, i.e. microwave, fridge and stove
- t) Poor economic development
- u) Damaged electrical infrastructure
- v) Many people walking around due to unemployment
- w) Homeowners pull out the unauthorised electrical lines when the removal team arrive and reconnect when the removal team leaves the area
- x) Community officials becoming violent due to removal of unauthorised electrical connections

ANNEXURE C

CASE DOCKET ANALYSIS PROFORMER

TITLE:

THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS IN
KWAZULU-NATAL, SOUTH AFRICA

The following key research questions guided the study:

- What is the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?
- How are unauthorised electrical connections presently being combatted in KwaZulu-Natal, South Africa?
- What measures may be implemented to improve the combatting of unauthorised electrical connections in KwaZulu-Natal, South Africa?

THE FOLLOWING VARIABLES WERE EXPLORED DURING THE CASE DOCKET ANALYSIS OF FIFTY, ESKOM, KWAZULU-NATAL, OPERATING UNITS, CRIMINAL CASE DOCKETS

- (a) Date
- (b) Time
- (c) Place
- (d) Modus operandi
- (e) Nature and extent of damage
- (f) Unauthorised use of cables
- (g) Instruments used
- (h) Number of houses with unauthorised electrical connections
- (i) Injuries or fatalities reported

PERMISSION LETTER FROM ESKOM



SECURITY MANAGEMENT PROGRAMME
 DEPT. OF CRIMINOLOGY & SECURITY SCIENCE
 SCHOOL OF CRIMINAL JUSTICE, COLLEGE OF LAW
Prof. D Govender
 Tel: (+27) (0)12-433 9482 Cell: 0828174111
 e-mail: govend1@unisa.ac.za
 F1-81 Brooklyn House, 337 Veale St, Brooklyn.

Muckleneuk Campus
 Preller St
 Muckleneuk Ridge, Pretoria
 PO Box 392
 UNISA 0003
 City of Tshwane
 Gauteng, South Africa

9th September 2015

Mr Azwi Mamanyuha
General Manager: KWA Zulu Natal Operating Unit
25 Valley View Road
New Germany
Durban

Dear Mr Azwi Mamanyuha

REQUEST FOR PERMISSION TO UNDERTAKE RESEARCH AT ESKOM, KWA ZULU NATAL OPERATING UNIT

Miss V.G. Chetty (Student Number: 31995802) is currently a MTech student in the Department of Criminology and Security Science (Programme Security Management), School of Criminal Justice, College of Law at the University of South Africa (UNISA), and is busy with her research study for a MTech in Security Management. Her research study title is: "THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTION IN KWA ZULU NATAL".

I would like to request formal permission for Miss V.G. Chetty to undertake fieldwork research within Eskom KWA Zulu Natal Operating Unit.

The research study seeks to address the following objectives:

- Determine the nature and extent of unauthorised electrical connection in KWA Zulu Natal.
- Ascertain how unauthorised electrical connections are presently being combatted in KWA Zulu Natal.
- Find measures to improve the combatting of unauthorised electrical connection in KWA Zulu Natal.

The researcher will develop specific interview questions to inform the three key objectives of the research study. The researcher would like to interview a limited number of employees that have direct or indirect knowledge of the combating of unauthorised electrical connection in KWA Zulu Natal. These interviews will focus on the combating of unauthorised electrical connection in KWA Zulu Natal. Follow-up interviews or telephone interviews will be done if necessary.

Once permission is granted to Miss V.G. Chetty to undertake the research at Eskom KWA Zulu Natal Operating Unit please inform her accordingly. Miss V.G. Chetty will then be in touch directly with you or a representative of your company for the scheduling of any interviews or administering of the research questions with relevant employees in the organisation.



Miss V.G. Chetty can be directly contacted at the following:

Cell: 0827965000
Email: chettyva@eskom.co.za

In his research the researcher will endeavour to take into account all relevant ethical considerations, especially in relation to the freedom from physical or psychological harm; disclosure about the nature of the research and privacy. Participation in the research interviews will also be on a voluntary basis. All the information that is received from the participants or respondents will be treated with the utmost confidentiality (i.e. respondents will remain anonymous and no reference will be made in the research report to their identity or name of the company/organisation for which they work).

