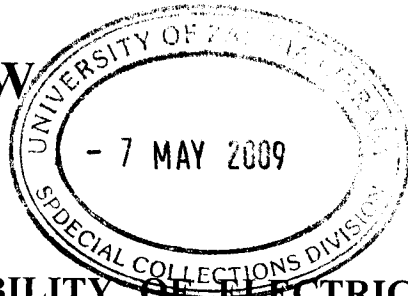


THE UNIVERSITY OF ZAMBIA

SCHOOL OF LAW



**GAPS IN THE LAW ON THE LIABILITY OF ~~ELECTRICITY~~
SUPPLY COMPANIES FOR DAMAGE CAUSED BY POWER CUTS;
DOES THE CONSUMERS' REDRESS LIE ONLY IN TORT?**

BY

GRACE KUMWENDA

**A DISSERTATION SUBMITTED TO THE UNIVERSITY OF ZAMBIA IN
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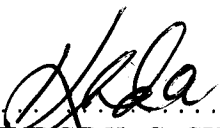
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CONSUMERS' REDRESS LIE ONLY IN TORT?**

is approved as fulfilling the requirements or partial fulfillment of the requirements for
the award of the Bachelor of Laws Degree by the University of Zambia.

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ABSTRACT

The need for sustainable development cannot be overemphasized, as development encompasses the social, economic, cultural and even moral well-being of the individuals. Indeed it has long been submitted that development is one of the many factors necessary for realization of economic self-reliance. Alongside such development however, are issues such as that of the energy sector of a particular country and how this sector plays a role in development, which if not checked would cause harm not only to mankind, but also to the economy of the country as a whole.

Energy is very important to development in that all sectors of any particular economy seem to depend on it; electricity for instance, forms the basis of all proper functioning of industries that have machinery that runs on power. In this regard it is a must that countries should enact laws which effectively regulate the energy sector and are at the same time user-friendly especially during a time when the country is faced with a crisis such as that of electricity outages.

Zambia has been experiencing electricity shortages and it is quite clear that the end to these shortages is not in sight. These shortages have been attributed to the increase in electricity demand. The Zambia Electricity Supply corporation (ZESCO) has embarked on an acute load-shedding schedule in response to the unforeseen increase in Electricity demand and people do not have access to this schedule. However, ZESCO does not adhere to the schedule and this is what has caused much loss and damage because consumers are not adequately prepared for the sudden interruption of power for which they were not notified of.

Ideal tort law exists to minimize absolute losses to society. In tort when property is damaged or destroyed, its owner can recover damages as of course, not only for its replacement or repair cost but also for any other consequential losses he/she suffers owing to its non-availability, provided of course, the losses claimed are not too remote. Torts are defined as wrongful or unreasonable acts (or omissions) that cause harm to another person in some way; whether physical or financial. There are two basic kinds of torts; intentional and unintentional (includes negligence and strict liability).¹

ACKNOWLEDGEMENTS

This was not an easy topic to research on. To delve into a past so recent that it is within many people's living memory is to invite the exposure of one's mistakes. Many people helped me to minimize the opportunities for such embarrassment.

State Counsel Elijah Banda and the staff of MNB Legal Practitioners provided courteous assistance and facilitated my research into foreign cases. My learned colleagues Tom Mzumara and Mbayi Malama told me the tale that formed the distant seed of inspiration for this dissertation.

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I am also indebted to various persons from institutions relevant to my research and these include, Energy Regulation Board and ZESCO customer service centre staff.

And of course my gratitude and thanks go to my Supervisor Rtd. Judge K. C. Chanda for his patience and guidance along the way. May the good lord continue to bless him so that he will guide more students for many years to come.

Any remaining mistakes are entirely my responsibility.

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LIST OF ABBREVIATIONS

CAP	Chapter
CEC	Copperbelt Energy Corporation
CO.	Company
CORP	Corporation
ED.	Edition
ERB	Energy Regulation Board
GSP	Gross state output
IER	Interrupted Energy rate
INC	Incorporated
LTD.	Limited
LOLP	Loss of load probability
VOLL	Value of lost load
ZAM	Zambia Manufacturers’ Association
ZACCI	Zambia Chamber of Commerce and Industry
ZESCO	Zambia Electricity Supply Corporation

STATUTES

Constitution of the Republic of Zambia Chapter One of the Laws of Zambia

Electricity Act Chapter 433 of the Laws of Zambia

Energy Regulation Act Chapter 436 of the Laws of Zambia

State Proceedings Act Chapter 71 of the Laws of Zambia

CHAPTER ONE

1.0 INTRODUCTION

This introductory chapter offers a brief overview of the primary issues and findings that have been raised by consumers nationwide on the liability of the Zambia Electricity Supply Corporation concerning power interruption related losses and damage. It is an elaboration of the problem at hand and the solution proposed. It also analyses briefly the law of torts and relates it to the issues raised. A more detailed discussion follows in the ensuing chapters.

The Zambia Electricity Supply Corporation (ZESCO) is a statutory body that has monopoly to generate, transmit, distribute and supply electricity to the entire country. Its functions are regulated by the Energy Regulation Board (ERB) and further by the Electricity Act.¹

1.1 STATEMENT OF THE PROBLEM

As Zambia contends with the prospect of periodic power outages over an extended period of time there is serious concern about the effect this will have on our economy. The economic loss being created by continued power outages is too colossal. Companies and industries are losing billions of kwacha through power outages. The damage to both industrial and domestic equipment is just too high. For individuals, the effect does not end at damage to property. It extends to delays in execution of tasks and such delay may subject you to a breach of contract action if you are unable to handle previously scheduled events. Finally yet importantly, there are also issues of frustration and mental distress.

¹ Chapter 433 of the laws of Zambia

The issue that has been raised is what role insurance coverage will play in reducing these losses. As a general principle, insurance is designed to provide protection in the event of an accident. It is not intended to compensate for intentional acts. When the independent system operator decides to pull the plug on a portion of Zambia's power grid for a specific period of time as part of a rolling blackout that certainly represents an intentional act. The state power utility, ZESCO, has embarked on an acute load-shedding schedule that up to now has been met with annoyance and resulted in large costs to businesses and individuals from hastily having to buy generators and alternative power sources in order to stay open. So where then does an individual go to seek redress for damage to property and other financial losses incurred?

1.2 RESEARCH QUESTIONS

The blanket denial of compensation to property owners or economic loss claimants is arbitrary and unacceptable; there must be at least some cases where they should succeed. It follows therefore that individuals should be able to seek redress in other areas of the law such as tort or contract. Thus this dissertation will address the following issues;

- I. Analyse the procedure for generation, distribution and supply of electricity, and the organs responsible for each or all of the functions
- II. The forum under which property owners and other aggrieved individuals should be able to seek redress.
- III. The extent to which a utility company which is state owned can be held liable in view of issues such as sovereign immunity
- IV. Comparison of the Zambian laws with that of other jurisdictions undergoing or have in the recent past undergone a similar situation

- I. The current laws relating to regulation of electricity supply and ways in which the law can be modified to become consumer friendly.

1.3 RATIONALE

There is need to have a comprehensive electricity act which will prioritize the rights of consumers and at the same time ensure that the utility is accountable for all defaults on its part.

The law is seen as an instrument for development and at the same time to preserve order in society. It also has to protect the interests of the people who are meant to abide by it. The Electricity Act offers no remedy to individuals for damage caused by failure of ZESCO to supply and distribute electricity. This is in light of the fact that the government attributes increasing electricity demand to its growing customer base, bullish economic growth, and a late start to the construction of new power plants and have officially taken the blame for a lack of planning for future energy usage.² Indeed the interesting thing is that much talk on power outages has not had the property owners' interests at heart. In spite of government taking the blame, there has been no mention of how to compensate individuals who lose out because of government's lack of foresight. The right to property is a constitutional right which government ought to preserve and enforce. As the law stands now, in all circumstances where government decides to take away an individual's property without his or her consent, government has to compensate that individual unless there was a default on the part of the individual which compelled government to take away the property.³

1.4 METHODOLOGY

The principle method of collecting information in this research was by way of desk research. This was supplemented by field research which involved interviews with officials from ZESCO and consumers

² Post Newspapers; 13/05/08
³ Article 16 of the Constitution of Zambia

in specified areas. Desk research involved consultation of various books and case law, legislation, newspaper articles and reports and journals from relevant institutions.

1.5 WHAT LAW OF TORTS IS

Ideal tort law exists to minimize absolute losses to society. In tort when property is damaged or destroyed, its owner can recover damages as of course, not only for its replacement or repair cost but also for any other consequential losses he/she suffers owing to its non-availability, provided of course, the losses claimed are not too remote. Torts are defined as wrongful or unreasonable acts (or omissions) that cause harm to another person in some way; whether physical or financial. There are two basic kinds of torts; intentional and unintentional (includes negligence and strict liability).⁴ Distinguishing characteristics of torts from other associations between individuals are that in tort, no prior relationship is necessary and most times, there is no prior relationship. The facts are that whereas contracts establish prior agreements, tort law regulates and governs how we can act upon each other and the consequences of acting upon each other. Tort answers questions of; who bears the burden of the losses associated with the action/actor?

