



Phase 2 Final Report:

*Development of Methodology to Determine a
Local Authority Electricity Surcharge in Namibia*

Submitted to:

Electricity Control Board (ECB) - Namibia

by:

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In Association with



November 2004

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Abbreviations

AL	Asset Lease
ALA	Asset Lease Agreement
DCF	Discounted Cash Flow
DRC	Depreciated Replacement Cost
ECB	Electricity Control Board
ESI	Electricity Supply Industry
GRN	Government of the Republic of Namibia
LA	Local Authority
MME	Ministry of Mines and Energy
RC	Regional Council
RED	Regional Electricity Distributor
RoR	Rate of Return
SLA	Service Level Agreement

1 Executive Summary

In November 2000, the Cabinet of the Government of the Republic of Namibia (GRN) approved the restructuring of the Electricity Supply Industry (ESI). The main thrust of the programme is to improve service delivery and financial viability of the industry. One of the key reform initiatives involves the establishment of a number of financially viable Regional Electricity Distributors (REDs) through the consolidation of the current fragmented distribution industry.

The RED establishment process requires that the electricity departments from the different Local Authorities (LAs) be ring-fenced and the responsibility for service delivery be transferred to the REDs. Currently, LAs use the revenues from electricity sales not only to cover the cost of electricity purchases and distribution but also to cross-subsidise some of the other municipal services. Understandably, LAs are concerned that the formation of REDs could undermine this important source of funding.

Furthermore, indications are that REDs would, at least initially, lease the existing electricity infrastructure from the LAs. This lease arrangement could later be replaced by other arrangements such as “asset-transfers”. In the mean time LAs and REDs would want to know how to determine a fair charge for the lease of the assets.

This Phase 2 report carries forward the work that was started during Phase 1. Several of the recommendations have been updated to reflect the results of more detailed analysis and more intense stakeholder consultation processes.

The purpose of this document is therefore to recommend methodologies to determine and implement:

- ***A Local Authority (LA) surcharge.*** The principle aim of this surcharge is to protect the revenue stream which LAs depend on to co-finance other municipal services.
- ***An Asset Lease (AL) charge.*** The objective of this charge is to determine a fair compensation for the leasing of electricity assets, based on a cost reflective approach, when the RED utilises the assets that belong to the LA.

In developing the appropriate positions and recommendations the report starts of by providing a wider perspective of the merits and de-merits of cross-subsidies. Although there are some valid reasons why cross-subsidies are needed any form of cross-subsidy leads to price distortions which impacts on consumption decisions. Ultimately, these distortions lead to sub-optimal resource allocation in the economy which could negatively impact on economic growth and job creation. It follows that the bigger the cross-subsidy the bigger the overall macro economic distortion.

The economic purist would argue against any form of cross-subsidisation. From a practical perspective, however this may not be attainable. The report therefore suggests that the decision-makers must perform a balancing act when they consider the approval of cross-subsidies. On the one hand they must take into account the benefits (non-economic) of having cross subsidies and on the other they must weigh up the economic distortions introduced by the cross-subsidy. Every situation has a point where these two competing forces cross-over. The purpose of this document is

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not to define this cross-over point but rather to highlight its existence and draw the attention to the detrimental economic ramifications of too much cross-subsidisation.

The next section of the report provides a discussion of LA's financial statements and how these could be used to determine the LA surcharge and AL charge amounts. The recommended methodologies are briefly summarised below:

Local Authority surcharge

The principle recommendation is that the LA surcharge should be defined as the difference between the Electricity Department's revenue and costs. This is illustrated in the following figure.

Figure 1: Method to determine LA Surcharge amount

<i>Electricity</i>	
A. Income	xxx.xx
Electricity Sales	□
B. Expenses	xxx.xx
Remuneration	□
General Expenses	
Repairs	
Capital Charges	
Reserves	
Capital Outlay	
C. LA Surcharge (A-B)	□
	□

The above approach is relatively simple to calculate and the data is readily available. However, provision has been made to also allow a portion of the administration charge (which is one of the cost elements under General Expenses in the above figure) to be included in the LA surcharge amount but to phase it out over a three year period. This can be done by allowing 2/3 of the administration charge in the first year then 1/3 in the second year and null in the third year. The reason for this is to allow the LA time to scale down its administration costs and adjust its resources to reflect the fact that it will no longer be responsible for electricity distribution.

Asset Lease charge

The recommended method for determining the asset lease charge is relatively simple and can be expressed as follows:

$$\text{Annual Asset Lease charge} = \text{Historic cost asset depreciation} + \text{Net (depreciated) historic asset value} \times \text{allowed nominal Return of Return (RoR)}.$$

The practical implementation of the above recommendation requires certain adjustments depending on the situation of each LA. These adjustments are mentioned below:

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- The historic net asset value must exclude any form of subsidised assets. Subsidised assets generally refer to those assets which have been either donated or funded (partly or in full) by the GRN, a donor agency or the customer. This requirement will ensure donated assets are used to keep electricity tariffs as low as possible and will also prevent a situation whereby the customers could pay twice for the same asset.
- The net asset value should be adjusted to reflect the actual condition of the asset. In other words if the actual remaining life of the asset is less than the depreciation life then the book value must be adjusted down to reflect the shorter remaining life.
- The nominal RoR should be based on the actual gearing (percent of debt) used in financing the asset.
- The balances on the electricity capital maintenance and capital development fund must be used to reduce the AL charge. This can be done by adjusting the net historic cost asset value of the LA. In this way the fund is indirectly returned to the customers through a reduction in the AL charge

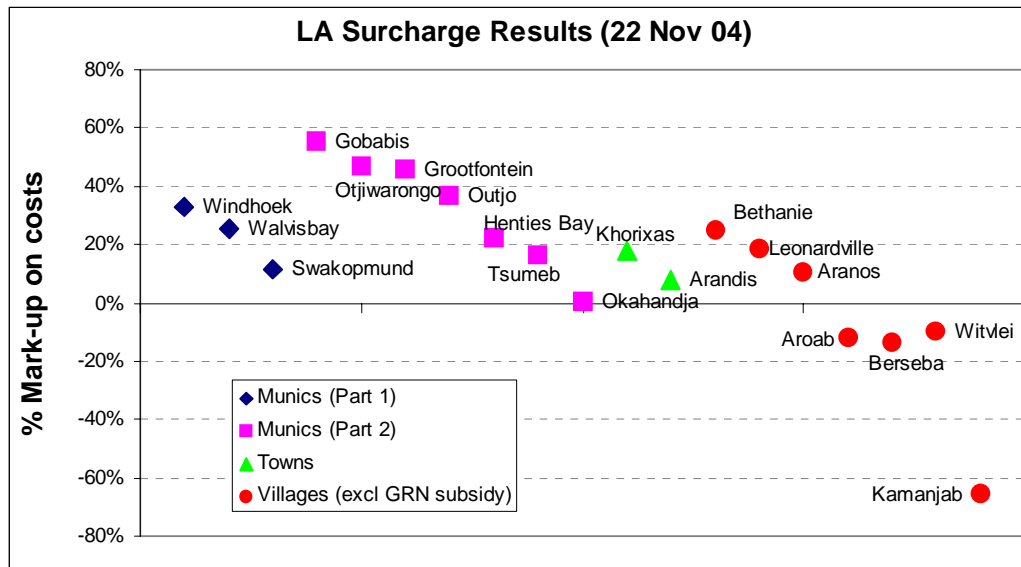
In addition to the above requirements it has also been recommended to:

- Cap the AL charge by indexing it to the RED's tariffs. In other words if the RED's average tariff level is 80% of the average cost reflective tariff level then the AL charge should be 80% of the calculated full number. If the average tariff level is 100% of the average cost reflective tariff then the LA should receive 100% of the LA charge. The cap can be considered necessary and fair in view of the fact that tariffs are currently not cost reflective and therefore LAs presently don't earn a cost reflective return on their assets. This cap also helps to protect the RED's financial position.
- Introduce a minimum AL charge: The minimum charge is set equal to the sum of the LA's loan redemption and loan interest charges. This will ensure that the LA can meet its asset funding liabilities.

Analysis and Results

A number of LAs submitted data samples to determine the impact of the recommended methodologies. The detailed analysis and results are included in several Appendixes at the end of this report. It must be stressed that the results exclude the transitional impact of any administration charges on the LA surcharge amount.

Figure 2: Summary of LA surcharge mark-up percent



The most significant observation from the above figure is that there is a wide spread in the LA surcharge mark-up percent and that there is no single value which could be used for a benchmark. This highlights the fact that a separate LA surcharge must be calculated for every LA. The results also highlight the fact that some Villages actually make a loss on electricity sales.

Unfortunately not enough data was available to calculate the AL charge in accordance with the recommended methodology. Nevertheless, the project team made some assumptions which simplified the data requirement process in order to arrive at indicative figures which are presented and discussed in more detail in the report.

Implementation Considerations

The report also presents a detailed discussion on the implementation considerations for both the LA surcharge and the LA charge. The most significant implementation recommendations are:

- A unique LA surcharge and AL charge should be determined for each LA.
- The AL charge should be recalculated every year using the approved methodology.
- The LA surcharge (N\$ amount) be calculated as the inflation adjusted average of the last three years. This will remove any distortions due to accounting adjustments and will therefore be a more representative figure.
- The LA surcharge will be recovered transparently from electricity customers as a percent of the customer's electricity bill.
- Every year the LA surcharge amount is adjusted with inflation and a new percent is determined to reclaim the amount from the electricity customers.
- LA's who wish to receive the LA surcharge must apply. The ECB will define the necessary process and procedures to facilitate the process.

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- The surcharge amount must be paid on the levied amount (included in or shown on the bill) irrespective of actual payment.
- The LA surcharge amount will be paid over at an agreed date.

Transition of the LA surcharge amount

The last part of the report addresses the important issue, also raised in writing by one of the stakeholders, regarding the future role and transition of the LA surcharge. Some of the transition options mentioned includes; a) phasing it out, b) move towards a similar percentage for the different LA classes, d) increase it with growth (electricity sales, tariff, population etc.).

Apart from adjusting the LA surcharge amount (N\$) for inflation from year to year no other adjustments have been recommended. There are a number of good reasons for decreasing the LA surcharge amount but there are also good reasons for increasing it. The motivation for not taking a firm stance at this stage is that any decision to increase or decrease the surcharge amount in real terms should form part of a larger and more comprehensive debate about the role and purpose of the LA surcharge in the future. As mentioned above, there are a number of possible directions the surcharge could take. However, the merits and de-merits of all the options need to be carefully weighed before a final decision can be made.

The more immediate priority is to implement a LA surcharge methodology that will meet the current financial requirements of the LAs. Once the methodology is working successfully the stakeholders can engage in a debate about its future direction taking into account all the factors, implications and experiences to date.