The final dissertation (research report) once accepted will be placed in the UNISA library and therefore in the public domain and can be accessed by interested parties.

If any confirmation or other information is needed I can be personally contacted at the above telephone and cell numbers and e-mail address.

Attached for your further information is the research proposal, together with a draft set of interview questions.

Thanking you
Regards



Prof D Govender
Programme: Security Management
Department of Criminology & Security Science
School of Criminal Justice, College of Law
University of South Africa

Azazi Mamanyaha
Gm: KZNDU
16/11/2015



SECURITY MANAGEMENT PROGRAMME
 DEPT. OF CRIMINOLOGY & SECURITY SCIENCE
 SCHOOL OF CRIMINAL JUSTICE, COLLEGE OF LAW
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 F1-81 Brooklyn House, 337 Veale St

Muckleneuk Campus
 Preller St
 Muckleneuk Ridge, Pretoria
 PO Box 392
 UNISA 0003
 City of Tshwane
 Gauteng, South Africa

17th July 2015

Mr Maphumulo
Electricity Manager: eThekweni Municipality
1 Jelf Taylor Crescent
Durban

Dear Mr Maphumulo

REQUEST FOR PERMISSION TO UNDERTAKE RESEARCH AT ETHEKWENI MUNICIPALITY

Miss V.G. Chetty (Student Number: 31995802) is currently a MTech student in the Department of Criminology and Security Science (Programme Security Management), School of Criminal Justice, College of Law at the University of South Africa (UNISA), and is busy with her research study for a MTech in Security Management. Her research study title is: "THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTION IN KWA ZULU NATAL".

I would like to request formal permission for Miss V.G. Chetty to undertake fieldwork research at ETHEKWENI MUNICIPALITY.

The research study seeks to address the following objectives:

- Determine the nature and extent of unauthorised electrical connections in KWA Zulu Natal.
- Ascertain how unauthorised electrical connections are being presently being combatted in KWA Zulu Natal.
- Find measures to improve the combatting of unauthorised electrical connections in KWA Zulu Natal.

The researcher will develop specific interview questions to inform the three key objectives of the research study. The researcher would like to interview a limited number of employees that have direct or indirect knowledge of the combating of unauthorised electrical connections in KWA Zulu Natal, at EThekweni Municipality. These interviews will focus on the combating of unauthorised electrical connections in KWA Zulu Natal. Follow-up interviews or telephone interviews will be done if necessary.

Once permission is granted to Miss V.G. Chetty to undertake the research at eThekweni Municipality please inform her accordingly. Miss V.G. Chetty will then be in touch directly with you or a representative of your company for the scheduling of any interviews or administering of the research questions with relevant employees in the organisation.



Miss V.G. Chetty can be directly contacted at the following:

Cell: 0827965000
Email: chettyva@eskom.co.za

In his research the researcher will endeavour to take into account all relevant ethical considerations, especially in relation to the freedom from physical or psychological harm; disclosure about the nature of the research and privacy. Participation in the research interviews will also be on a voluntary basis. All the information that is received from the participants or respondents will be treated with the utmost confidentiality (i.e. respondents will remain anonymous and no reference will be made in the research report to their identity or name of the company/organisation for which they work).

The final dissertation (research report) once accepted will be placed in the UNISA library and therefore in the public domain and can be accessed by interested parties.

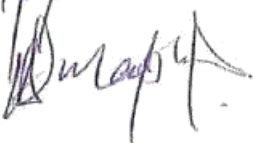
If any confirmation or other information is needed I can be personally contacted at the above telephone and cell numbers and e-mail address.

Attached for your further information is the research proposal, together with a draft set of interview questions.