In Zambia and anywhere else in the world, electricity is the key to the acceleration of technological and economic development because it drives industry and lack of it means no productivity.

1.6 ELECTRICITY ACT, CHAPTER 433 OF THE LAWS OF ZAMBIA

This is an enactment that was put in place for the purpose of regulating the generation, transmission, distribution and supply of electricity; to provide for matters connected with or incidental to the

foregoing.⁵ This act was established in order to create a relationship between the consumer of electricity and the electricity service provider. By this Act, the duties of the electricity provider are stipulated, which duties create rights for the consumer. So if the provider has a duty, then the consumer has a right to that duty being performed. It is important from the very outset to understand the concept of consumer. According to the Zambian law, the definition of consumer is found in the Electricity Act, Section 2 which defines a consumer as;-

‘A person to whom electricity is supplied under a contract of supply’

The very foremost issue that this Act addresses is that of licensing. Licensing is one of very major aspect of regulation. By licensing, the regulatory body creates rights, duties, powers and so on for the service provider as well as for the consumer. By section 3 of the Act, no person is allowed to establish or carry on any undertaking unless in accordance with this Act and the Energy Regulation Act.⁶

The importance of licensing is profound, it performs a number of functions;-

- a) It stops illegal vending because anyone found dealing in energy supply without a licence is criminalized.
- b) It works to provide revenue for the government because it makes it easy to trace who has a licence and thereby levy them.
- c) It makes the maintenance of checks and balances easy, because once a licence is issued, it stipulates what powers an institution will have and what powers it will not have, based upon which any abuse of power can be ascertained and dealt with.

Licensing also creates consumer rights and obligations of payment of consideration for services rendered. Apart from addressing the issue of licensing, the Act obligates every person who wishes to

⁵ Preamble; Cap 433 of the laws of Zambia

⁶ Cap. 436 of the laws of Zambia

carry out an undertaking to provide electrical energy, to do so without default. Subject to the terms and conditions of the licence issued in accordance with the Energy Regulation Act, every operator of an undertaking is mandated to supply electricity to every consumer who is in a position to make satisfactory arrangements for payment under a contract of supply with that operator.⁷ This section allows a consumer to complain to the Energy Regulation Board of any delay or refusal in or to supply energy and the board will upon receiving such complaint, conduct a hearing of the consumer and the supplier's views and then come up with recommendations as regards what action should be taken and determine the conditions under which the operator shall undertake such supply. It is observed that most of the people in a nation are not aware of the right they have to uninterrupted supply as long as they have paid for it.

The Act also creates powers for the operator of an undertaking in electricity to vary the prices in respect of the supply of electricity to a particular consumer either above or below the charges specified in the licence governing the undertaking and may from time to time alter the charges so varied.⁸

The varying of these charges is as regards;-

- a) The amount of electricity consumed, that is the more electricity consumed, the bigger the charge.*
- b) The uniformity or regularity demand, that is, if demand is high, the charge will be big and if demand is less the charge will be minimal.*
- c) The time when or during which electricity is required, this looks at when the consumer needs energy and whether it costs the producer of electricity less or more to produce at such a time. If it*

⁷ Section 5(6) Electricity Act.

⁸ Ibid; section 6

costs the producer more to produce at a certain period by which the consumer requires the power then the charge will be more.

d) The expenditure of the operator of the undertaking in furnishing supply; this considers how much it costs the operator to supply the electricity, the more the expenditure, the more the charge will most likely be.

e) Any other circumstances approved by the board.

This last point on the reasons for varying charges is very important because it brings to light how this Act is designed to protect the interests of the consumer. Whatever price variations a service provider may wish to make is subject to the approval of the Energy Regulation Board. What this means is that the operator of an electricity undertaking will propose price variation margins to the Energy Regulation Board and the Board will consider the justifiability of this variation by taking into account the interests of the consumer and the production costs of the operator of the undertaking.

After consideration of the above stated variables, the board will then decide and dictate to the operator what tariff should be changed. No operator is allowed to vary prices without giving notice to the consumer in writing. If ZESCO wishes to vary electricity charges, the procedure for the varying shall take this route; - first, the Corporation will suggest a tariff adjustment margin to the ERB and then the board will sit and discuss whether or not the tariff adjustment is reasonable.

In short, amongst the many rights and duties that this act creates, it creates the consumer's right to quality uninterrupted energy. Section 9 states that;

'except for causes beyond the control of the operator of an undertaking, and subject to any regulations made under this Act, no such operator shall lessen or discontinue the supply of electricity stipulated in any contract of supply unless;-

a) The consumer has failed to pay charges.

b) The consumer has failed to comply with the conditions of supply of the regulation and has failed to remedy the default within seven days.

This should therefore serve as a notice of information to all consumers of electrical energy that unless any of them falls under the categories (a) and (b) given above, they should have access to uninterrupted energy. The meaning of quality energy here is energy at the correct voltage and uninterrupted means a continual flow of energy unless there is justification for the interruption. Other salient features of this Act include; - *the right of an operator of an undertaking to break streets, trees and such objects as may interfere with the transmission lines in order to maintain unbroken flow of power*⁹

The Electricity Act is an important piece of legislation in the energy sector. It provides a balance of interests between the consumer and the supplier of energy. It works to regulate the generation, transmission, distribution and supply of electricity. It allows for the maintenance of security of supply of electricity within Zambia and establishes the standards by which buildings, machinery, transmission lines and other works of whatever description, which are required to generate or supply electricity, must comply.

Government, despite accepting the blame for the rolling blackouts refuses to compensate the consumers for loss and damage caused to their property. This basically means that they have neglected their constitutional mandate to safeguard the rights. They have instead advised individuals to insure their property. But if individuals heed their advice and insure their property today, does that mean that the loss that they have already suffered should go unclaimed?

⁹ Sections 17 and 18

1.7 INSURANCE COVERAGE FOR POWER-OUTAGE RELATED LOSS

An array of possible coverage types will come into play as power interruption problems proliferate. Power outages can act as the sole cause of a loss, the catalyst of a chain of events leading to loss, or an intervening factor in the chain of events. In terms of insurance, this has the event of making the claims handling process more complex. Secondly, power outage cases may invoke special power-related exclusion and endorsements. Utility service failure exclusions are frequently encountered in this arena, which purport to limit coverage of damages resulting from “off-premises” power interruptions. Although this exclusion has not been litigated upon, a majority approach has emerged rejecting application of this exclusion to deny coverage. A major issue underlying many power outage cases in terms of insurance is causation analysis. Causation plays a central role in determining whether the loss is covered, particularly when various exclusions and endorsements are interrupted in light of a complex chain of events leading to the loss. Causation analysis sometimes involves the interpretation and effect of “anti-concurrent cause exclusions”, which generally purport to exclude losses when covered causes of loss are conjoined with excluded causes of loss. Concurrent cause analysis can involve the confluence of contract interpretation, legal doctrines, and public policy concerns. These complex insurance issues will not be however addressed in this paper.

It is evident that many of the insurance coverage issues that will arise in upcoming months find no answer in past judicial precedent. For example, no case is apparent which discusses the issue of coverage for damages resulting from interruptions that occur pursuant to interruptible power provisions in electrical supply contracts. There is no apparent court decision regarding the effect on claims under various policy types of selling power at a profit while suffering shutdowns or interruptions. Pricing and price gouging issues that have emerged in Zambia is apparently not yet the

subject of decisive precedent. It is clear that ingoing power shortages will generate significant new lines of case law.

In terms of litigation, there are no power outage-related insurance cases known to the author which have been reported at present. Such cases would have offered insight into potential obstacles to coverage, and ways they might be overcome. Ultimately, significant insurance coverage may well be available to respond to losses resulting from power interruption. Policyholders should be prepared and should create careful documentation if coverage is apparent or possible.

But before the insurance policies are modified and laws amended in response to the ongoing power outages, the consumers' redress appears to lie only in tort law.

As earlier stated, ZESCO has embarked on an acute load-shedding schedule in response to the unforeseen increase in Electricity demand and people do not have access to this schedule. However, ZESCO does not adhere to the schedule and this is what has caused much loss and damage because consumers are not adequately prepared for the sudden interruption of power for which they were not notified of.

In the American case of **National Food Stores Inc. vs. Union Electric Co.**¹⁰ which was an action against a utility company for losses and damages related to food spoilage after a record-breaking heat wave forced the utility to cut power to the service area. The court first noted that those who suffer a power interruption might sue in tort as well as for breach of contract. This indication invites wider considerations of differences between the causation theories applied in first and third party contracts and in corresponding theories of contract law and tort. The court next observed that utilities' liability in negligence for unintended consequences may be excused where the interruption resulted from an act

¹⁰ 494 S.W.2d 379 (Mo. Ct. App.) 1973

of God” or circumstances beyond their control. Nonetheless, the court found the utility still had a general duty to exercise reasonable care to avoid undue harm to its consumers where the harm is reasonably foreseeable. The utility in this case had not provided prior notice of the outage to the company, although it had ample warning of the impending power shortage and had informed other customers. The court found that the critical issue in this case was not the utility’s failure to provide service but its failure to provide notice or warning of the impending power interruption. The court remanded the case to determine whether the utility’s failure to give reasonable notice or warning of the outage was reasonably likely to cause harm or property loss to utility customers so that failure to give notice was a breach of that duty. The court noted that damages flowing from a breach of this duty might include loss of products, excess labor costs, and the estimated loss of sales if the store was forced to close.