Next steps

Some stakeholders have already provided some comments on the proposed methodologies. These comments are presented and discussed in Appendix H. Once the Phase 2 Project Report has been finalised and accepted by the Electricity Control Board (ECB), it is expected that the ECB will:

- Make a decision on the LA surcharge methodology;
- Obtain approval for the preferred methodology;
- Liaise with stakeholders on the financial implications of implementing the approved methodology; and
- Design the regulatory process of application and approval.

Parallel to the above activities, the ECB and the Ministry of Mines and Energy (MME) will work with other Government structures to have the Electricity Act amended to include a statutory right to the LA surcharge.

2 What is different in Report 2

This Phase 2 report builds on the initial work performed during Phase 1 of the assignment to develop a methodology to determine LA surcharges and Asset Lease charges. However, some of the key findings and recommendations from Phase 1 are worth repeating. Another reason for presenting the key issues again is to make sure that the Phase 2 document can be read as a stand alone deliverable.

While the issues have remained the same, there have been significant enhancements to the approaches and methodologies that were developed and presented in the Phase 1 report. Feedback from the Phase 1 report and subsequent detailed discussions with some of the stakeholders has revealed the need for more detailed considerations of the Municipal Accounting Practices.

In addition to the updating of the LA surcharge and Asset Lease charge methodologies from the perspectives of Municipal Account practices and the ECB's tariff methodology, it also became clear that the Phase 2 report should address the broader role and desirability of cross subsidies. Consequently, a section has been added in the report to discuss the impact of cross subsidies on economic efficiencies.

The discussions with the stakeholders also revealed that there is still some uncertainty, and perhaps even doubt, that the ECB's tariff methodology will provide the LAs or REDs with sufficient revenues to cover operating and capital expenses. This area of the report has been strengthened to provide more comfort and to explain the important differences between Municipal accounting methods and the ECB's tariff methodology.

Lastly the analysis section has been significantly expanded to include a number of different local Government accounting structures. The results are presented and discussed in more detail in this report.

3 Introduction

The development and implementation of an AL charge and LA surcharge represents an important step in the establishment of REDs. The reason for this is that the RED establishment process requires that the electricity departments of the different municipalities be ring-fenced and that the responsibility for electricity service delivery be “transferred” to the REDs. Currently, municipalities use electricity sales to cross-subsidise some of the other municipal services. Understandably, municipalities are concerned that the formation of REDs could undermine this important source of funding. Following various interactions, the role-players have agreed that the municipalities should continue to receive these subsidies after the REDs have been put in place.

At the moment, these subsidies ‘exist’ but they are generally embedded in the retail tariffs of the various municipalities. The main aim of this project is, in a transparent manner, to develop a framework to define and implement the level of the LA surcharge needed to ensure that the municipalities still receive adequate funding once the REDs have taken over the responsibility for the distribution of electricity. A secondary objective is to develop a methodology linked to determination of an appropriate Asset Lease charge to complement the LA surcharge in terms of overall remuneration to LAs when they join the RED.

Phase 1 of the project focused on the development of a set of interim principles and methodologies for dealing with Asset Lease charges and LA surcharges in the NORED area only. The study also recalculated NORED’s revenue requirement to demonstrate the use of these methodologies and to determine their impact.

Phase 2 required further analysis and refinements of the proposed methodologies to develop an approach that could be applied across all the REDs. Phase 2 also involves more detail stakeholder involvement to obtain inputs and comments.

4 Economic Impact of Cross Subsidies

Both the GRN and the ECB have stated that the electricity industry should move towards more cost reflective tariffs. It is important to observe that the introduction of a LA surcharge will deviate somewhat from this objective (although making the existing practises more transparent). This section briefly explores the importance of cost-reflective tariffs and the role of cross subsidies within the framework of economic efficiencies.

Most leading economists are in agreement that cost reflective tariffs are the best way to achieve economic efficiencies. The reason for this is that it will result in the optimum allocation of scarce resources. The logic can briefly be described as follows:

- If prices are too low (well below the full cost of efficient supply), then demand will be higher than what it should be. These higher demand levels will require additional infrastructure which will consume scarce resources (money and skills), making it more expensive for other firms. These resources (if they are priced lower) could have been used elsewhere to create more economic value. Low prices that result in additional consumption can also lead to unnecessary environmental pollution through the consumption of non-renewable resources such as coal.
- If prices are too high (higher than the full cost of efficient supply), demand will be lower than what it should be. These high prices prevent people and firms from using electricity to develop new business opportunities. Even worse is that these high prices may lead to the shut-down of existing business ventures. These developments will lead to lower economic growth, greater levels of joblessness and poverty.

The above brief discussion shows that any deviation from cost reflective tariffs, such as the introduction of a levy or surcharge, will result in (or permeate) sub-optimal economic efficiencies. Does this mean that the industry should do away with all forms of cross subsidies? Ideally the answer is yes. However, we do not live in an ideal world and certain trade-offs may be necessary. In many instances policy makers and regulators must balance conflicting objectives such as the need to have tariffs that:

- Promote economic efficiency;
- Keep electricity affordable to the poor;
- Stimulate economic growth; and
- Support the economic viability of the industry.

There should be no doubt that the key principle of cost reflective tariffs must underpin the basis for tariff design. However, cross-subsidies may be retained in the tariff for two reasons:

- Firstly, an immediate removal of cross-subsidies may lead to a sudden and socially unacceptable tariff adjustment; and
- Secondly, Government may adopt certain social or economic policies to cross-subsidise specific segments of the industry (e.g. prices to rural and low-

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income consumers). In this case, cross-subsidies may be a feature of electricity tariffs in the long-term.

There are four key questions to answer when the industry agrees to develop and implement cross-subsidies (or deliberately retain existing cross-subsidies):

- **Who should benefit from the subsidy?** It is preferable to target cross-subsidies to those groups that are most in need of it. This can be difficult to achieve. One way to achieve this is to develop transparent selection criteria. However, careful judgement is required not to cause inadvertent discrimination or prejudice that may be viewed as unreasonable, unjust or even unconstitutional.
- **How large should the subsidy be?** Again, this is a policy issue that needs to be carefully considered by policy makers. The policy makers must weigh up the need for the cross-subsidy against the economic distortions that the subsidy will cause. In the longer term the country and its citizens are better off with smaller subsidies.
- **Who should pay for the subsidy?** Subsidies can of course never be free. The only question that must be answered who will pay for it. There are generally two choices. The first is that the burden is shifted to other customers through an increase in tariffs. The second option is to move it to the tax-payer via funding arrangements from the national treasury. A combination of these two methods is of course also possible. The advantage if national treasury cross subsidies is that the burden is spread over a much larger base and hence the economic distortions in the industry are less. The second is that the subsidy will have to compete against other demands for Government funding. In this way the appropriateness of the subsidy will be periodically reviewed by senior Government officials.
- **How should the subsidy be implemented and administered?** Lastly, policy makers also need to decide how the subsidy should be implemented and how it will be administered. The correct approach will vary from case to case depending on the unique circumstances.

5 Municipal Accounts

One aspect that deserves attention in determining a LA Surcharge methodology is the understanding how municipal accounts are structured. This section briefly discusses the overall structure of these accounts and explores its impact on the LA surcharge methodology, AL charges and Service Level Agreements (SLAs). In various interactions with stakeholders during Phase 2 it became obvious that some discussion is also needed to examine the key similarities and differences between municipal and business accounting practices and its impact on this project and other regulatory activities such as tariff setting.

The remainder of this section provides a brief and general discussion of the way accounts for a relatively large municipal entity is structured. It is important to note that this accounts layout and discussion forms the basis on which the LA surcharge methodology has been developed.

It is customary practise that the accounting structures of the LA broadly mirror its organisational structure. From the analysis undertaken, it appears as if the majority of LAs are divided into three service areas namely Trading Services, Self Maintaining Services and Non-Profitable Services. This overall accounting structure and the associated services are illustrated in the following figure:

Figure 3: Example of the different Municipal and Town Services

Trading Services	Self-Maintaining Services	Non-Profitable Services
Electricity Water	House Rental Single Quarters Sewerage Cleaning Abattoir	Administration Cemetery Assessment rates Fire Brigade Health Department Sub-Economic Housing Stores Civic Buildings Parks & Gardens Security Roads Swimming Pool Caravan Park

The general practise is for the Municipalities and Towns to generate a surplus on the Trading Services which is then used to absorb the deficits arising from the provision of Self-Maintaining and Non-Profitable Services.

Figure 4: Typical Services Rendered by Villages

Services
Electricity Water Streets & Roads Parks, Cemetry & Community Development

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The financial situation in Villages is quite different from that in the Municipalities and Towns. Firstly, Villages provide fewer services than the larger areas. Figures 1 & 2 illustrate these differences. The second contrast is that Villages generally do not generate surpluses from electricity sales. In fact, in many instances Villages receive a contribution from Central Government to subsidise the cost of providing these services. From this it can be concluded that Villages may not qualify for a LA surcharge when the electricity supply moves into the RED. To the contrary, REDs will indirectly have to absorb the shortfall between the cost to supply the service and the revenues from sales. If the REDs do not qualify for the subsidy from Central Government, then it will have to increase the cross-subsidy amount to support electricity supply in Villages.

In addition to the above points, there are two aspects of the municipal accounting structures that have an important influence on this project and therefore require further discussion. The first relates to the structure of the energy department's budget or accounts. The second deals primarily with the accounting integration of the different municipal services to derive at a viable financial position.

5.1 Electricity Department Accounts

Figure 5 shows the high level accounting structure for a typical Electricity Department. The main source of income is obviously the sale of electricity. Departmental expenses are grouped under a number of expense categories as listed below. The surplus (or deficit) is then determined as the difference between Income and Expenses.

Figure 5: Typical High Level Accounting Structure for Electricity Department

A. Income	xxx.xx
Revenue from sales	<input type="text"/>
B. Expenses	xxx.xx
Remuneration	<input type="text"/>
General expenses	
Repairs	
Capital Charges	
Reserves	
Capital Outlay	
C. Surplus (A-B)	<u>xxx.xx</u>

A detailed report of the Electricity Department's accounting structure is presented in Annexure A. The purpose and content of each of the main expense categories are summarised hereunder.

- **Remuneration:** This expense reflects the direct human resources cost required to deliver the service.
- **General Expenses:** This category includes the cost of procuring services to facilitate energy purchases and delivery. One of the main elements in this

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category is the cost of energy purchases. Other cost elements include consumables, telecommunications, insurance, licenses, etc. In some instances LAs also allocate the administrative overhead costs of its support services to the core service departments such as electricity. This administrative overhead cost can then appear in the General Expense category as a detailed cost element.