Thanking you
Regards



Prof D Govender
UNISA MTech Supervisor
Programme: Security Risk Management
Department of Criminology & Security Science
School of Criminal Justice, College of Law

Approved




PERMISSION LETTER FROM SAPS

SECURITY MANAGEMENT PROGRAMME
 DEPT. OF CRIMINOLOGY & SECURITY SCIENCE
 SCHOOL OF CRIMINAL JUSTICE, COLLEGE OF LAW
Prof. D Govender
 Tel: (+27) (0)12-433 9482 Cell: 0828174111
 e-mail: govendI@unisa.ac.za
 F1-81 Brooklyn House, 337 Veale St, Brooklyn.

Muckleneuk Campus
 Preller St
 Muckleneuk Ridge, Pretoria
 PO Box 392
 UNISA 0003
 City of Tshwane
 Gauteng, South Africa

9th September 2015

Lieutenant General B.M. Ngobeni
Provincial Commissioner: KWA Zulu Natal
15 Bramfisher Road
Durban

Dear Lieutenant General Ngobeni

REQUEST FOR PERMISSION TO UNDERTAKE RESEARCH AT SOUTH AFRICAN POLICE SERVICE IN KWA ZULU NATAL

Miss V.G. Chetty (Student Number: 31995802) is currently a MTech student in the Department of Criminology and Security Science (Programme Security Management), School of Criminal Justice, College of Law at the University of South Africa (UNISA), and is busy with her research study for a MTech in Security Management. Her research study title is: "THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTION IN KWA ZULU NATAL".

I would like to request formal permission for Miss V.G. Chetty to undertake fieldwork research within South African Police Services KWA Zulu Natal.

The research study seeks to address the following objectives:

- Determine the nature and extent of unauthorised electrical connection in KWA Zulu Natal.
- Ascertain how unauthorised electrical connections are presently being combatted in KWA Zulu Natal.
- Find measures to improve the combatting of unauthorised electrical connection in KWA Zulu Natal.

The researcher will develop specific interview questions to inform the three key objectives of the research study. The researcher would like to interview a limited number of employees that have direct or indirect knowledge of the combating of unauthorised electrical connection in KWA Zulu Natal. These interviews will focus on the combating of unauthorised electrical connection in KWA Zulu Natal. Follow-up interviews or telephone interviews will be done if necessary.

Once permission is granted to Miss V.G. Chetty to undertake the research at South African Police Services in KWA Zulu Natal please inform her accordingly. Miss V.G. Chetty will then be in touch directly with you or a representative of your company for the scheduling of any interviews or administering of the research questions with relevant employees in the organisation.



Miss V.G. Chetty can be directly contacted at the following:

Cell: 0827965000
Email: chettyva@eskom.co.za

In her research the researcher will endeavour to take into account all relevant ethical considerations, especially in relation to the freedom from physical or psychological harm; disclosure about the nature of the research and privacy. Participation in the research interviews will also be on a voluntary basis. All the information that is received from the participants or respondents will be treated with the utmost confidentiality (i.e. respondents will remain anonymous and no reference will be made in the research report to their identity or name of the company/organisation for which they work).

The final dissertation (research report) once accepted will be placed in the UNISA library and therefore in the public domain and can be accessed by interested parties.

If any confirmation or other information is needed I can be personally contacted at the above telephone and cell numbers and e-mail address.

Attached for your further information is the research proposal, together with a draft set of interview questions.

Thanking you
Regards



Prof D Govender
Programme: Security Management
Department of Criminology & Security Science
School of Criminal Justice, College of Law
University of South Africa



SUID-AFRIKAANSE POLISIEDIENS



SOUTH AFRICAN POLICE SERVICE

Privaatsak/Private Bag X94

Reference Nr Verwysing	3/34/2
Navrae Enquiries	Lt-Col GJ Joubert
Telefoon Telephone	012-393 3118
Faksnommer Fax number	012-393 3178

**STRATEGY, RESEARCH MONITORING AND
EVALUATION
HEAD OFFICE
PRETORIA**

The Provincial Commissioner
KWAZULU-NATAL

(Att: Col Van der Linde/ Ms Moodley)