CHAPTER TWO

2.0 PUBLIC UTILITY LIABILITY VIS-À-VIS LOADSHEDDING SCHEDULES

The massive restructuring and regulatory adjustments which have taken place in the electrical energy industry in recent years inadvertently may have opened the door to transmission companies being held liable for massive damages stemming from power outages. If a transmission company fails to identify and trim a rotten tree limb along its vast network of transmission wires, and the fallen limb results in a service interruption, it is conceivable that the transmission company could be liable for consequential damages or economic losses incurred by its generating customers who could no longer move power to its destination. In the same vein, third parties who have experienced harm because of not receiving power because of the accident could conceivably successfully claim damages against the transmission company.

This chapter surveys public utility liability limitations and how if it at all they may benefit consumers. Its main focus is on the information provided by ZESCO and what liability may or may not arise if such information is inaccurate. Information in this vein refers to the loadshedding timetables.

At this point in Zambia the causes of the blackout and the reasons for its lengthy duration are under investigation. It is unclear whom, if anyone may be financially liable to customers for the damages due to the power outage and the delays in restoring power. It is likely that the court will need to decide liability and compensation issues.

Civil liability for public utilities that fail to meet their obligation to serve customers is said to be neither tortious nor contractual but is rather “sui generis”¹¹. In the case of *Globe Ref. Co. vs. Landa Cotton Oil Co.*¹² (per Holmes, J.) ‘Under conventional contract law, a party that falls short of fulfilling its bargained-for promise may be held liable for damages, no matter what the underlying reason for the breach is.’

However, because the common law obligates utilities to serve all corners, services provided by public utilities are one of the few situations in which failure to perform a contract may amount to a tort.¹³

In some public utility cases, the failure to perform involves a breach of a duty that may reasonably be regarded either as assumed by contract or as one imposed by the law independently of contract. In such cases, if the plaintiff so desires, the action may be treated as for tort, and the damages will be assessed according to the rules applicable in tort cases, sometimes including punitive damages. Therefore, liability for a transmission company may be analysed under either principles of contract, tort, or some combination of both.

2.1 Contract liability

If an action lies in contract, a defendant may be held liable for breach only if;

- (a) There is privity of contract between the plaintiff and the defendant, or
- (b) If the plaintiff was an intended third party beneficiary of a contract

In *Beck v. FMC Corp.*¹⁴ it was held that employees suing for wages lost during service interruption were merely incidental beneficiaries of the contract and, although they benefited

¹¹ Prosser & Keeton, The law of Torts 663, 5th Ed. 1984

¹² (1903) 190 U.S. 540, 544

¹³ Prosser & Keeton at pg. 662

from the performance of the contract, the electric company owed them no independent duty for the loss of the benefit. The right of a third party beneficiary is derived when the contract itself has created reasonable expectations and will induce the third party to change its position in reliance.

Thus, under principles of contract law, in the event of a service interruption, the electricity company may be liable for breach of contract to those customers with whom it is directly in privity as well as those with whom- given the common law of the state- are third party beneficiaries. The measure of damages would depend, in part, on the Plaintiff's ability to prove that the extent of its loss was foreseeable by the transmission provider.

2.2 Tort Liability

In tort, however, a defendant can be held liable for negligent conduct if the court finds that the defendant owed a duty of care to the Plaintiff. The extent of a Plaintiff's duty is recognized by law and it is the responsibility of the courts to fix the orbit of duty, to limit the consequences of wrongs to a controllable degree.

Public utilities have the potential to face a considerable amount of risk. The economic value to the purchasers of utility service is potentially much greater than the price the utility charges. For example, when an emergency requires the connectivity of a phone and the utility service fails, the implications could be catastrophic, and enormous compared to the cost of the phone service. For a large service outage, the liability could be astronomical. In the non-regulated

¹⁴ (1976) 385 N. Y. S.2d 956

marketplace, companies protect themselves first by ensuring service, and second by maintaining liability insurance.

The extent of a utility's legal responsibility for damages due to an outage may be based on common law, statutes, company rules (tariffs), As in the American legal system where under existing Con Edison¹⁵ rules, customers may receive compensation for losses such as food spoilage during power outages due to distribution system failures.¹⁶ There is a form for use by residential customers requiring an itemized list of damages, and for damages over \$150, documentary proof of loss such as receipts or labels from spoiled food are required. The rules call for submission of claims within 30 days.

In the Zambian context the Government of the Republic of Zambia has taken the blame for the rolling blackouts which are the order of the day throughout the country. They attribute the occurrence of blackouts to the increase in demand for electricity which was unforeseen and one of the solutions they have come up with is that of load shedding.

Load shedding is basically described as the shutting down of power. It becomes necessary when the power demand exceeds supply. Failure to shed off excess load (demand) can have adverse effects on the supply system that might result in a total blackout. And further herein, ZESCO provides a time-table giving a schedule when electricity would be on and when the services would not be available. This then leads to the main complaint by consumers that ZESCO does not or simply neglects to adhere to this timetable which is relied upon by consumers because it is seen as the best way by which they can protect their property as well as persons from damage

¹⁵ New York based electricity supplying company

¹⁶ Con Edison Tariff Regarding Customer Compensation for Power outages -8-19-2003

Their Lordships in the case of *South Australia Asset Management Corporation v. York Montague Limited (SAAMCO)* ¹⁷(also cited as *Banque Bruxelles Lambert SA v. Eagle Star Insurance Co.*) distinguished between providing information for the purpose of enabling someone else to decide upon a course of action and a duty to advise someone as to what course of action he should take. In the case of advice, the adviser must take reasonable care to consider all the potential consequences of that course of conduct and if he is negligent, he will be responsible for all the foreseeable loss which is a consequence of that course of action. But if the duty is only to supply information, he must take reasonable care to see that the information is correct, and if he is negligent he will be responsible for the foreseeable consequences of the information being wrong.

Rules which make the wrongdoer liable for all the consequences of his wrongful conduct are exceptional and need to be justified by some special policy. Normally the law limits liability to those consequences which are attributable to that which made the act wrongful. In the case of liability in negligence for providing inaccurate information, this would mean liability for the consequences of the information being inaccurate.¹⁸

Their Lordships in the case of SAAMCO did not consider the question of remoteness alongside that of liability, however in subsequent cases it is concluded that remoteness should be considered alongside economic loss. In the case of *Platform Home Loans v. Oysten Shipways Ltd*¹⁹ Lord Hobhouse has commented that whilst the scope of the duty is a distinct legal concept, it is analogous to the concept of remoteness. It is arguable that the scope of duty test should be seen as the key element in the application of the remoteness principle to pure

¹⁷ (1997) A. C. 191

¹⁸ Clerk & Lindsell On Torts, 19th ed Sweet & Maxwell (2006) pg.135

¹⁹ (2000) 2 A.C. 190, 208.

economic loss. What the defendant can reasonably contemplate as a consequence of his breach must depend upon the scope or purpose of his duty. If the risk of the particular kind of damage fell outside the purpose of the defendant's duty, then however foreseeable that risk in general terms, it would not fall within the reasonable contemplation of the defendant. Whether the scope of duty is seen as an independent test or as the key element in the concept of remoteness, it has had a major impact in limiting tortious liability for pure economic loss. In this regard therefore, the purpose of ZESCO is couched in its mission statement as follows:

Mission Statement

We at ZESCO are committed to use technology and innovation in the generation, transmission, distribution and supply of safe, reliable, quality and competitively priced electricity for the sustainable development of Zambia and beyond, thereby facilitating the creation of wealth and improving the quality of life for all.

In effectively carrying out its main purpose, ZESCO also has a duty to ensure that all other obligations incidental to this function are properly carried out such as that of providing adequate information regarding generation, distribution and supply of safe electricity.

The principle that a duty of care exists for statements made to others was first enunciated in the British case *Hedley Byrne & Co. Ltd. v. Heller and Partners Ltd.*²⁰ Lord Morris of *Borth-Y-Gest* held at page 506:

²⁰ [1964] A.C. 465

...if someone possessed of a special skill undertakes, quite irrespective of contract, to apply that skill for the assistance of another who relies on such skill, a duty of care will arise...

In other words, Lord Morris held that where other persons reasonably rely on the judgment, skill, or ability to make careful inquiry of a person, and that person takes it upon himself to give advice or information to someone whom he knows or should know will place reliance on it, a duty of care arises.

The Canadian Courts were quick to apply the *Hedley Byrne* principle to impose liability on a government official. In *Patrick L. Roberts Ltd. v. Sollinger Industries Ltd.*²¹ the Court held an Ontario Development Corporation loan officer liable for failing to disclose difficulties with respect to a loan application by stating that the "demands of society for protection from the carelessness of others must extend to the facts of this case."