- **Repairs:** This expense represents the cost needed to maintain the low, medium and high voltage networks, transformers, meters and other electrical infrastructure which the local authority is responsible for.
- **Capital Charges:** This expense category consists of loan redemption and interest charges for the duration of the loan.
- **Provisions & Reserves:** The category ensures that funds are set aside through statutory funds, reserves and trusts to meet future obligations. In certain instances LAs also create provisions to meet the cost of future asset replacements.
- **Contribution to Capital Expenditure (Capital Outlay):** The purpose of this category is to allocate some of the Electricity Department's earnings to partly finance capital projects.

A key observation from the above is that the expense categories can be separated into two groups namely Operating Expenses and Capital Expenses. The following figure shows the Electricity Department accounts before and after the expense categories have been divided. Note that the overall revenues, total expenses and surplus amounts stay the same.

Figure 6: Operating & Capital Expense Categories

<i>Electricity</i>		<i>Electricity</i>	
Income	96,822,724	Income	96,822,724
Electricity Sales	96,822,724	Electricity Sales	96,822,724
Expenses	82,953,016	Operating Expenses	76,698,771
Remuneration	8,377,899	Remuneration	8,377,899
General expenses	67,552,193	General Expenses	67,552,193
Repairs	768,679	Repairs	768,679
Capital Charges	5,208,570	Capital Expenses	6,254,245
Reserves	446,000	Capital Charges	5,208,570
Capital Outlay	599,675	Provisions & Reserves	446,000
		Capital Outlay	599,675
Surplus	13,869,708	Surplus	13,869,708

The above differentiation is significant in that it provides the decision-makers with a deeper insight into what the cost-drives are for the different expense categories. The above expense classification also facilitates the implementation of SLAs as a means to recover Operating Expenses, and Asset Lease Agreements (ALAs) as a mechanism to recover the cost of Capital Expenses.

5.2 Local Authority Accounts

All the accounts from the different service groups are finally consolidated into a single Income & Loss statement for the LA. Ideally the LA wants to end up in a position where the all the revenues exceed all the expenses. The following figure demonstrates how the accounts from the different service departments are summarised to form a consolidated financial position for the LA.

Figure 7: Example of integration of accounts

	Electricity	Other Services	Total
Income	96,822,724	143,797,573	240,620,297
Revenue from sales	96,822,724	143,797,573	240,620,297
Expenses	82,953,016	157,397,374	240,350,390
Remuneration	8,377,899	67,104,781	75,482,680
General expenses	67,552,193	58,863,279	126,415,472
Repairs	768,679	6,512,607	7,281,286
Capital Charges	5,208,570	20,766,250	25,974,820
Reserves	446,000	3,185,957	3,631,957
Capital Outlay	599,675	964,500	1,564,175
Surplus (A-B)	13,869,708	-13,599,801	269,907

From Figure 7 it is clear that the LA, shown in the above example, relies on the financial support from electricity sales to cross subsidise some of the other LA services and therefore plays a critical role to produce a “balanced” budget. If the service obligation for electricity distribution now moves to the RED, the LA will experience a financial shortfall of approximately R13.6 million. The LA will want to continue receiving the surplus from Electricity Department to preserve the financial viability of the LA. The purpose of the LA surcharge, in the example shown in Figure 7, is for the RED to continue to collect the R13.869 million and then to pay it over to the LA.

6 Overall Approach

This section applies the concepts that were developed in section 5 to explore how the different SLAs, ALAs and LA surcharges can work together to protect the financial position of the LA after the establishment of the RED.

Figure 6 illustrates a key observation, which is that the revenue requirement of the Electricity Department consists of two main costs categories (operating and capital expenses) and a need for a financial surplus. This finding paves the way to show how the Electricity Department's financial surplus can be maintained through the use of SLAs, ALAs and LA surcharges. To demonstrate how this principle can work we have to assume that the RED on Day 1 will:

- Procure all its operating services from the LA through SLAs equal to the amount of all the operating expenses;
- Rent all the electricity assets from the LA through ALAs equal to the amount of all capital expenses; and
- Pay an LA surcharge amount to the LA equal to the surplus currently generated by the electricity department.

The impact of the above concepts and assumptions is illustrated in Figure 8 and Figure 9. These figures show the accounts and financial positions of the LA before and after the introduction of the RED. The main difference is that income from electricity sales before the RED is replaced by income from SLAs, ALAs and LA surcharges after the RED.

Figure 8: Financial Position of the LA *before* the RED

	<i>Electricity</i>	<i>Other Services</i>	<i>Total</i>
Income	96,822,724	143,797,573	240,620,297
Electricity Sales	96,822,724	-	96,822,724
Other	-	143,797,573	143,797,573
Expenses	82,953,016	157,397,374	240,350,390
Remuneration	8,377,899	67,104,781	75,482,680
General expenses	67,552,193	58,863,279	126,415,472
Repairs	768,679	6,512,607	7,281,286
Capital Charges	5,208,570	20,766,250	25,974,820
Reserves	446,000	3,185,957	3,631,957
Capital Outlay	599,675	964,500	1,564,175
Surplus (A-B)	13,869,708	-13,599,801	269,907

Development of a methodologies to determine LA surcharges and AL charges**Figure 9: Financial Position of the LA after the RED**

	<i>Electricity</i>	<i>Other Services</i>	<i>Total</i>
Income	96,822,724	143,797,573	240,620,297
SLAs with RED	76,698,771	-	76,698,771
ARAs with RED	6,254,245	-	6,254,245
LA Surcharge from RED	13,869,708	-	13,869,708
Other	-	143,797,573	143,797,573
Expenses	82,953,016	157,397,374	240,350,390
Remuneration	8,377,899	67,104,781	75,482,680
General expenses	67,552,193	58,863,279	126,415,472
Repairs	768,679	6,512,607	7,281,286
Capital Charges	5,208,570	20,766,250	25,974,820
Reserves	446,000	3,185,957	3,631,957
Capital Outlay	599,675	964,500	1,564,175
Surplus (A-B)	13,869,708	-13,599,801	269,907

In summary the above discussion and examples shows that SLAs, ALAs and LA surcharges can work in concert to protect the financial viability of the LA. It also illustrates that LA Surcharges needs to be set equal to the Electricity Department's current "Surplus" amount (see Figure 5 and Figure 7) if the LA wishes to remain financially neutral after the implementation of REDs.

It must be highlighted that the above example rests on the two critical assumptions:

- The first is that all the expenses will be recouped either from the SLAs or the ALAs. In reality this will not be the case because some of the expenses will fall away when the RED assumes the responsibility for electricity distribution. For example the Electricity Department's single biggest expense component (energy purchase cost) will fall when REDs take over electricity distribution. Another example is that there would be no need for the LA to make provision for the repair and replacement of electricity networks.
- It is also assumed that the RED will contract all its services in from the LA. This is unlikely to happen. Instead of contracting for the services some of the people may move over to the RED. This will reduce the remuneration and associated costs of the LA. In many instances the LA will have to find ways to manage the cost of those services that it currently renders to the Electricity Department but that would no longer be required by the RED.

Although the assumptions in the above example are not strictly correct, it does not mean that the finding that the LA surcharge amount should be set equal the surplus amount of the Electricity Department is not a valid and robust one. The LA surcharge amount, as defined above, should be sufficient to ensure the financial neutrality of the LA if the LA can manage its cost in line with its negotiated SLAs and ALAs. In other words any reduction in revenues from SLAs and ALAs must be offset by a reduction in Operating and Capital Expenses respectively. This will require the attention of senior LA management to ensure that their operations are re-aligned with the new requirements of the industry.

7 Methodologies

This section of the report discusses the general criteria for the development of methodologies. It also presents the detailed methodologies on how to determine the LA surcharge amount as well as the Asset Lease charges for municipal distribution licensees.

7.1 Methodology Criteria

There are certain industry objectives and current realities that must be borne in mind when the methodologies are developed and proposed. In this instance the Consulting team have identified and considered the following criteria set:

- Current municipal accounting practices;
- Availability of and access to information;
- Resource constraints to implement the recommended methodology;
- A simple approach that could be easily applied across all LAs; and
- The need to “minimise” the financial impact on the LAs after the establishment of the REDs.

7.2 LA Surcharge Methodology

Section 5 of this report presented a detailed discussion of the structures and applications of the various Municipal Accounts. It also demonstrated how these accounts can be used to determine the impact on the overall financial position of the LA when the electricity service obligation is transferred to the RED. An important finding is that the basic method for determining the size of the LA surcharge can be illustrated by the following calculation.

Figure 10: Method to determine LA Surcharge amount

		<i>Electricity</i>
A. Income		xxx.xx
Electricity Sales		
B. Expenses		xxx.xx
Remuneration		
General Expenses		
Repairs		
Capital Charges		
Reserves		
Capital Outlay		
C. LA Surcharge (A-B)		xxx.xx

The above methodology is simple but effective. It also recognises municipal accounting standards and requires the minimum amount of information. Another

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important aspect is that it will protect the existing levels of financial viability of the LA. These are important characteristics and will ensure that the methodology will receive the widest possible support and implementation.

It is also important to realise what the methodology does not do. It does not:

- Express an opinion on whether the LA surcharge amount is too high or too low - it simply states what it is;
- Require the calculation of cost reflective tariffs; and
- Require asset values or registers¹.
- The LA surcharge amount will not be increased to address non-payment by existing customers and any money owed to NamPower or any suppliers.

The impact of Administration Charges

It must be noted that the above methodology will help to determine the LA surcharge amount that LAs currently depend on. However, the LAs also rely on the contribution from overhead and administration related costs to maintain viability. These are legitimate expenses that should in future be recovered from the REDs through SLAs and ALAs. LAs should be aware that if REDs do not buy in all their services from the LA, the LA may not recover all these administration and overheads costs. As discussed earlier in the document the LA may then have to re-align its business to reflect this change. If the current overhead and administration costs are a reasonable reflection of the true costs of providing the services, then the LA should not experience major difficulties in restoring its financial performance. However, if the current level of administration and overhead charges is significantly more than the actual costs, then the LA may find it harder to adapt its financial position to the changes.

During the regional workshops held during the first week in November 2004 some stakeholders felt that the LA surcharge should include the administration charges. Such a recommendation would be inconsistent with the previous discussion for the following reasons:

- The administration charge represents the cost of services that are provided by the municipality. If the responsibility of electricity distribution is transferred to the RED then the Electricity Department must stop to provide these services. If these services are no longer rendered then the LA should also not incur the cost. Consequently, it would not be appropriate to compensate the LA for costs it no longer incurs.
- As noted earlier in some instances the RED may buy-in certain services from LA. In such instances the LA will still be required to provide a part of the services it currently provides. Naturally it will also incur the cost of these services. However these costs will be recovered through a Service Level Agreements with appropriate charges.

¹ Asset register and initial (historic) asset values are however required to develop and implement a methodology for a transparent Asset Lease charge.