RE: RESEARCH PROPOSAL: THE COMBATTING OF UNAUTHORISED ELECTRICAL CONNECTION IN KWAZULU-NATAL; UNISA; M-TECH; RESEARCHER: VG CHETTY

1. The research request of Ms Vanisha Chetty pertaining to the above mentioned topic, refers.
2. The aim of this research is to find measures to improve the combatting of unauthorised electrical connections in Kwazulu-Natal by specifically exploring the present combating of unauthorised electrical connections in Kwazulu-Natal (see proposal attached).
3. The researcher is requesting permission to interview 30 experts at police stations in areas in Kwazulu-Natal most affected by unauthorised electrical connections. She is also requesting permission to conduct a docket analysis of reported unauthorised electrical connection cases. This office is recommending that access to dockets, for the purpose of this research, is limited to closed dockets only.
4. The proposal was perused according to National Instruction 1 of 2006 by this office and it is recommended that permission be granted for the research, subject to the final approval and further arrangements by the office of the Provincial Commissioner: Kwazulu-Natal and that the undertaking be obtained from the researcher prior to the commencement of the research that –
 - 4.1. the research will be at her exclusive cost;
 - 4.2. she will conduct the research without any disruption of the duties of members of the Service and where it is necessary for the research goals, research procedure or research instruments to disrupt the duties of a member, prior arrangements must be made with the commander of such member;
 - 4.3. the information will at all times be treated as strictly confidential;

RE: RESEARCH PROPOSAL: THE COMBATTING OF UNAUTHORISED ELECTRONICAL CONNECTION IN KWAZULU-NATAL; UNISA; M-TECH; RESEARCHER: VG CHETTY

- 4.4 the researcher should bear in mind that participation in the interviews must be on a voluntary basis, and
- 4.5 The researcher will provide an annotated copy of the research work to the Service.

With kind regards,



MAJOR GENERAL
HEAD, STRATEGY, RESEARCH MONITORING AND EVALUATION
M MENZIWA

Date: 2015/11/04

South African Police
Service



Suid-Afrikaanse
Polisiediens

Umbutho Wamaphoyisa Aseningizimu-Afrika

Our Reference / U Verwysing / Inkomba Yakho

My Reference / My Verwysing / Inkomba Yami

Enquiries / Navrae / Buza

Telephone / Telefoon / Ucingo

Fax No / Faks No

25/7/12/2/3 (305)

Colonel A.D. van der Linde / CAC R. Moodley

031 – 325 4841 / 6116

031 – 325 6022

THE PROVINCIAL COMMISSIONER

KWAZULU-NATAL

P O BOX 1965

DURBAN

4000

Ms V.G. Chetty
17 Olsen Road
Brighton Beach
DURBAN
4052

Dear Ms Chetty

RE: RESEARCH REQUEST: THE COMBATTING OF UNAUTHORISED ELECTRONICAL CONNECTION IN KWAZULU-NATAL: UNISA: M-TECH: RESEARCHER: MS VG CHETTY

Attached, please find Head Office minute 3/34/2 dated 2015-11-04 regarding permission to conduct the above-mentioned research.

Recommendation to conduct the said research has been granted in terms of National Instruction 1/2006 (SAPS Research Policy).

Approval from the office of the Provincial Commissioner is hereby granted to conduct the said research only at the following police stations, ie.. SAPS Bellair, Durban Central, Mountain Rise, Phoenix, Port Shepstone and Umzinto.

RE: RESEARCH REQUEST: THE COMBATTING OF UNAUTHORISED ELECTRONICAL CONNECTION IN KWAZULU-NATAL: UNISA: M-TECH: RESEARCHER: MS VG CHETTY

Paragraph 4 of minute 3/34/2 dated 2015-11-04 from the Office of National Strategic Management must be adhered to.

Attached, please find statement of undertaking that must be completed and returned to this office (MoodleyRohine@saps.gov.za) prior to the commencement of the research study.