At one time, it was felt that the duty should be restricted to "professionals" who are in the business of providing information and advice. This, by definition, may include certain municipal officials, but would exclude others. This restrictive approach has clearly been cast aside by the Supreme Court of Canada in *Queen v. Cognos Inc.*²² Mr. Justice Iacobucci stated:

...I reject the so-called restrictive approach as to who can owe a Hedley Byrne duty of care, often associated with the majority judgment in Mutual Life & Citizens' Assurance. Co. Ltd. v. Evatt,²³ In my opinion, confining this duty of care to "professionals: who are in the business of providing information and advice such as

²¹ (1949) ALLER 231

²² 2000

²³ [1971] A.C. 793 (P.C.).

doctors, lawyers, bankers, architects, and engineers, reflects an overly simplistic view of the analysis required in cases such as the present one. The question of whether a duty of care with respect to representations exists depends on a number of considerations including, but not limited to, the representor's profession. While this factor may provide a good indication as to whether a "special relationship" exists between the parties, it should not be treated in all cases as a threshold requirement. There may be situations where the surrounding circumstances provide sufficient indicia of a duty of care, notwithstanding the representor's profession.

The court in this case further laid down the ground upon which liability will arise as follows:

- (i) A duty of care exists based on a special relationship between the representor and the representee;
- (ii) The representation must be untrue, inaccurate or misleading;
- (iii) The representor must have acted negligently in making the misrepresentation;
- (iv) The representee must have relied, in a reasonable manner, on the negligent misrepresentation; and
- (v) Reliance must have been detrimental to the representee in the sense that damages resulted.

Should any one of these elements not be proved by the plaintiff, the claim will fail.

Although negligent misrepresentation frequently occurs within governmental agencies and municipalities, it is one of the most difficult to identify and prevent. One of the reasons is that senior officials and managers are often not aware of the elements of the tort or the potential risks associated with their conduct. For example, most managers will understand the principle that if they carelessly drop a banana peel on the floor of their office causing a visitor to slip and injure himself, they will be sued for damages. On the other hand, most do not realize that if they fail to disclose essential information which may mislead a citizen when making an inquiry and resulting in economic loss, an action for negligent misrepresentation may result.

Because municipalities are regularly required to provide information, they are frequently subject to claims for negligence with respect to the provision of that information. Certain legislation expressly provides for an individual's right of access to a record or part of a record in the custody or under the control of an institution unless,

- (a) The record or the part of the record falls within one of the exemptions such as that of privilege
- (b) The head is of the opinion on reasonable grounds that the request for access is frivolous or vexatious.

As a result, and except for the specific exemptions, municipalities are required to provide information when it is requested.

More importantly, a municipality in the exercise of its statutory powers is frequently dealing with third parties. As a result, municipalities are required to provide information with respect to local matters, including building, zoning, and planning matters. The tort of negligent

misrepresentation places on municipalities the common law duty of care in certain circumstances to ensure that the information which is provided is accurate, true and not misleading.

CHAPTER THREE

3.0 PUBLIC UTILITY LIABILITY AND MUNICIPAL IMMUNITY

In this chapter, I examine the effects and possible causes of the recurring blackouts. I look at the regulatory exercise, as well as the case surrounding similar events in other jurisdictions. Finally, I determine: (1) whether utility companies will be held liable for damage caused to consumers' property. (2) Whether such liability will provide power companies with an incentive to improve the power grid; and (3) whether current regulation should be altered to breakdown the rigid confines of municipal immunity and thus provide power companies with a greater incentive to invest in the power grid.

Much of Zambia's residential, commercial and industrial electricity consumers have felt the effects of the recurring nationwide power outages. The physical evidence or outcome of the exercise of load shedding include information on experiences with interruptions and outages, financial losses, use of backup power supplies, non- satisfaction with electric power service, and the importance of reliable service. Findings show that outages are more disruptive for residential consumers on weekends and more disruptive for most commercial and industrial consumers on weekdays.

As power failures continue to occur and a consistent record of the types of effects experienced by dependent critical infrastructure accumulates, there may be changes in the courts' finding of fact as to what is "reasonably foreseeable." If this shift occurs, the minimum standard of care owed by one party to another may be affected and the bar on what constitutes a reasonable level of blackout preparedness and mitigation efforts may be raised.

The spate of power cuts has cost the business community in excess of a billion kwacha in lost income. The question that follows is whether business can recover their losses as damages against ZESCO for negligent interruption of the supply of electricity. ZESCO has reportedly stated that it will only compensate such business where there was a written contract providing for such an eventuality between ZESCO and the particular business concerned. The vast majority of business that has suffered loss will not be covered by such a contract. What recourse do these businesses have against ZESCO?

In a recent opinion published on this subject by Law sure, a South African journal, it was stated that in order to proceed with a claim for financial loss it would be necessary to prove negligence on the part of the utility company in failing to carry out its legal duty to provide a continuous supply of electricity to the public. Without negligence there can be no claim. It is important to note that in this discussion we are talking about two issues, that is, pure economic loss and physical harm occasioned by the power cuts.

Pure economic loss refers to monetary loss which did not arise from bodily injury or property damage and will be occasioned by example through loss of profit or turnover and loss of income, whereas physical harm is personal bodily injury and injury to the one's property.

Even if negligence can be proven to be the cause of the power cuts the second question we will have to consider is that of public policy. It is usually the courts that will interpret public policy, that is whether the relief sought in an action would be to the benefit of the country as a whole at present and in the future and not simply to the plaintiff concerned. It involves a weighing up of various interests including the public at large. Obviously if

one action against ZESCO were to be successful this would prompt actions by thousands of other plaintiffs. In many instances it may be difficult to refute such claims even if they were fraudulent in nature. ZESCO would be burdened with considerable litigation and costs which would be passed indirectly onto the public. Indirectly in the sense that since ZESCO is a statutory body basically government controlled or that government intervenes in most of its decision-making, monies paid out in form of damages would obviously come from tax payers. The courts would in all likelihood find that the interruption of the power supply is not unlawful even if negligence was present due to the vast scale electrical supply and that it is a service to the benefit of the general public. The risk of an interruption of electricity is risk which all members of the public tacitly accept and should be tolerated for the general good. It would be also not be in the public interest to burden the courts with thousands of claims against ZESCO.

For reasons of public policy therefore it is unlikely that a claim for pure economic loss would be entertained by the courts against ZESCO. However, the position may be different in respect of claims for physical harm suffered by an individual. Due to the limited scope of such a claim the court may be willing to consider a claim for damages for physical injury. There would still be the difficulty of proving negligence and of course the disparity in a claim between an individual and a huge co-operation such as ZESCO.

All of the above may seem sensible when one considers that power cuts in a stable economy, and of this magnitude, should not be encountered. However the Zambian experience seems to point to gross mismanagement of the electrical supply and in strategic planning. One would hope that there would be accountability within government

and ZESCO for this unprecedented fiasco. With the 2010 world cup only four years away not to mention the ever-increasing demand for power before then we can only speculate whether frequent power cuts will become business as usual in Zambia.

3.1 ELECTRICITY SUPPLY

The regulation of the power sector is basically the state's baby in some countries, but in others, the situation is different. Different functions are undertaken by different entities so that in case of power failure it will be imperative to determine at which point power supply or flow of power was interrupted i.e. whether it was by the generating company, transmission or distribution.

This now points to the fact that electricity supply is three – fold and are carried out as follows; **-Generation** – The main power generation facilities in the country (hydro-electric power) are in the hands of the government. Whereas in other jurisdictions such as Uganda, power generation is in the private sector, the two power generation facilities; Kiira and Nalubaale power stations are currently being run under a 20 year concession to south Africa- based Eskom. However, thermal generation plants in north Northern Uganda are being run by government under Uganda Electricity Board (UEB). A new 50 mw thermal power plant has been established in Kampala (Lugogo), under a special lease arrangement between government and Aggreko international power company.

Transmission – The function as well as the power transmission entity are in the hands of the state and are to remain that way unless the law is changed. According to the

Electricity Act, the national power grid (high Voltage) and the entire function of electricity transmission shall be overseen and undertaken by the state through ZESCO

Distribution- This is also undertaken by ZESCO which is state owned so in a nutshell, it is the state which distributes power.

3.2 CASE LAW ON THE DOCTRINE OF MUNICIPAL IMMUNITY

In the **American case of George Gilbertson Vs. city of Fairbanks(A municipal corporation)**²⁴ the question was thus considered that, “ Where a municipal corporation operates both an electrical utility and a fire department and the electrical utility, through its agents or employees, tortuously interferes with operations of such fire department and other fire fighting agencies protecting the property of a private citizen, by the careless and negligent cutting off of electrical current which furnishes the that needed power to pumps supplying water to such municipal and other fire fighting agencies, is the municipality liable to the property owner by virtue of its negligent operation of its proprietary electrical utility department and its tortuous interference with processes of fire protection, or is such municipality immune from suit by virtue of the government status of its fire protection activities and those of other agencies, to whom both the water and , incidentally, the electricity so cut off was being furnished?

The court in this case further considered another case involving the failure to supply electrical energy to the fire fighting forces of a municipality. The case is **Highway**

²⁴ Appeal No. 15567 United States court of appeal, ninth circuit

Trailer co. v. Janesville Electric co.²⁵ that case involved the liability of a private electric company which furnished power to the general public and which was under contract to the municipality to furnish electrical energy to operate the municipality's water pumps, the water from which was used for fire fighting purposes. The court held that if there is an intentional, unnecessary and negligent interference it is a ground for action by third persons having no connection with either. This opinion was based upon an appeal from an order of the trial court sustaining a demurrer to the plaintiff's complaint. The supreme court of Wisconsin reversed the order of the trial court. On retrial of the case in the trial court, judgment on the merits was entered in favor of plaintiff.