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- Furthermore, it must be kept in mind that REDs will set-up their own management infrastructure that will require administration and overhead related costs. It would be extremely hard, and one could argue probably unfair, to expect that the electricity consumer to pay twice for administration charges firstly to cover the administration charges of the LA and secondly to pay for the administration charges of the RED.

Special mention must be made of LAs with particularly high administration costs. These LAs may find it difficult to manage their financial affairs if they lose the revenue from the administration charge. The reason for this is that the LA will find that they will not be able to save on costs to same degree as what they lose on revenue. If this happens it is an indication of overstated administration costs. To prevent this from occurring it is recommended that a maximum administration charge be set when the LA surcharge is determined. This can be done by expressing the administration charge as a percent of total electricity revenues. Any administration charge amount in excess of the maximum allowed percent is then included in the LA surcharge. Results from the analysis presented in section 8 suggest that the administration cost percent varies between 10% and 15% for the majority of LA. Any administration charge cost over 15% should therefore form part of the LA surcharge.

Another proposal which was discussed during the stakeholder consultation process was to make the administration charge part of the initial LA surcharge calculation but then to phase it out over a defined time period. The rationale is that this will give the LA time to adjust its internal business operations in order to absorb the loss of the administration charge related revenue.

This approach has merit in that it treats the administration charge as a transitional charge and which will be phased out. Assuming the RED can afford it, it may be an acceptable transition mechanism especially if the phasing out period is kept short, for example three years to limit the impact on the viability of the RED.

This administration charge method is unfortunately further complicated if the RED also buys services from the LA via an SLA. In this instance a portion of the administration charge will be paid for by the RED while another portion will be cross-subsidised through an increase in the LA charge. The ECB should therefore ensure that:

- The allowed administration charge is reduced to reflect the benefit from any SLA's between the LA and the RED on a pro-rata basis.
- That the administration be phased out over a 3-year period where a maximum of 2/3 of the current administration charge is allowed in year one, 1/3 in year two and null in year three. The administration charge should be fully phased out in the third year.

A final position on the administration charge approach can be taken once a more detailed LA surcharge and AL charge economic impact study has been performed. This will shed more light on the question whether the REDs can "afford" to absorb this extra cost without jeopardising the viability of the RED or expecting the customer to pay twice for administration charges.

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These observations underline the importance of knowing the true cost drivers in the business and then to link the charges to these drivers. These linkages are established or confirmed through ring-fencing and cost-of-supply studies.

Compatibility with Tariff Setting Methodology

It is also worth pointing out that the above methodology is based on the current municipal accounting structures and standards. This raises a question regarding the appropriateness of this methodology (shown in Figure 10) when compared against the ECB's approved tariff methodology which is based on business accounting practices.

In addressing the above one should keep in mind that the purpose of the LA surcharge methodology is to determine the *current* revenue amount that LAs derive from electricity sales to cross-subsidise other municipal services. The objective of this project is to identify this amount and then to continue with it (but in a transparent manner) to ensure the financial neutrality of the LA after the implementation of REDs. To achieve this, the LA surcharge methodology must take current costs and approaches into account.

Furthermore, the main focus of the ECB's tariff methodology is to assist the licensees in determining cost reflective revenue requirements. Bearing in mind that the industry is not charging cost reflective tariffs at present, it follows that the tariff methodology is not the best mechanism to estimate the LAs costs and surcharges at present.

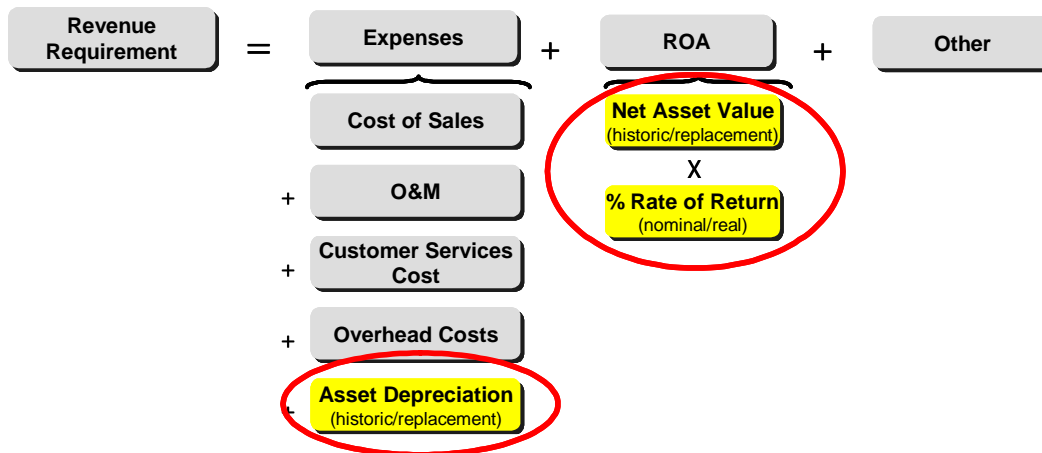
7.3 Asset Lease Charge Methodology

One of the key questions in the restructuring of the distribution industry revolves around determining a fair price for when the LAs lease their assets to the REDs. The price must strike a balance between compensating the LA and keeping electricity tariffs as low as possible.

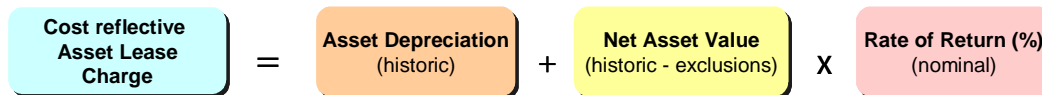
Most industry experts agree that there are broadly speaking two prominent methods to determine asset values. The first method involves a Discounted Cash Flow (DCF) analysis, whereas the second depends on a Depreciated Replacement Costs (DRC) approach.

Performing a DCF asset valuation calculation involves estimates of future prices. However, electricity prices in Namibian are set by the ECB through a pricing policy that uses DRC asset values. This means that in effect the two methodologies are the same in a regulated industry where prices are set through a Rate of Return (RoR) pricing methodology that uses DRC asset values.

The conclusion is that the Rate of Return (RoR) tariff methodology is the appropriate way to determine asset prices and values. This methodology is not only applied to determine tariffs in Namibia but it is also the preferred method of price regulation for many monopoly industries around the world. This RoR method is best explained using the following schematic of the tariff methodology.

Development of a methodologies to determine LA surcharges and AL charges**Figure 11: Schematic of the ECB's tariff methodology**

The asset related components used in determining the allowed revenue requirement are highlighted in encircled areas. The above figure suggests that the Revenue from leasing assets (excluding any operating related expenditures) are given by the following relationships:

Figure 12: Cost Reflective Asset Lease Charge

Although the above concept is consistent with the ECB's current tariff methodology, it is important to point out that there are a number of important differences. These are discussed in more detail below.

Historic Versus Replacement Asset Values

The first difference between the approach presented in Figure 12 and the ECB's current tariff methodology is that asset values are based on historic values rather than replacement values. Following on the recommendation to use historic asset values is that the Rate of Return percentage needs to be stated in nominal rather than real terms. In order to understand the reason for deviating from the approved tariff methodology, it is necessary to understand why the ECB has decided to use replacement asset values.

The advantage of using replacement asset values over historic asset values is that it is a more effective approach to achieve stable prices in an inflationary environment. However, this approach can only be effectively implemented when the asset owner also has the responsibility to replace the assets once they have reached the end of their economic life. When REDs are formed there will be a separation between asset owner (the LA) and the entity responsible for asset replacement and creation (the RED). This implies that the historic cost asset values are the most appropriate mechanism for valuing distribution assets in the LA once the REDs are created.

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The above recommendation will ensure that the LA is fairly compensated for the assets that it has created in the past but that the provision for future assets is developed in the RED rather than LA.

Assets Value Adjustments

During Phase 1 of this project, the Consulting Team identified the need to enhance the existing tariff methodology in order to better deal with situations where a significant percentage of the assets (whether owned or rented by the licensee) have been subsidised (i.e. the present owner has not had to fund the creation of the assets).

The current ECB tariff methodology recommends that subsidised assets should be *excluded* from the rate base when rate of return values are calculated, but that it should be *included* in the rate base when depreciation figures are determined.

The above approach works fine while the percentage of subsidised assets is relatively small, for example less than ten percent of the total asset base. The disadvantage of this approach however, is that the full benefit of subsidised assets is not passed on to the consumer. This leads to a situation where customers are expected to pay twice for the creation of assets, firstly through the upfront payment and secondly through the tariff. Understandably this becomes a more serious concern when the percentage of subsidised assets becomes larger.

The full benefit of subsidised assets can be passed on to consumers if the subsidised assets are excluded from the rate base for *both* the rate of return and depreciation calculations.

The disadvantage of this approach is that customers will experience a real increase in electricity tariffs once the subsidised assets need to be replaced without any further subsidies. It is expected that this will happen gradually over time as and when assets are replaced. Until such time the customers will enjoy lower tariffs.

The following are considered to be subsidised assets.

- Assets that were funded by an entity other than the LA and then donated or transferred to the LA at no cost or liability. Examples include assets created and donated by GRN and donor agencies such as NORAD.
- Assets that were paid for by customers when the infrastructure was created. If customers only paid for a portion of the assets then only a portion of the assets must be excluded from the tariff or Asset Lease charge calculation.

The process described above is not unique to the AL charge calculation methodology. To be consistent and fair, the Consulting Team has recommended in the Phase 1 report that the above changes should also be incorporated as part of the ECB's tariff methodology.

It is assumed that the LAs will perform an asset valuation exercise to compile a comprehensive asset register before the assets are leased or transferred to the REDs. It is standard practise that the evaluators will not only verify assets registers but will also review the condition of major assets. In certain instances this may result in asset write-downs to reflect the actual state of the asset. It is recommended that the adjusted asset values be used for the purpose of AL charge calculations. This is fair and

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protects the RED and ultimately the customer from over-paying for assets that are in a poor condition.

Moreover, the review of the Municipal Accounting practices has also revealed that LAs create a reserve for future capital expenditure through the Capital Maintenance and Capital Development Fund provisions. These reserves have been financed through contributions from electricity sales revenues. Any balances on these accounts therefore “belong” to the electricity consumers and should be utilised to benefit the customer. This would have occurred if the LA retained the responsibility of asset maintenance and creation. Once the REDs are formed this obligation will be removed from the LAs and therefore requires an approach to deal with these reserves in a fair manner.

The initial arrangement appears to be that the RED will lease the assets from the LA until the assets have been transferred. But the time-frames in which this will occur is unclear at this stage. It is therefore recommended that any balances on the electricity capital maintenance and capital development fund be used to reduce the AL charge. In this way the fund is returned to the customers through a reduction in the AL charge

This can be done by reducing the depreciation and net asset values shown in Figure 17. The recommended adjustment calculations are shown below:

Adjustment to Depreciation = Opening Reserve Balance / Period over which the funds will be reimbursed.²

Adjustment to Net Historic Cost Asset Value = Opening Balance less adjustment to the depreciation.