For any queries, please contact Colonel A.D. van der Linde on the following numbers:

Office: 031 325 4841

Cell: 082 496 1142

Thank you.



.....MAJOR GENERAL
DEPUTY PROVINCIAL COMMISSIONER: PHYSICAL RESOURCES MANAGEMENT:
KWAZULU-NATAL
P.E. RADEBE

DATE: 2015-11-18

ANNEXURE G

INFORMED DOCUMENT OF CONSENT

Department of Criminology & Security Science – University of South Africa

TITLE:

**THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS
IN KWAZULU-NATAL, SOUTH AFRICA**

Purpose of the research study:

is to find measures to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa by exploring the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa.

Your participation will assist in determining the following:

- the nature and extent of unauthorised electrical connections in KwaZulu-Natal, South Africa?
- How are unauthorised electrical connections presently being combated in KwaZulu-Natal, South Africa?
- What measures may be implemented to improve the combating of unauthorised electrical connections in KwaZulu-Natal, South Africa?

Procedure:

The researcher will ask a series of questions. Your participation in this research is voluntary. You can also withdraw from the research study at any time up to the point when the findings will be published. The information you provide will be treated with confidentiality. The researcher and her supervisor (**Professor Doraval Govender**) will be the only people to have access to the raw interview data. Your name or any other form of identification will not be printed on any other document. There will be no remuneration should you decide to participate in the study. Information from the study will be used to write the research report for this dissertation and articles to be published in scientific journals, which will be placed in the public domain. My participation in this project will contribute to safety in society and guide stakeholders in decision making.

You are welcome to contact the researcher Miss Vanisha Chetty on 0827965000 or her Supervisor Professor Doraval Govender on 0124339482 should you have any enquiries.

I.....(**Name and Surname**) hereby agree and give permission to be interviewed as part of the research study as explained above. The purpose of the research was explained to me. I understand that my participation is voluntary and that I can withdraw from the interview at any time (up to the point of publication). I understand that my identity will not be revealed in the study and will not be published. I have read and understood the above and all my questions have been answered and I therefore agree to:

1. Participate in the interview: **YES / NO**
2. Be audio taped: **YES / NO**
3. Agree that the information I provide may be used in the research report: **YES / NO**

Signature of Respondent..... Date..... Place.....

Signature of Researcher..... Date..... Place.....

ETHICAL CLEARANCE DECISION FROM THE UNIVERSITY OF SOUTH AFRICA



Ref: CLAW2014/ST23

Applicant: V G Chetty

COLLEGE OF LAW RESEARCH ETHICS REVIEW COMMITTEE

2014/05/16

Dear Ms V G Chetty

ETHICAL CLEARANCE DECISION: THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS IN KWA ZULU NATAL

Thank you for the application for research ethics clearance by the College of Law Research Ethics Review Committee for the above mentioned research project. The ethical clearance application for the above mentioned research project has been approved.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics, which can be found at the following website: http://www.unisa.ac.za/cmsys/staff/contents/departments/res_policies/docs/Policy_Research%20Ethics_rev%20app%20Council_22.06.2012.pdf*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Chair of the College of Law's Research Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*
- 3) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

Yours Faithfully,

Prof Marelize Schoeman
Chairperson Research Ethics Review Committee
College of Law

Prof S Songca
Executive Dean
College of Law

University of South Africa
Pretter Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEXURE I: EDITING CERTIFICATE

Date: 09 October 2018

I, Berdine Smit, ID 7712190011083, hereby certify that the MAGISTER TECHNOLOGIAE dissertation by Vanisha Gonasagaree Chetty entitled:

THE COMBATING OF UNAUTHORISED ELECTRICAL CONNECTIONS IN KWAZULU-NATAL, SOUTH AFRICA

has been edited by me according to the Harvard Author-date System APA application.



BERDINE SMIT

BA. Publishing (UPE)



BLUE BIRD CREATIVE COPY



berdine.smit@gmail.com



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