Further, the appeal from such judgment was considered by the supreme court of Wisconsin in another case of **Highway Trailer co. V Janesville Electrical co.**²⁶, in that opinion the court held that the plaintiff had failed to prove the necessary degree of interference to impose liability upon the electrical company t, and in absence of a contractual obligation on the part of the electrical company to the plaintiff no liability could be fastened on the electrical company. **The Janesville case** and the **Concordia Fire Insurance Co.V.Simmons**,²⁷ on which the Janesville decision rely, Hold only that a private person who interferes with the fire fighting functions of a municipality, upon a proper showing, can be made liable to the injured party for such negligence. These cases are clearly distinguishable on their facts. To apply the rule enunciated in such cases to facts of this case would therefore lead us to the conclusion that a municipality loses its

²⁵ 1922, 178 Wis. 340, 190 N.W. 110, 27 A.L.R. 1268

²⁶ 1925, 187 Wis. 161, 204 N.W. 773

²⁷ 1918, 167 Wis. 541, 168 N.W. 1995

immunity by interfering with itself in the performance of a governmental function or where such function is performed negligently.

It is on the strength of such liability and also on the need to protect individuals' rights and also on the protection that public policy appears to afford to municipalities that most lawsuits against utilities are being undertaken by way of class actions instead of individually, for example, the congress of south African Trade Unions (**COSATU**) invited members of the public to join in a class action to sue South. African Electricity supply company, Eskom, after thousands of Western Cape residents suffered damage during recent power failures.

The independent online reports:

Those who suffered damage range from ordinary people whose computers or other electronic equipment were damaged by power surges, to big business and farmers who suffered huge production losses during the erratic power cuts. The province estimated to have suffered losses of about \$210, 586, 68.58 (R1.3 billion). The trade union federation called on its members and the public to join in a class action to sue the company for damages, including losses in earnings and profits. COSATU said that it is supporting lost- production claims from business and general members of the public to build a case forcing the company to pay compensation for the province's electricity crisis.

However, government's take on this stance is that there is no point in suing Eskom since the company does not have the money to pay out claims. And further, they turn to the issue of sovereign immunity, which in turn looks at the doctrine of municipal immunity.

Various reasons have been assigned to explain or sustain the doctrine of municipal immunity. Municipal immunity from suit in the area of fire fighting has been most widely

based upon the theory of strict sovereign immunity: A sovereign who makes the laws cannot be sued at law he provides a law for doing so. A municipality when acting as an agent of the sovereign in performing governmental functions is likewise immune in the absence of statutory liability. Thus in the case of ZESCO, sovereign immunity can be neutralized by the fact that there is a statutory provision for compensation. Section 20 of the act reads:

In the exercise of powers in relation to the execution of works given under this Act, an operator of an undertaking shall cause as little detriment and inconvenience and do as little damage as possible, and shall make full compensation to all local and other authorities and other persons who have sustained damage, for all damage sustained by them by reason or consequence of the exercise of such powers and, in default of agreement between the parties, the amount and application of such compensation shall be determined by the Arbitration Act and for that purpose the parties shall be deemed to be parties to a submission in which the reference is to two arbitrators.

Another reason assigned for the doctrine of municipal immunity is based upon the principle that it would be a misuse of governmental funds to permit individual recovery without legislative control, and on the reasoning that a municipality, being under no obligation to any individual to establish fire protection, is not liable when it fails to do so or when the failure is due to its negligence, since such a failure does not give rise to a private cause of action. The benefit is for the community as a whole, not for any one individual.

Another reason urged for the doctrine of municipal immunity to suits in the field of fire fighting is that the solvency of the municipality might be threatened or destroyed were it

not for the existence of such immunity, and thereby render a municipality unable to provide functions without which an urban area could not exist.

Special consideration is given to five issues raised under public service liability. The first is whether the public or discretionary nature of a decision taken by a public service makes its conduct non-justiciable, that is, incapable of being assessed by a court. This is a threshold question. If the matter is not justiciable then the court cannot examine any further issues related to duty or breach. Lord Browne-Wilkinson in the case of **X (Minors) vs. Bedfordshire C. C.**²⁸ said that the first question in a case involving a discretionary decision was “is the negligence relied upon negligence in the exercise of a statutory discretion involving policy considerations? Lord Slynn in **Phelps vs. Hillingdon Borough Council**²⁹ was of the view that ‘It is only where what is done has involved the weighing of competing public interests or has been dictated by considerations on which Parliament could not have intended that the courts would substitute their views for the views of ministers or officials that the courts will hold that the issue is not justiciable on the ground that the decision was made in the exercise of a statutory discretion. The further question to be considered according to Lord Browne-Wilkinson was whether the acts alleged to give rise to the cause of action were within the ambit of the discretion conferred on the local authority. Again in **Phelps vs. Hillingdon**, Lord Slynn said that the fact that acts were carried out within the ambit of a statutory discretion is not in itself a reason why it should be held that not a claim in negligence can be brought.

²⁸ (1995) 2 A.C. 633

²⁹ (2001) 2 A.C. 619 at 653

The second issue is how the **Caparo** test of fairness, justice and reasonableness³⁰ applies to public service. The public interest in the delivery of effective services may suggest that imposing of the duty would not be fair and reasonable, particularly where the service has competing interest to balance. However, Lord Browne-Wilkinson in the X (minors) case concluded:

Once the decision is taken to offer such an advisory service, a statutory body is in general in the same position as any private individual holding itself out as offering such a service. The position is directly analogous with a hospital. . . .In such a case the authority running the hospital is under a duty to those whom it admits to exercise reasonable care in the way in which it runs it.

The third issue concerned the proximity test and arises, in particular, in relation to regulatory services where the question is often whether the purpose of the service can be regarded as being to benefit individuals as opposed to the public as a whole. The fourth question concerns the application to the public service sector of the omission rule that is the rule that there is no duty to act positively to protect others. The rule is of particular significance as the role of a public service often involves intervening positively to protect the public from harm. The case law on all these issues is dominated by recent decisions of the House of Lords and Court of Appeal. The final issue concerns the standard of care to be expected of the public sector. With a greater willingness to accept that public services owe a duty of care, the focus of litigation is likely to shift to whether there has been a breach of the required standard of care.

³⁰ Caparo Industries plc vs. Dickman (1990) 2 A.C. 605

CHAPTER FOUR

4.0 COST OF ELECTRICITY OUTAGES ON CONSUMERS IN DIFFERENT SECTORS

This chapter specifically examines the cost of electricity shortages on the Zambian manufacturing sector as well as residential areas. Utilizing the data obtained from a nationwide survey³¹, the paper details the various costs from power outages and examines the response of manufacturers to the infrastructure problem. The findings of the study confirm that the cost of electricity failures on the Zambian manufacturing sector is quite high. Firms incur huge costs on the provision of expensive back-up to minimize the expected outage costs. The average costs of this back-up are on the average 3 times the cost of publicly supplied electricity. The marginal cost estimates also indicate that the cost of kWh of unserved electricity in Zambia is very high. Small-scale firms bear the greater proportion of the cost of the power failure. A situation where firms spend as much as 20–30% of initial investment on the acquisition of facilities to enhance electricity supply reliability has a significant negative impact on costs competitiveness of the manufacturing sector. Thus, the study supports current government efforts to privatize the public monopoly and liberalize the electricity market. These hopefully will mitigate the burden of poor power supply as well as introduce the needed competition into the electricity market in the country.

The results below are based on a survey of the details and various impacts of the three nationwide blackouts experienced early this year, and utilization of power failure protection and services in view of commercial/industrial customers of ZESCO.

³¹ ERB Committee of inquiry report, 9th April 2008

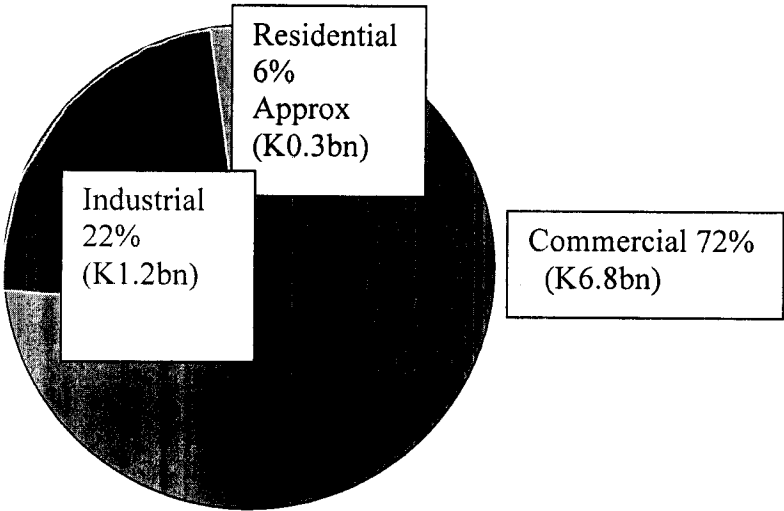
4.1 Principal Results.