The following figure illustrates how this calculation can be applied.

Figure 13: Example of how to calculate the Reserve Fund adjustments

Assumptions

Opening Reserve Balance	100
Reimbursement period	5

Calculation of Adjustments

	Year 1	Year 2	Year 3	Year 4	Year 5
Opening Reserve Balance	100	80	60	40	20
Adjustment to Depreciation	20	20	20	20	20
Adjustment to NAV (Closing Balance)	80	60	40	20	0

Once the assets are transferred it is assumed that the remaining balances of the Capital Maintenance and Development Funds will also be transferred to the REDs, together with the appropriate agreed liabilities.

Rate of Return

² The re-imbursalment period can be set through negotiation but cannot be longer than the expected remaining life of the assets.

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The ECB currently holds the responsibility to determine the appropriate RoR percentage for the industry on annual basis. The process is guided by a transparent framework and relies on the update of key economic parameters.

It is recommended that the same process be used to determine the RoR on leased assets. However, as pointed out earlier, a key difference is that the RoR for AL charges calculations must be stated in nominal terms and not in real terms which is the case for the ECB's tariff methodology. This change is of course brought about by the fact that asset values for AL charges will be expressed in historic cost terms and not on replacement values.

Another requirement is that the RoR should be determined taking into account that LAs are not tax paying entities. This will bring the effective RoR down if compared to a tax paying entity. Although the rate is lower the returns to the lenders and investors remain the same.

The present tariff methodology assumes that licensees will maintain an optimum capital structure which has been defined as consisting of 60% debt and 40% equity. An alternative approach is to base the analysis on the "actual gearing" of the LA instead of "target gearing". Assuming the data is available the results would yield AL charges which are closer to the actual cost of funding. Another reason why actual rather than a target gearing approach is considered more suitable in the case of determining the AL charges is that the LA would no longer have future electricity funding requirements. Thus a rear-view mirror rather than a forward looking approach is more appropriate.

A forward view based on a target gearing percent is still the best approach to deal with tariff setting requirements. The principle advantage of the target gearing approach is that the ECB does not have to be concerned about the use of different capital structures and funding instruments. This is similar to an incentive based approached and therefore reduce complexity and encourages efficiency.

RED Affordability

The AL charge methodology illustrated in Figure 12 sets out an approach to determine a cost reflective charge for the lease of the LA's assets. This charge should be viewed against the backdrop that industry tariffs in general are not at cost reflective levels.

This may lead to a situation where AL charges are cost reflective but tariffs are not. This arrangement can potentially put the RED's financial position under severe pressure.

One way to establish balance between the RED's cash inflows and the AL charges is to link the AL charges to the level of cost reflective tariffs. In other words when the RED's tariffs are fully cost reflective then the AL charge should be paid in full but when the RED's tariff level (before levies and taxes) is say 70% of the cost reflective level then the LA will only receive 70% of the cost reflective AL charge. This principle of a Modified Asset Lease Charge is demonstrated in Figure 14.

Development of a methodologies to determine LA surcharges and AL charges**Figure 14: Modified Asset Lease Charge**

$$\text{Modified Asset Lease Charge} = \text{Cost reflective Asset Lease Charge} \times \frac{\text{Actual Tariff Level of RED}}{\text{Cost reflective tariff level of RED (before levies)}}$$

Minimum Asset Lease Charge

There is concern that the Modified AL charge may, under certain extreme situations, actually result in a payment which is below the LA's current Capital Charges costs. This situation would drain the cash flows of the LA and is unsustainable. To counteract this situation it is suggested that the methodology includes a minimum payment to the LA. The minimum payment should be set equal to the LA's Capital Charge amount for the electricity department. This recommendation is illustrated in the figure below.

Figure 15: Actual Asset Lease Charge

$$\text{Actual Asset Lease Charge} = \text{Maximum of (Modified asset Lease charge or Capital Charges)}$$

8 Analysis

The Project Team has used the methodologies as described in the previous section together with data that was collected from a number of LAs. The objective of this section is to:

- Demonstrate how the methodologies can be used to estimate the LA surcharge and Asset Lease charge amounts; and
- Develop a sense of the size of these amounts for a number of different LAs.

The results from this analysis can then be used to develop LA surcharge and Asset Lease charge implementation and transition strategies.

8.1 Approach

The analysis can be structured and presented in a number of different ways. In this instance the work was grouped as follows:

- The type of LA and RC;
- The LA or RC;
- The year for which data is available; and
- Whether the data is based on budget estimates or actual financial results.

The reason for doing the analysis over a number of years for the same LA is to avoid any anomalies that can sometimes occur due to budget and reporting requirements or errors. Although this approach requires more data and analysis the benefit is that it the study ends up with more reliable results. In turn more accurate results will increase the confidence in and acceptance of the process by all the key stakeholders.

The reason for grouping it by the type of LA or RC is to determine whether there are any noticeable trends between the different classes. Depending on the results it may simplify the implementation process if guidelines can be developed for a few classes of LAs rather than to develop a unique approach for every municipal entity. For the sake of completeness the classification of the different LAs and RCs is listed in Annexure B.

8.2 Assumptions

The methodology to determine the LA surcharge is straight forward and the information can be easily obtained from the LA's current set of financial statements. The methodology in respect of the AL charge is more involved and requires data parameters that were not available at the time this report was compiled.

Nevertheless, by making a number of key assumptions the Consulting Team simplified the proposed AL charge methodology which allowed them to produce a set of indicative results. The assumptions are presented below:

- Loan redemption amount was used as a proxy for depreciation; and
- Loan interest amount was used as proxy for cost of capital.

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The above assumptions produce reasonable estimates for LAs who did their asset financing primarily through loans. Subsidised or paid for assets are automatically excluded because loans are only taken out for assets that were financed by the LA.

It was further assumed that the balances for the capital maintenance and development funds will off-set any financial requirements from past own investments. This assumption avoided the need to adjust depreciation and return values with the balances in the LA's capital development and maintenance funds.

8.3 Analysis

A number of customised spreadsheets were developed to assist with the analysis process. The Project Team also decided to design the spreadsheets in such a way that the same input data is used to determine both the LA surcharge and Asset Lease charge amounts. This makes the overall process more streamlined and efficient. Figure 16 shows the layout of the spreadsheet and calculations.

Figure 16: Example of Spreadsheet Layout

Row	Description	Calculation	Unit	Name of City, Town or Village	Budget or Actual Financial Year	Average	
Sales & Prices							
A	Inflation		%				
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh		-	-	
D	Avg selling price	F/B*100	c/kWh		-	-	
Revenues							
E		F+G	N\$		-	-	
F	Income from sales		N\$		-	-	
G	Other		N\$		-	-	
Expenses							
H		Sum(I:Q)	N\$		-	-	
I	Energy Purchases		N\$		-	-	
J	Remuneration		N\$		-	-	
K	General Expenses		N\$		-	-	
L	Repairs		N\$		-	-	
M	Capital Charges		N\$		-	-	
N	Reserves		N\$		-	-	
O	Contribution to Capex		N\$		-	-	
P	Administration Charges		N\$		-	-	
Q	Other		N\$		-	-	
R	Surplus/LA Surcharge	E-H	N\$		-	-	Inflation weighted average
S	% of Expenses (Markup)	R/H*100	%		0.0%	0.0%	
T	% of Revenue (Margin)	R/E*100	%		0.0%	0.0%	
U	c/kWh	R/B/10	c/kWh		-	-	
Asset Rental Charge							
V	Admin as % of Revenue	P/E*100	%		0%	0%	
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$		-	-	Inflation weighted average
Y	% of Expenses (Markup)	X/H*100	%		0%	0%	
Z	% of Revenue (Margin)	X/E*100	%		0%	0%	
AA	c/kWh	X/B/10	c/kWh		-	-	

8.4 Results

One of the main challenges in the industry is the availability and access to quality information. The study results can only be as good as the quality and accuracy of information that goes into it. Unfortunately, the Project Team could not obtain the financial results of all the LAs and RCs. However, all available data sets have been included on the analysis.

The results from the analytical work are presented in various Annexures. This was done to keep the "numbers" part of the project separate from the discussion which

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facilitates both the structure and flow of the document. The results are briefly discussed under the different Classes of Municipalities, Towns and Villages.

8.4.1 Municipalities (Part 1)

The results for this class are presented in Annexure C. The most interesting results and observations are summarised below:

Figure 17: Results Summary (Municipalities - Part I)

		<i>Swakopmund</i>	<i>Walvisbay</i>	<i>Windhoek</i>	<i>Total</i>
LA Surcharge					
Inflation weighted average	N\$	4,298,095	18,746,082	83,214,965	106,259,142
% of Expenses (Markup)	%	11.4%	25.6%	33.1%	23.4%
Asset Rental Charge					
Inflation weighted average	N\$	5,992,690	5,601,657	21,667,807	33,262,154
Avg % of Revenue	%	14.3%	6.0%	6.2%	8.8%
Other					
Admin as % of Revenue	%	10.3%	12.9%	6.8%	10.0%

LA Surcharge

- Between these three municipalities they will collect an extra N\$99.4 million from electricity consumers to cross subsidise other municipal services.
- If the “% of Revenue” indicator is used as a benchmark, then the average results for Swakopmund, Walvisbay and Windhoek are 10.2%, 20.3% and 24.8% respectively. This point to a significant difference in the level of the LA surcharge between these three municipalities.
- Swakopmund is the smallest of the three (in terms of electricity sales) and it also has the lowest LA surcharge percent. Economies of scale can therefore not be used to explain the difference between these three.
- An observation from the detailed results in the Annexure is the change in Walvisbays’ percent before and after the implementation of Administration charges on the Electricity Department. Before these charges were implemented the LA surcharge percentage was around 36%. Afterwards the percentage dropped to around 20%. It is evident from this result that the municipality used the financial surplus to also cross-subsidise administration services. The finding confirms the relationship between Administration charges and LA surcharges. It also underlines the importance of having ring-fenced accounts to determine the “true” LA surcharge value. Where ring-fencing of the accounts and internal charges have not been completed it is important that the Administration charge is estimated to determine a realistic LA surcharge amount and percentage.

Asset Lease Charge

- Walvisbay and Windhoek’s Asset Lease charge as a percent of revenue are very similar at 6.0% and 6.2% respectively.

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- Swakopmund has the highest value at 14.3%.

Other

- In light of the comment above regarding the importance of ring-fencing and the need to estimate Administration charges where they have not been determined, it is interesting to observe that the average Administration charge percentage for the three municipalities fall within a 7% to 13% range.
- Walvisbay has the highest percent Administration charges and Windhoek has the lowest.

8.4.2 Municipalities (Part 2)

The detailed results for Part 2 type Municipalities are displayed Annexure D. These are summarised in the following figure.

Figure 18: Results Summary (Municipalities - Part II)

		Gobabis	G'yontein	Henties	Mariental	Okahandja	Otjiwarongo	Outjo	Tsumeb	Usakos	Total
LA Surcharge											
Inflation weighted average	N\$	5,434,674	5,161,564	1,301,782	3,503,857	49,104	7,182,527	1,320,716	2,549,756	36,741	26,540,721
% of Expenses (Markup)	%	55.5%	46.0%	22.4%	39.2%	0.4%	46.7%	36.9%	16.2%	3.1%	29.6%
Asset Rental Charge											
Inflation weighted average	N\$	905,797	504,791	18,318	-	585,742	1,229,714	241,639	1,120,023	22,405	4,628,429
Avg % of Revenue	%	6.4%	2.7%	0.3%	0.0%	4.5%	5.6%	4.9%	6.1%	1.0%	3.5%
Other											
Admin as % of Revenue	%	11.6%	13.9%	15.0%	0.0%	7.8%	12.4%	10.0%	14.7%	13.4%	11.0%

LA Surcharge

- The average % of revenue indicator varies between 35% and 73%.
- These percentages are considerably higher than the ones calculated for the Part 1 municipalities.
- From the limited data it would appear as if smaller municipalities require a higher LA surcharge percentage.
- There are a number of “unique” municipal entities that may require special approaches to determine the reasonableness of the LA surcharge percent. Karasburg is a case in point because of its relationship with Selco. This could explain the high percent value for Karasburg.

Asset Lease Charge

- The AL charge for the sample LAs vary between 0.3% and 6.4% of revenue with average value of around 4.3%.
- The low % for Henties can be partly be explained by the fact that the assets are relatively old and that most of these assets have either been paid off or paid in full by the customer.
- The Asset Lease charge for Gobabis is comparable with the charges calculated for Windhoek and Walvisbay.

Development of a methodologies to determine LA surcharges and AL charges**Other**

- The average Administration charge shows Gobabis is the middle of the range calculated for the Part 1 municipalities and increases the confidence in the number as a possible benchmark value.

8.4.3 Towns

The detailed results for Towns are shown Annexure E. These are summarised in the following figure. The sample size is quite small and more data from more Towns would help to increase the integrity of the overall comments.

Figure 19: Results Summary (Towns)

		<i>Arandis</i>	<i>Khorixas</i>	<i>Total</i>
LA Surcharge				
Inflation weighted average	N\$	270,384	474,644	745,028
% of Expenses (Markup)	%	7.7%	18.0%	12.9%
Asset Rental Charge				
Inflation weighted average	N\$	-	-	-
Avg % of Revenue	%	0.0%	0.0%	0.0%
Other				
Admin as % of Revenue	%	0.0%	8.3%	4.2%

LA Surcharge

- The results from the two towns represent a small sample of all the towns and any observations may not be representative.
- The percent LA charges are relatively low compared to part 2 Municipalities.

Asset Lease Charge

- No asset rental charges could be calculated because none of the two towns showed any Capital Charge related expenditures.

Other

- Khorixas is the only one to reflect an administration charge. The detailed results showed that it included a 24.9% administration for the 2004 - 2005 budget periods.

8.4.4 Villages

The detailed results for Villages are shown Annexure F. These are summarised in the following figure.

Development of a methodologies to determine LA surcharges and AL charges**Figure 20: Results Summary (Villages)**

		Aranos	Aroab	Berseba	Bethanie	Kamanjab	Leonardville	Witvlei	Total
LA Surcharge *									
Inflation weighted average	N\$	87,300	(71,223)	(41,682)	157,874	(892,754)	63,273	(184,726)	(784,512)
% of Expenses (Markup)	%	10.2%	-12.3%	-13.5%	24.7%	-65.4%	18.4%	-14.6%	-9.6%
Asset Rental Charge									
Inflation weighted average	N\$	-	-	-	4,619	-	-	6,485	4,619
Avg % of Revenue	%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	2.3%	0.2%
Other									
Avg % Admin charge	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* Excluding Central Government Subsidy

LA Surcharge

- The results support the view that Villages do not generate a surplus on electricity sales. Rather they generate deficits which is off-set (partial or full) by a subsidy from central Government. Leonardville is a notable exception to this observation.
- Strictly speaking a LA surcharge is not required for sustainability of remaining services. In fact by removing the obligation to provide electricity services most Villages would be better off! This position may need to be reviewed in light of the GRN's decentralisation policy.
- In addition, it must be recognised that when the Villages move into REDs, the deficits will have to be absorbed/managed by the REDs.

Asset Lease Charge

- Apart from Witvlei none of the other Villages have any base, in terms of the recommended methodology, to levy any AL charges.
- This can be ascribed to the fact that virtually all the electricity assets in these areas have been created by either the GRN or donor agencies, thus obviating the need for any AL charges.

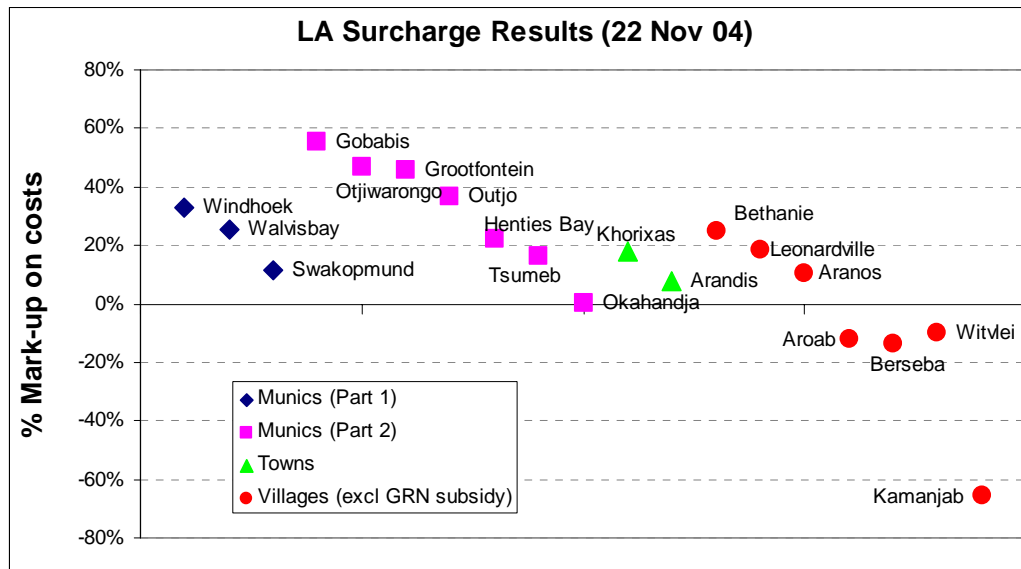
Other

- None of the villages have determined any Administration charges for the electricity departments.

8.4.5 Summary Results

The following Figure shows the LA surcharge percent mark-up on costs for the sample entities on one graph.

Figure 21: Summary of LA surcharge mark-up percent



In considering the graph above it is evident that there is a wide spread in the LA surcharge mark-up percent and that there is no single value which could be used for a benchmark. This highlights the fact that a separate LA surcharge must be calculated for every LA.

9 LA Surcharge Implementation

The preceding sections of this report have described detailed methodologies to determine the LA surcharge and Asset Lease charge amounts. This section addresses some of the LA surcharge implementation considerations in terms of approach, process, payments and legislative and regulatory requirements. The implementation arrangements for the Asset Lease charge and the details pertaining to SLAs would be a matter of bilateral negotiations between the different LAs and the RED.

9.1 Approach

It is recommended that:

- A unique surcharge amount is determined for each LA.
- The methodology described in 7.2 is used as the basis for determining the LA surcharge amount. This may result in certain areas e.g. Villages not qualifying for any surcharge if they do not currently generate any surpluses from the sale of electricity.
- The allowed LA surcharge amount (N\$) is calculated as the average LA surcharge amount over the last three years. The amounts should be adjusted for inflation. This approach will smooth out any anomalies between actual and budgets figures and timing differences, and provides a transparent mechanism to determine the LA surcharge amount in a fair and unbiased manner. This gives the LA some comfort that the amount would be consistent with the actual and projected financial outcomes.

Note: The main reason for recommending use of the calculated LA surcharge amount and not the calculated average margin percent is due to the expectation that tariffs will change in real terms in the future. These changes will be brought about by tariff convergence requirements in the RED as well as the need to pay for more expensive generation costs³. If the surcharge amount to be paid over to the LA is determined as percent (%) of the customers' bill then the amount will fluctuate according to the real tariff changes that are introduced. This is undesirable and probably unfair because real tariff reductions (due to tariff harmonisation) will result in less revenue to the LA. On the other hand, real tariff increases (e.g. the need to pay for higher generation cost) will then result in higher surcharge amount for the LA. This will create an unnecessary windfall for the LA at a time when the customer must absorb the cost of higher generation.

- The average LA surcharge amount (N\$) will form the base to determine the percent (%) mark-up the RED is allowed to include on the customers' bills. The percent should be calculated as follows: (Approved LA Surcharge amount) / (Revenue requirement from RED before LA surcharge is added).

³ It is expected that future power generation (whether the power stations are established in Namibia or elsewhere in the region) will cost significantly more than the present arrangements.

Development of a methodologies to determine LA surcharges and AL charges

Note: The percent figure is only needed when the LA surcharge will be collected as a percent of the customer's bill. If the surcharge is included as part of the tariff, then it is only needed to add the LA surcharge amount to the RED's revenue requirement when tariffs are determined.

- The LA surcharge amount is determined only once. Future LA surcharge amounts will be determined in accordance with the approved transitional strategy.

9.2 Process

In terms of the process it is recommended that:

- LAs who wish to receive a LA surcharge amount should apply to the ECB to have the LA surcharge amount approved. Ideally this must happen before the RED is formed.
- No RED can levy an LA surcharge unless it has been formally approved by the ECB (as representative of the GRN).
- Smaller towns should be allowed to approach the ECB for assistance in calculating or estimating their LA surcharge amounts.
- The ECB should develop the necessary forms, process, criteria and time-frames to manage the approval application and approval process.

9.3 Collection & Payment

The recommendations in respect of collection and payment functions include:

- The RED will have the option to decide how it wants to spread the burden of the LA surcharge over its customers across the different LAs.

One option is to continue with the current practice whereby the % mark-up (or adjustment to the tariff) is determined and applied to recover the LA surcharge amount in which the customer is located. This means that the same customer will effectively pay a different LA surcharge levy depending on where he or she is geographically situated in the RED area of supply.