1. It was confirmed that the averaged total blackout duration was 4hrs, individually 3.3hrs in Kitwe, 3.8hours in Lusaka, 3.2 hours in Livingstone, 4.1hours in Chipata and 4.3 hours in Kasama. According to the industry classification, the duration was 4hrs at hospitals and 4.5 hours at manufacturing industries. The restoration duration after the blackout differed greatly for every state, industry and company scale.
2. Immediately after the blackout occurrence, most customers obtained information from radio and Television, and only 20% commercial/industrial customers received information from the electric power companies. In this case most customers required exact and quick information on questions such as what occurred, and what measures are being taken to avoid another occurrence? Customer satisfaction indicated that information delivery was not sufficient and wanted their electric power companies to improve communication services of account managers during an emergency condition.
3. The blackout caused reduced sales of 20% in customers, but 47% of commercial/industrial customers suffered financial damages including loss of products and additional labor costs. Discriminant analysis of the damages revealed that significance of the blackout influence depended on industrial classification or insurance cover in addition to the blackout duration of customers.
4. Currently, the average daily blackout duration per customer is about 120 minutes depending on areas, so about half of the commercial/industrial customers have already installed emergency generators and uninterruptible power systems (UPS). After the blackout, about 20% of commercial/industrial customers considered

introducing or upgrading these measures, showing further interest to needs for power failure protection.

5. More than half of commercial/industrial customers estimated it possible for the nationwide blackouts to continue recurring in three years. This report also reveals that only about 20% of commercial/industrial customers agreed to raise electricity rates to enhance the transmission network for power quality/reliability service.

TABLE 1: VARIOUS INFLUENCES OF THE BLACKOUTS



4.2 ESTIMATE OF THE COST OF POWER INTERRUPTIONS ON VARIOUS SECTORS³²

The Energy Regulation Board commissioned a committee of inquiry to investigate the power outages experienced.

4.2 FINDINGS

³² Economic Newsletter, may 2008

The main findings of the Committee of Inquiry were as follows:

On the Nature and Source of the Disturbance on 19th January 2008

Finding 1:

The blackout was initiated by a disturbance in the Zimbabwean grid which resulted in the loss of a major load and shut down of the Kariba North Bank power station. This caused overloading and subsequent tripping of the machines at Kafue Gorge and Victoria Falls power stations, resulting in the blackout.

On the Nature and Source of the Disturbance on 21st January 2008

Finding 2:

The blackout was initiated by a spurious tripping on the only 330 kV transmission line available at the time [line No.2] from Kariba North Bank power station to Leopards Hill substation. The failure of this line completely isolated Kariba North Bank Power Station from the national grid because on 30th December 2007, a tower on the only other line [Line No.1] had collapsed due to heavy rains making this line unavailable. This situation caused an over loading of Kafue Gorge and Victoria Falls power stations leading to their automatic shutting down.

On the Nature and Source of the Disturbance on 22nd January 2008

Finding 3:

The blackout of 22nd January 2008 was caused by a collapse of the system voltage due to insufficient generation capacity. The Zambian system had been isolated from Zimbabwe and Kariba North Bank Power Station was not available on this day because both lines that transit

power from this station were out of service, as indicated in Finding 2 above. Kafue Gorge Power Station was operating at maximum available generation without any reserve margin at all and as the demand for power increased, it could not cope and therefore, shut down.

Recommendations by the Committee of Inquiry are as follows:

4.2 RECOMMENDATIONS

In making its recommendations the stance of the Committee of Inquiry is that while establishing the source of disturbances is necessary for reconstructing the events, it is far more important to prepare for abnormal conditions so that the adverse impacts caused by the non availability of electricity are minimised.

The recommendations of the Committee of Inquiry are as follows:

(i) Automatic Under-frequency Load Shedding

On all the three days when the blackouts occurred, the Committee is persuaded that the absence of an effective automatic under-frequency load-shedding scheme played a major role in the failure to contain the scope of the disturbances. Such a system would enable ZESCO to respond to the loss of generation by automatically switching off appropriate loads, thereby balancing demand with the available generation. This matter was subject of a recommendation after the blackout of 4th June 2006. This Committee re-emphasised the recommendation that ZESCO immediately reviews the control of loads under emergency conditions. ZESCO should immediately engage its partners, especially the CEC, and the major industrial and mining consumers on this matter.

(ii) System Capacity and Spinning Reserve

The second most important factor for the building up of faults into total blackouts had to do with the failure to maintain a generation spinning reserve (spare capacity at generation). While the Committee understands that ZESCO is currently under pressure to minimize load-shedding, the absence of a spinning reserve contributed to the inability of the system to contain the abnormal conditions that arose during the three days. The Committee recommends that ZESCO reviews system operation and ensures that a reasonable reserve capacity is always maintained to ensure that the power system is stable.

(iii) Power Rehabilitation Project

This recommendation is related to Recommendation (ii) in so far as it concerns the available generation capacity. For the duration of the Power Rehabilitation Project (PRP) the system has been operating with substantially reduced capacity. This is often compounded by faults on the available machines, some of them due to the changes implemented during the PRP, thus further reducing generation capacity. The Committee recommends that ZESCO places the highest priority on the completion of the PRP. In particular, the payments to contractors should have first call on available resources.

(iv) System Reinforcement

The dynamic stability limit of the system is severely compromised by inadequate Sources of reactive power. The Committee recommends that ZESCO immediately undertakes an analysis of the system to determine the reinforcement that is required to improve stability. ZESCO should work with its partners, mainly Copperbelt Energy Corporation (CEC), to determine the investment needed and how it should be shared. Both ZESCO and CEC should also accelerate the enforcement of minimum power factor operation by the large industrial users and the mines.

(v) Line Maintenance

The transmission grid is critical to the security of supplies from the power stations. The immediate challenge concerns the susceptibility of glass porcelain insulators to catastrophic failure, and even to vandalism. While recognizing the limitations under the current conditions of high demand and reduced capacity due to the PRP, the Committee nevertheless recommends that every opportunity should be taken to continue the programme of replacing the glass insulators with the newer rubber type. In this vein, the Committee further urges ZESCO to review the temporary arrangements on the Kariba North – Leopards Hill line to ensure that the line is appropriately secured before the 2008/09 rainy season.

(vi) Protection System

An important objective of the protection system should be that, in the event of a severe fault, the protection should be such as to maintain supplies to those areas that can be isolated from the affected areas. Apart from maintaining supplies to some parts of the country, such measures reduce the time of restoration of the rest of the system. The Committee recommends that ZESCO takes immediate steps to explore and determine such possibilities. In particular, the Committee recommends that the protection grading between Victoria Falls and Kafue West substation be reviewed so that in the event of a shutdown of the main power stations essential loads in Choma and surrounding areas can be maintained.

(vii) System Monitoring

The Committee had difficulty reconstructing some of the events that occurred during the disturbances because the recorders and protective relays on the system were not time-synchronized. The Committee further noted that ZESCO faced the same difficulty. The Committee, therefore, recommends that ZESCO takes immediate steps to acquire any equipment that is needed to synchronise the so-called ‘time stamping’ on all event recorders. This also applies to synchronization with the recorders on the CEC network. CEC should take similar steps on the Copperbelt network.

(viii) Black Start Procedures

Following a blackout it is necessary to minimize the period of restoration as this has a significant impact on the risk posed to human life, and on operational losses and inconveniences suffered by the consumers. The Committee recommends that ZESCO and CEC review their Black Start Procedures and ensure a continuous state of readiness of systems and personnel. In particular the following should be attended to immediately:

- (a) Ensure that all standby equipment is available at all times; the operation of all station diesel generators should be automatic, i.e. should not require human intervention.
- (b) Ensure continuous training of all power station and control room staff especially to take account of evolving technology, changes to plant configurations and the recruitment of new staff.
- (c) Ensure that all communications equipment remains in service during emergencies, including the Remote Terminal Units on the SCADA.

(d) Ensure that staff in remote stations is adequately provided with transport and other logistics to facilitate their prompt availability during emergencies.

An interview conducted with a source from ZESCO alluded to the fact that unreliability in electricity supply has been costly for consumers, and I quote as follows: *‘Ensuring reliability has and will continue to be a priority for electricity industry restructuring. Given that efforts to restructure wholesale and retail markets to date have not been very successful, carefully designed public policies that reestablish electric system security and reliability and encourage cost-effective reductions in demand and consumption are clearly needed. A critical consideration- often missing from current discussions- should be the economic consequences of electric service unreliability.*

*That is, assessing the balance between public and private actions to ensure reliability should be guided in part by an understanding of the value of reliability to the nations’ residential, commercial and industrial customers. Common sense and a considerable amount of empirical evidence indicate that electric utility customers incur substantial economic costs as a result of electric service reliability problems. It is appropriate to consider these costs in assessing future restructuring policies, including the design and operation of wholesale electricity markets, the creation of incentives, tariffs, or programs to encourage investment in electricity generation, transmission, and distribution, including demand response.*³³

³³ Interview conducted with an anonymous source in the power production unit at ZESCO

It is important to put the point across that there is no comprehensive body of information and readily available literature on the cost of reliability and power quality concluded.³⁴

- There are few estimates of the aggregate cost of unreliable power to the Zambian economy; and the estimates that are available are undocumented or based on questionable assumptions;
- Costs of large-scale outage events (e.g. State or region wide power outages) are not well documented and mostly based on natural disasters for which its difficult to separate costs of electric interruptions from damages caused by other disaster features (e.g. property damage from wind or water);
- Studies of hypothetical outages obtained from outage cost surveys could be used to prepare aggregate estimates of outage costs. However, there are important differences in the survey and statistical methodologies used in the studies that have been conducted that must be addressed in a meta-analysis.
- Very little information is available in the public domain regarding the costs of power quality problems- an increasingly important aspect of service reliability.