The second option is to spread the entire burden of LA surcharges (sum of all LA surcharge amounts) equally across the RED's franchised area. In other words the same customer will pay the same LA surcharge levy regardless of his/her geographic location in the RED supply area.

The argument in support of the first option is that customers indirectly enjoy the benefits of the LA surcharge through additional services and lower other rates. This method links the principle that the customer (or ratepayer) must pay for what he or she gets. The disadvantages of this approach are that; firstly it places a significant extra administrative burden on the RED to manage and implement geographic differentiated tariffs and secondly it propagates the inequality of tariffs.

The second option on the other hand is much simpler and cheaper to administrate and regulate and helps to equalise tariffs. The disadvantage is that a customer may not benefit to the amount that he/she is expected to pay for LA

Development of a methodologies to determine LA surcharges and AL charges

services through the levy. It is expected that REDs will, at least over time, move towards the second option.

- The LA surcharge levy should be shown transparently. However, this decision also depends on the legal and regulatory rules in force at the time. During the initial period, and until all the necessary legislative changes have been approved, the levy will be encapsulated in the RED's tariffs but in a non-transparent way. Once the amendments to the Electricity Act have been adopted it is recommended that the levy be shown transparently. This will remind customers that electricity rates also include other costs apart from the cost to generate, transmit and distribute electricity. Transparent levies also facilitate the introduction of competition and choice by preventing customer picking practices due to hidden cross-subsidies. Another advantage is that by showing the surcharge the concept of cross-subsidies could be openly debated.
- The way that the LA surcharge amount will be collected from the customers (e.g. % of total bill or through the various tariff components such as c/kWh charge or kVA charge) depends on whether it will be made transparent.

If it cannot be shown transparently on the bill then it must be incorporated through an adjustment to the tariff components. The LA surcharge amount is quite large and to prevent any consumption decision distortions it is proposed that all the tariff components are re-calibrated to reflect the higher revenue requirement of the RED.

If the charge will be shown separately, then it is suggested that the levy be implemented through a % mark-up on the invoice. The percent should be calculated and shown before including any existing approved taxes and levies such as ECB levy and VAT. It is assumed that REDs will have billing systems that would be able to accommodate a percentage mark-up calculation. If not they will be forced to adjust some of the tariff components.

- Surcharge amount must be paid on the levied amount (included in or shown on the bill) irrespective of actual payment. Non-payments or late payments will therefore not influence the surcharge amount that is paid over to the LAs. This recommendation has a number of attractive characteristics. One, the LA can rely and plan on the amount of revenue it will receive from the LA surcharge. This will reduce risk and protect its financial position. Two, it frees the RED up to manage its debtors in a non-intrusive way. Three, it significantly reduces the complexity to manage collections and payments.
- The LA surcharge amount will be paid over at an agreed date. Taking into account the different cash flow requirements of the entities it is suggested that the payment be made no later than the 28th day of the following month⁴.

⁴ This recommendation may have to be calibrated against the actual number of debtor days experienced by the LA presently. If this is significantly longer than 28 days, the RED's cash flow position could be unduly compromised by having to pay over the LA surcharge amounts collected within 28 days of month end.

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- LA will be exposed to sales quantity variances. Tariffs are set once a year based on cost and sales estimates. Once these have been approved by the ECB, parties agree to them in spite the fact that actual costs and sales will be different. This does mean that the surcharge amount that will be paid over to the LA will be subject to these changes. It would not be acceptable, and probably not sustainable, to also transfer the sales quantity risk of the LA surcharge to the RED. The LAs are currently exposed to this risk and hence the recommendation would not increase its risk profile.

9.4 Legal Authority

The ECB and MME have already proposed a number of changes to the Electricity Act, inter-alia to entrench the statutory right of LAs and RCs to receive a surcharge.

Until the new amendments to Electricity Act have been passed, the ECB is able to support the collection of LA surcharges under section 25 of the Act dealing with approved schedule of tariffs. This clause gives the ECB sufficient powers to allow the inclusion of the LA surcharge amount as part of a Licensee's revenue requirement which is used to set tariff levels.

It is our understanding that the ECB has also committed to:

- Act in a responsible manner by looking at the wider economic and social implications of industry restructuring and tariff approval process and mechanisms;
- Consult and negotiate with stakeholders and consider all the views before it finalises its position on the LA surcharge methodology and implementation approach; and
- The ECB is committed to the implementation of a LA surcharge methodology which is transparent, fair and that will not cause major disruptions in Local Government finances.

10 Transition

It is evident from the results presented in this document that there are large differences in the LA surcharge level between the different local governments in Namibia. This raises the points, not only of economic efficiencies mentioned in section 4, but also of fairness and equity in electricity tariffs for customers across Namibia.

The proposed amendments to the Electricity Act is quite clear in that it protects the right of Local Government to receive a levy on the sale of electricity, even if the accountability and responsibility of supply moves to the RED. However, the amounts to which the electricity customers will be “taxed” for other Local Government services must be approved by the ECB (as a representative of the GRN).

This raises the question how LA surcharges will develop over time. There are three obvious options namely:

- Surcharges can increase to reflect the higher cost of providing services at local level. This will increase economic inefficiencies and promote tariff inequalities;
- Surcharges can be fixed at current levels. While this will help to maintain the current financial positions of the REDs, it does not help to restore equality in tariffs. Tariff standardisation and harmonisation will also be more complex and the effort and costs of tariff setting and regulation will not be reduced; and
- Surcharges can be reduced to a common level or even phased out over some defined period of time. However, the option of phasing out would clearly not be acceptable to LAs who rely on the surcharge to help balance their budgets.

Each of the above approaches has its own set of advantages and disadvantages. In the final analysis the decision must balance the need of all the stakeholders.

When reviewing the above options there are sound arguments why none of them is considered acceptable in the current industry environment. Another approach is to combine the needs of the different stakeholders in long term transition strategy. This strategy can be developed once the REDs have been formed and all the parties are satisfied that the LA surcharges and AL charges are working as intended.

11 Next Steps

Once the Phase 2 Project Report has been finalised and accepted by the ECB, it is expected that the ECB will:

- Make a decision on the LA surcharge methodology;
- Obtain approval for the preferred methodology;
- Liaise with stakeholders on the financial implications of implementing the approved methodology; and
- Design the regulatory process of application and approval.

Parallel to the above activities, the ECB and MME will work with other Government structures to have the Electricity Act amended to include a statutory right to the LA surcharge.

12 Annexure A (Electricity Department Chart-Of-Accounts)

Presented below is a list of typical detail accounts for the Electricity Department of a large municipality in Namibia.

<p>Remunerations</p> <ul style="list-style-type: none"> Salaries Housing Allowances/Subsidy Vehicle Allowances Stand-By Allowances Overtime Payments Temporary Labour Medical Aid Fund Contributions Pension Fund Contributions Free Sanitation Free Sewerage Cellphone Allowances <p>Repairs</p> <ul style="list-style-type: none"> Buildings - General Electricity - Decorative Lighting Electricity - High Mast Lighting Electricity - High Voltage Network Electricity - Low Voltage Network Electricity - Street Lamp Posts Electricity - Street Lights Electricity - Medium Voltage Network Load Management System Lubrication Oil & Grease Traffic Lights Tools & Equipment Plant & Equipment - Vehicles Plant & Equipment - General Electricity metering & Connections QOSS Costs & Surveys <p>Capital Charges</p> <ul style="list-style-type: none"> Redemption - External Redemption - Internal Interest - External Interest - Internal <p>Provisions & Reserves</p> <ul style="list-style-type: none"> Leave and Bonus Leave Provision Maintenance Reserve Replacement of Assets Reserve Reserve : Capital Development Fund Contributions to Environmental Fund <p>Capital Outlay</p> <ul style="list-style-type: none"> Capital Budget 	<p>General Expenses</p> <ul style="list-style-type: none"> Advertising Consumables Consultancy Fees Departmental - Electricity Departmental - Elec. - Street Light Departmental - Purified Water Departmental - Sanitation Departmental - Sewerage Departmental - Water Departmental - Administrative Charge Electricity - Maximum Demand Electricity - Units Electricity - Extension Charges Electricity - Paratus - Standby Charges Entertainment Fuel Hire of Halls Insurance - External Insurance - Internal Inventory - Books Inventory - Furniture Levies - Membership Licenses Licenses - Vehicle Registration Printing and Stationery Printing and Stationery: Electrical Protective Clothing Rental - Equipment Rental - Garages Rental - Offices Rental - AVM Room Security Services Services Charges Subsistence & Travelling Exp - Fore Subsistence & Travelling Expenses Telephone / Cellphone Expenses Licence Electricity Control Board Levy - Servitude Rental Electricity Control Board Levy Erongo RED
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13 Annexure B (Classification of Cities, Towns and Villages)

Cities, Towns and Villages in Namibia have been categorised into a number of classes as shown below:

<p>Municipalities (Part I) Swakopmund Walvisbay Windhoek</p> <p>Villages Aranos Ariamsvlei Aroab Aus Berseba Bethanie Gibeon Gochas Grunau Kalkfeld Kalkrand Kamanjab Koes Leanordville Maltahohe Noordoewer Stampriet Tses Uis Warmbad Witvlei</p>	<p>Municipalities (Part II) Gobabis Grootfontein Hentiesbaai Karibib Aroab Karasburg Keetmansh Mariental Okahandja Omaruru Otavi Otjivarongo Outjo Tsumeb Usakos</p> <p>Towns Arandis Katima Mulilo Khorixas Luderitz Okakarara Ondangwa Ongwediva Opuwo Oshakati Rehoboth Rundu</p>
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Development of a methodology to determine the LA surcharge

14 Annexure C (Analysis & Results for Municipalities – Part I)

14.1 Swakopmund

Row	Description	Calculation	Unit	Budget 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation		%	7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	32,258,490	40,622,390	47,035,350	
F	Income from sales		N\$	32,258,490	40,622,390	47,035,350	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	29,404,150	36,734,660	41,333,540	
I	Energy Purchases		N\$	17,050,000	21,523,200	24,205,520	
J	Remuneration		N\$	3,398,880	3,678,790	4,016,480	
K	General Expenses		N\$	717,340	1,028,950	884,390	
L	Repairs		N\$	851,260	994,680	1,183,530	
M	Capital Charges		N\$	3,918,490	5,239,150	6,147,720	
N	Reserves		N\$	57,000	120,000	155,000	
O	Contribution to Capex		N\$	-	-	-	
P	Administration Charges		N\$	3,411,180	4,149,890	4,740,900	
Q	Other		N\$	-	-	-	
Surplus/LA Surcharge							
R		E-H	N\$	2,854,340	3,887,730	5,701,810	4,298,095
S	% of Expenses (Markup)	R/H*100	%	9.7%	10.6%	13.8%	11.4%
T	% of Revenue (Margin)	R/E*100	%	8.8%	9.6%	12.1%	10.2%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V							
W	Admin as % of Revenue	P/E*100	%	10.6%	10.2%	10.1%	10.3%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	4,432,732	5,906,391	6,944,211	5,992,690
Y	% of Expenses (Markup)	X/H*100	%	15.1%	16.1%	16.8%	16.0%
Z	% of Revenue (Margin)	X/E*100	%	13.7%	14.5%	14.8%	14.3%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