It is important to recognize that consumers are at the receiving end of service delivery. In order to ensure that consumer needs are met and that consumers have a voice, it is important ZESCO, having a monopoly in electricity supply sets an example to business in terms of accountability and setting standards of service delivery that are linked to performance indicators. This lack of competition in the provision of electricity to the public further

³⁴ Eto et al 2006

complicates matters as the consumer often cannot abandon the service provider in search of a better service.

4.3 PROTECTION OF CONSUMERS

Generally speaking, Zambia does not have a comprehensive consumer protection statute that clearly spells out the rights and obligations of all market participants, for example, in the energy sector, the Energy Regulation Board Act³⁵ should have provided for consumer protection generally in relation to energy supply and consumption. In order for consumers to participate effectively in the market economy, it is important that they are accorded basic rights in a comprehensive consumer law that sets out guiding principles for market conduct. Internationally most countries have moved towards developing comprehensive consumer laws that give consumers rights up front. Zambia lags behind many countries in terms of reviewing its system of consumer laws in line with recent changes in global markets.

Most companies in other jurisdictions with monopolies come up with policies on how to promote the interests of the consumers. Thus in these countries where people are more enlightened on their rights in relation to utilities, power users appear quicker to sue for outage-related damages. Eyeing that trend, insurers and technology vendors have stepped in to help utilities manage the risk. In the long run, however, the driving force behind efforts to mitigate liability from outages may come from the utility's simple desire to protect its reputation.

A consumer policy and consumer law reform must be able to address not only the history and legacy of our country but must also be able to respond to new and emerging challenges and

³⁵ Chapter 436 of the laws of Zambia

opportunities. Effective enforcement mechanisms are the most important part of any consumer protection policy. To enable consumers to obtain redress, a coherent, adequately resourced and easily accessible infrastructure must exist. At present redress for consumers is largely obtainable through the criminal and civil justice system as most laws empower magistrate courts to deal with consumer issues. The challenge facing the public is that litigation of consumer abuses competes with serious and violent crimes and as a result consumer abuses receive less attention. Enforcement mechanisms must be credible and easily accessible, especially to vulnerable and rural consumers. Effective enforcement infrastructure may include access to advice, counseling and legal support in general.

ZESCO has not outwardly denied liability for the power outages, infact they have gone further by advising people on how to conserve power and further they have proposed to increase electricity tariffs after collecting views from stakeholders. ZESCO managing director, Rhodnie Sisala, reiterated the need to increase electricity tariffs and attributed this proposal to inflationary pressures, exchange rates, cost of service and the looming power shortage. Mr. Sisala said it was necessary that tariffs were increased to ensure electricity supply was secured to support the country's development. Proposals were as follows:

- Tariffs for the unmetered residential category with a monthly consumption of up to 2 amps should be revised to K7, 121 from K4, 911 while those between 2-15amps should be increased to K25, 767 from K17, 770.
- For the unmetered category, fixed monthly charge would go up K8, 475 from K5, 845, among other groups. Those under commercial tariffs would pay K43, 841 from K29,227

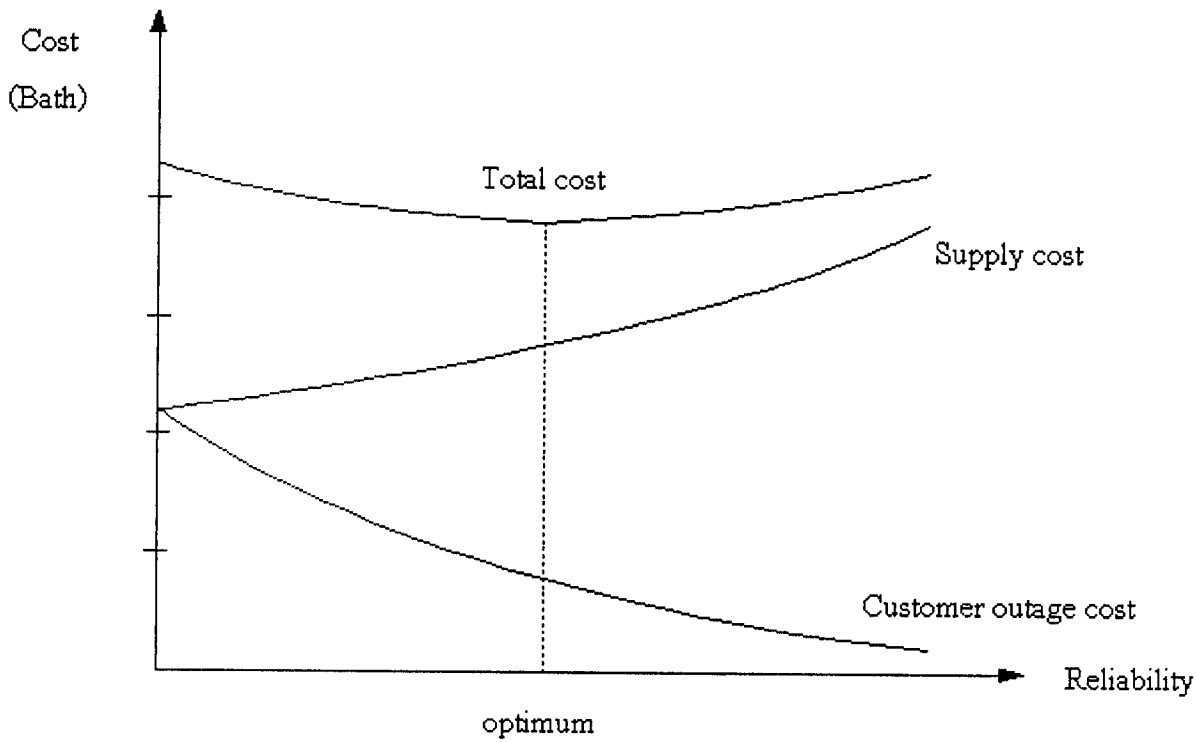
However the response by stakeholder is that ZESCO should look at other alternatives to raise capital to increase power generation capacity in view of the looming power shortages. Zambia Manufacturers Association (ZAM) President, Dev Babbar said the increase would disadvantage manufacturers whose production costs were already uncompetitive.

ZESCO also talks of the issue on unsettled bills on both commercial and industrial premises. However customers spoken to in a survey conducted in Lusaka have shown an understanding of the duty on their part to settle their bills so as to ensure a smooth running of the utility, although some spoke of being debtors of the utility, this they highly attributed to the looming social and financial factors in the country. Example of these factors include the fact that some people have been retired from employment but have not yet been paid their dues, for example, the former Kafue Textiles employees and others retired from civil service such as Ministry of Health and Ministry of Education.

One of the main tasks of a power utility is to provide and supply reliable electricity to customers at reasonable prices. The prices of electricity should normally vary in accordance with the level of the utility's reliability standards. The more reliable, the higher price it normally is. However, if the system reliability is low, outages tend to occur more often and will eventually give more damages to business sectors. However, if a utility utilizes its components in the system closed to their limit or rated capacity, the electricity price may probably be lower. This kind of operation can be done in exchange of lower reliability and security of the system. The present electricity supply industry has considerable reserve capacity and generally utilizes its networks far below its rated capacity. Therefore the system has rather or too high reliability. The balance between economical and technical

considerations is therefore necessary for utility's operation regardless of working under competitive environment or not.

Generally, there is no obligation in choosing reliability levels in power system planning and operation. It mostly depends on the past criteria and work experiences. Under the present vertically integrated structure, utilities can fix the minimum requirement of capacity reserve as a percentage of the peak demand or apply a maximum Loss of Load Probability (LOLP) as its planning criteria. In addition distribution utilities may allow the maximum power flows in any particular feeders not higher than eighty percents of its rated capacity. However, production expansion or additional construction to enhance better capacity and services at a lower price is inevitable for present and future system operation. One of the problems to be faced by the utilities or the power pool in the future is how to fix their own appropriate reliability and security level. However, such the level can be solved theoretically by comparing the cost of supply and distribution with customers' benefits at different reliability levels. The optimum reliability level will be at the balanced point between the total cost of supply and the benefits from the customers. As a result, we need to estimate cost of electricity services at different reliability levels separately from the estimation of reliability value.



The reliability worth evaluation is usually done through the evaluation of reliability indices, which indirectly reflects the reliability worth. The worth is generally known as the outage costs and can be evaluated using operating statistics of the components installed in the system to obtain the Interrupted Energy Rate (IER) or the Value of Lost Load (VOLL). Therefore, to evaluate the outage cost, it requires a good understanding about customer's damages when an outage is occurred. The outage cost can also be used as an unreliability index and represented as reliability worth to be analyzed and compared for future plans and operations.

The outage can cause both direct and indirect damages. Loss of production and raw materials, inconvenience and damages to life and assets are its direct result. While other damages such as crimes, move of factories or offices as well as the cancellation of goods

orders as a result of late deliveries can be indirectly caused. Impacts and outage cost should be estimated in monetary value, which however is quite impossible in practice. Estimating the impacts on raw materials damaged during an outage is possible whereas estimating the impacts on life is somehow not easy, for example. This is so because the perspective of each consumer on the impacts of outage differs accordingly to his or her objective of power usage. Consumer categories, power quantity, interrupted activities, duration and period of outages should thus be the criteria of cost estimation.

CHAPTER FIVE

5.0 RESULTS AND CONCLUSIONS

Zambia's power outages have been making serious headlines on this front;

- Two babies die during power failure at the University Teaching Hospital.
- Lusaka International Airport hit in total darkness
- Natural birth deliveries done in the dark as there was no power supply to the maternity section of the hospital.
- Spar forced to order the disposal of yet another load of food that had perished during a prolonged power failure in Lusaka

The Zambian economy will experience significant adverse consequences from a continuation of rolling blackouts and outages during the remainder of 2008 and beyond. The direct loss of output for Zambian industry and businesses resulting from 20 hours of electricity outages consistent with the current assessment for the summer of 2001 are estimated to reach \$6.8 billion. Rolling blackouts of this duration and magnitude will restrain growth for the entire economy and will result in lost jobs and reduced income for all Zambians. Specifically, 20 hours of electricity outages will have the following impact on Zambia:

- Gross State Output (GSP) for Zambia would be reduced by \$21.8 billion or 1.7 percent, in 2008. This would reduce the growth rate of Zambia GSP from the 2.3 percent currently projected by the Economics association. This loss has two components:

Ø A direct loss of output experienced by all industries due to the effects of outages in the amount of \$6.8 billion.

Ø The indirect effect reflecting the fact that each dollar of output by one industry represents the purchase of output (i.e. goods and services) of other industries. This amounts to \$14.9 billion.

- The finance, insurance, and real estate and services industries would suffer the largest output reductions. In large part this is a reflection of the relative importance of these sectors to the Zambian economy.

5.1 Direct and Indirect Effects

Manufacturing sector losses due to continued rolling blackouts are estimated at \$3.8 billion. The electrical and electronic equipment, food processing, and chemicals and petroleum industries will experience the most significant effects.

A loss of output of this magnitude would reduce household income for Zambians by \$4.6 billion. This is equivalent to a loss of \$104 for every one of Zambians 11.5 million households. It is important to note that this loss is in addition to the impact of higher electricity costs resulting from recent rate increases. Nearly 136,000 jobs would be lost across all industries in the Zambian economy, more than half of job losses would occur in the services and sectors. A continuation of rolling blackouts resulting in outages would reduce employment among Zambian manufacturers by almost 16,000 jobs during 2001.

5.2 Distribution of Job Losses by Industry in Zambia Resulting from 20 Hours of Electricity Outages

- Services 31%
- Fire 26%
- Retail Trade 20%
- Manufacturing 12%
- Wholesale Trade 7%
- Agriculture 4%

The electric power situation in Zambia will likely become more or less unstable over the summer. This will result in more and longer periods of supply disruption, greater unpredictability regarding supply, and higher prices for electricity. A number of factors could combine to increase the rolling blackout period and hours of effective blackouts.

- Stronger electricity demand than is currently projected due to a hotter and drier than expected summer.
- Smaller electricity supply due to any number of factors such as unscheduled plant shutdowns.
- Longer duration of outages than the average 90 minutes experienced earlier this year.

If any, or all, of these occur, the output loss to Zambian businesses and industry will be larger. Aggregate losses to GSP, Zambian household income, and jobs also will increase.

Any additional periods of effective electricity loss in excess of 20 hours due to rolling blackouts would be sufficient to push the Zambian economy into recession this year.

The government in response to this prediction have stated as follows

‘While we appreciate the electricity power deficit and consequently that the power outages are driven by increased demand on account of increased economic output, frequent electricity outages have a serious bearing on current production and as well as on future investments in the country. We commend the Government for measures taken aimed at reducing the cost of energy serving bulbs and encouraging the use of alternative sources of energy.

5.2 RECOMMENDATIONS

The best way out of intractable dilemma is to begin recognizing and protecting property rights of consumers in the electric utility industry. This approach to the problem would lead to genuine deregulation of public utilities; to the removal of all manner of state control over prices, profit levels, and usage of the transmission lines; to an electric utility industry that is both moral and practical- moral in that it would respect the rights of producers to the use and disposal of the product of their effort, and practical in that it would obey the law of supply and demand, thereby making possible the integration of market prices and production requirements.

Under the doctrine of sovereign immunity, litigants are generally precluded from asserting an otherwise meritorious cause of action against the government unless the government consents to the suit. Historically, the federal, state and local governments

were immune from tort liability arising from activities that were governmental in nature. While many state constitutions provide immunity to state and local government units, many jurisdictions have limited or abandoned their sovereign immunity by allowing tort actions under certain restrictions. Today, courts and many state legislatures are increasingly chipping away at the doctrine of sovereign immunity.

Many state statutes provide that government units are immune from actionable wrongs if they maintain insurance coverage, and prohibit the recovery of punitive damages against the state.³⁶ In addition, the state may not raise the defense of sovereign immunity in a tort action against the state when the state is covered by insurance.

ZESCO is a legal person at law and can thus sue and be sued just like any human being. In this regard therefore, we are able to say that when an individual causes harm to another person's body or property, they will be liable to criminal or civil proceedings depending on the extent of the damage and the provisions relating to that specific situation. It is well stated both at law and in fact that a person who is under a contractual obligation to provide certain goods and services must do so with utmost care so as not to injure the people to whom he is rendering such services.

With these facts in mind and having lifted the shield of sovereign immunity, it is now imperative to discuss how liability would accrue to ZESCO:

Electricity cuts would be deemed to arise as a result of negligence. The tort of negligence provides compensation for all sorts of losses that are financial in nature. Thus, if we were to be run over by a negligent car driver, we would get damages not only for our physical injuries (pains and sufferings) but also for the financial consequences of those injuries. Admittedly, when the courts are faced with loss that is purely economic in nature- loss,

³⁶ State proceedings act, Chapter 71 of the laws of Zambia

which does not stem from any physical damage to the claimant or her property- their approach is difficult.

The English courts in the case of **Spartan Steel and Alloy Ltd. Vs Martin & Co. Ltd.**³⁷

Differentiate between (recoverable) consequential economic loss and pure economic loss.

The Laws Lords' reasoning was that to recover financial loss it must be established that it was caused by physical damage to our own person or property. The courts' adoption of a general 'no recovery' or 'exclusionary' rule for pure economic loss is grounded on policy considerations – the floodgates argument. The main fear is that liability might extend to an indeterminate class of claimers, in an indeterminate amount, thereby imposing an undue burden upon the defendant.

On of the greatest concerns of the country at large is the financial mismanagement at ZESCO which have been consistently highlighted in the auditor general's report. 'We believe that the in-house re organization of ZESCO in this regard is a first step in addressing some of these challenges.'³⁸

In order to promote efficiency at ZESCO certain measures as outlined below need to be put in place:

- I. ZESCO be unbundled so that generation, transmission and distribution are separated. Efficiency will be generated thereby. This would also fall in line with the Energy Policy of the country

³⁷ (1973) 1 QB 27

³⁸ ZACCI REPORT

- II. Penalties be imposed upon ZESCO for failure to supply constant power so that ZESCO scales up its performance.

General recommendations are as follows:

1. The enactment of a comprehensive consumer protection statute that clearly spells out the rights and obligations of all market participants, for example, in the Energy sector, the ERB Act³⁹ should provide for consumer protection generally in relation to energy. The act should also contain guiding principles for market conduct.
2. Insurers and technology vendors should be encouraged to step in to help the utility manage the risk. In the long run however, the driving force behind efforts to mitigate liability from outages may come from the utility's simple desire to protect its reputation.

³⁹ Chapter 436 of the laws of Zambia

CONCLUSION

In light of the arguments advanced in this dissertation it goes without mentioning that on 15th February 2007, Zambia's first ever Electricity Consumer Charter was launched by electricity consumers, ZESCO Limited and Energy Regulation Board. The development of the charter involved nationwide consultations with various stakeholders. The charter aims at protecting consumers and ensuring the obligations of ZESCO are clearly defined. The main issue to outline in this vain is the fact that this charter was enacted at a time when the country had an adequate supply of electricity and was even exporting a certain amount. A crisis like the one currently being experienced was not given a thought.

With the advent of excessive electricity shortages, there is need to modify the provisions of the charter to make it applicable to situations such as the one at hand so that it may afford consumers a forum through which they can seek redress for losses and damage and not only a forum through which they can air their grievances.

In my view the charter has not to date addressed effectively the complaints of the consumers.

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