14.2 Walvisbay

Row	Description	Calculation	Unit	Actual 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation		%	7.0%	3.6%		
B	Annual Sales		MWh	-	160,330		
C	Avg purchase price	I/B*100	c/kWh	-	21,830.09	-	-
D	Avg selling price	F/B*100	c/kWh	-	53,784.11	-	-
Revenues							
F+G			N\$	72,444,841	86,232,068	96,822,724	
F	Income from sales		N\$	72,444,841	86,232,068	96,822,724	
G	Other		N\$				
Expenses							
Sum(I:Q)			N\$	45,883,522	65,903,100	80,393,403	
I	Energy Purchases		N\$	36,271,125	35,000,180	49,850,449	
J	Remuneration		N\$	6,635,295	7,824,315	8,377,899	
K	General Expenses		N\$	2,005,087	2,325,792	3,667,604	
L	Repairs		N\$	678,767	817,056	768,679	
M	Capital Charges		N\$	-	4,046,990	5,208,570	
N	Reserves		N\$	-	444,000	446,000	
O	Contribution to Capex		N\$	293,248	3,434,313	599,675	
P	Administration Charges		N\$		12,010,454	11,474,527	
Q	Other		N\$	-	-	-	
Surplus/LA Surcharge							
E-H			N\$	26,561,319	20,328,968	16,429,321	18,746,082
S	% of Expenses (Markup)	R/H*100	%	57.9%	30.8%	20.4%	25.6%
T	% of Revenue (Margin)	R/E*100	%	36.7%	23.6%	17.0%	20.3%
U	c/kWh	R/B/10	c/kWh	-	12.68	-	
Asset Rental Charge							
W	Admin as % of Revenue	P/E*100	%	0.0%	13.9%	11.9%	12.9%
M*(1+W*E/(H-P))			N\$	-	4,948,898	6,075,762	5,601,657
Y	% of Expenses (Markup)	X/H*100	%	0.0%	7.5%	7.6%	7.5%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	5.7%	6.3%	6.0%
AA	c/kWh	X/B/10	c/kWh	-	3,086.69	-	

Development of a methodology to determine the LA surcharge

14.3 Windhoek

Row	Description	Calculation	Unit	Actual 02/03	Actual 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation		%	7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	276,892,697	336,319,779	355,818,443	
F	Income from sales		N\$	276,892,697	336,319,779	355,818,443	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	201,286,655	250,883,042	278,513,452	
I	Energy Purchases		N\$	155,760,739	185,068,970	204,032,691	
J	Remuneration		N\$	8,661,939	9,122,028	11,186,733	
K	General Expenses		N\$	8,275,597	5,692,997	6,335,389	
L	Repairs		N\$	9,797,116	10,386,919	11,300,738	
M	Capital Charges		N\$	-	18,056,263	20,791,487	
N	Reserves		N\$	184,047	269,174	270,737	
O	Contribution to Capex		N\$	-	20,600	-	
P	Administration Charges		N\$	18,607,217	22,266,091	24,595,677	
Q	Other		N\$	-	-	-	
Surplus/LA Surcharge							
R		E-H	N\$	75,606,042	85,436,737	77,304,991	83,214,965
S	% of Expenses (Markup)	R/H*100	%	37.6%	34.1%	27.8%	33.1%
T	% of Revenue (Margin)	R/E*100	%	27.3%	25.4%	21.7%	24.8%
U	c/kWh	R/B/10	c/kWh	-	-	-	
Asset Rental Charge							
V	Admin as % of Revenue	P/E*100	%	6.7%	6.6%	6.9%	6.8%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	19,814,848	22,805,449	21,667,807
Y	% of Expenses (Markup)	X/H*100	%	0.0%	7.9%	8.2%	8.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	5.9%	6.4%	6.2%
AA	c/kWh	X/B/10	c/kWh	-	-	-	

Development of a methodology to determine the LA surcharge

15 Annexure D (Analysis & Results for Municipalities – Part II)

15.1 Gobabis

Row	Description	Calculation	Unit	Budget 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	11,689,785	15,124,452	17,056,901	
F	Income from sales		N\$	11,689,785	15,124,452	17,056,901	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	8,892,410	9,292,020	9,897,106	
I	Energy Purchases		N\$	5,500,000	5,625,982	-	
J	Remuneration		N\$	782,129	752,317	-	
K	General Expenses		N\$	86,800	87,140	-	
L	Repairs		N\$	353,540	505,000	-	
M	Capital Charges		N\$	685,728	717,992	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	-	-	-	
P	Administration Charges		N\$	1,484,213	1,603,589	-	
Q	Other		N\$	-	-	9,897,106	
Surplus/LA Surcharge							
R		E-H	N\$	2,797,375	5,832,432	7,159,795	5,434,674
S	% of Expenses (Markup)	R/H*100	%	31.5%	62.8%	72.3%	55.5%
T	% of Revenue (Margin)	R/E*100	%	23.9%	38.6%	42.0%	34.8%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V							
W	Admin as % of Revenue	P/E*100	%	12.7%	10.6%	0.0%	11.6%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	823,112	867,745	-	905,797
Y	% of Expenses (Markup)	X/H*100	%	9.3%	9.3%	0.0%	9.3%
Z	% of Revenue (Margin)	X/E*100	%	7.0%	5.7%	0.0%	6.4%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

15.2 Grootfontein

Row	Description	Calculation	Unit	Actual 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	13,858,751	15,643,728	17,910,801	
F	Income from sales		N\$	13,858,751	15,643,728	17,910,801	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	8,978,035	11,163,472	12,478,997	
I	Energy Purchases		N\$	5,568,316	6,440,000	7,250,000	
J	Remuneration		N\$	904,972	1,002,815	1,027,653	
K	General Expenses		N\$	171,359	398,091	454,715	
L	Repairs		N\$	200,775	250,631	324,888	
M	Capital Charges		N\$	196,650	447,490	520,482	
N	Reserves		N\$	185,395	222,885	309,059	
O	Contribution to Capex		N\$	1,388	23,000	38,000	
P	Administration Charges		N\$	1,749,180	2,378,560	2,554,200	
Q	Other		N\$				
R	Surplus/LA Surcharge	E-H	N\$	4,880,716	4,480,256	5,431,804	5,161,564
S	% of Expenses (Markup)	R/H*100	%	54.4%	40.1%	43.5%	46.0%
T	% of Revenue (Margin)	R/E*100	%	35.2%	28.6%	30.3%	31.4%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
V	Asset Rental Charge						
W	Admin as % of Revenue	P/E*100	%	12.6%	15.2%	14.3%	13.9%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	244,234	568,650	654,431	504,791
Y	% of Expenses (Markup)	X/H*100	%	2.7%	5.1%	5.2%	3.9%
Z	% of Revenue (Margin)	X/E*100	%	1.8%	3.6%	3.7%	2.7%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

15.3 Henties Bay

Row	Description	Calculation	Unit	Actual 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
E Revenues				6,360,610	-	7,186,000	
F	Income from sales	F+G	N\$	6,360,610		7,186,000	
G	Other		N\$				
H Expenses				5,108,482	-	5,970,580	
I	Energy Purchases	Sum(I:Q)	N\$	3,308,915		3,785,500	
J	Remuneration		N\$	68,972		184,180	
K	General Expenses		N\$	31,122		613,000	
L	Repairs		N\$	333,500		280,000	
M	Capital Charges		N\$	21		30,000	
N	Reserves		N\$			-	
O	Contribution to Capex		N\$	411,860		-	
P	Administration Charges		N\$	954,092		1,077,900	
Q	Other		N\$				
R Surplus/LA Surcharge				1,252,129	-	1,215,420	1,301,782
S	% of Expenses (Markup)	E-H	N\$	24.5%	0.0%	20.4%	22.4%
T	% of Revenue (Margin)	R/H*100	%	19.7%	0.0%	16.9%	18.3%
U	c/kWh	R/E*100	%	-	-	-	-
		R/B/10	c/kWh				
V Asset Rental Charge				15.0%	0.0%	15.0%	15.0%
W	Admin as % of Revenue	P/E*100	%	15.0%	0.0%	15.0%	15.0%
X Asset Rental Charge				26	-	36,609	18,318
Y	% of Expenses (Markup)	M*(1+W*E/(H-P))	N\$	0.0%	0.0%	0.6%	0.3%
Z	% of Revenue (Margin)	X/H*100	%	0.0%	0.0%	0.5%	0.3%
AA	c/kWh	X/E*100	%	-	-	-	-
		X/B/10	c/kWh				

Note: Administration charges estimated at 15% of total revenue

Development of a methodology to determine the LA surcharge

15.4 Okahandja

Okahandja

Row	Description	Calculation	Unit	Actual 02/03	Estimate 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh			-	
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	11,272,448	12,660,000	14,238,847	
F	Income from sales		N\$	11,272,448	12,660,000	14,238,847	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	11,151,703	13,075,743	13,789,981	
I	Energy Purchases		N\$	8,070,504	9,329,286	10,605,000	
J	Remuneration		N\$	700,100	945,614	1,001,368	
K	General Expenses		N\$	127,336	141,186	162,489	
L	Repairs		N\$	122,983	171,400	273,400	
M	Capital Charges		N\$	521,470	521,470	521,470	
N	Reserves		N\$	763,370	925,902	131,750	
O	Contribution to Capex		N\$	-	-	-	
P	Administration Charges		N\$	845,940	1,040,885	1,094,504	
Q	Other		N\$				
Surplus/LA Surcharge							
R		E-H	N\$	120,745	(415,743)	448,866	49,104
S	% of Expenses (Markup)	R/H*100	%	1.1%	-3.2%	3.3%	0.4%
T	% of Revenue (Margin)	R/E*100	%	1.1%	-3.3%	3.2%	0.3%
U	c/kWh	R/B/10	c/kWh	-	-	-	
Asset Rental Charge							
V							
W	Admin as % of Revenue	P/E*100	%	7.5%	8.2%	7.7%	7.8%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	564,274	566,572	566,427	585,742
Y	% of Expenses (Markup)	X/H*100	%	5.1%	4.3%	4.1%	4.5%
Z	% of Revenue (Margin)	X/E*100	%	5.0%	4.5%	4.0%	4.5%
AA	c/kWh	X/B/10	c/kWh	-	-	-	

Development of a methodology to determine the LA surcharge

15.5 Otjiwarongo

Row	Description	Calculation	Unit	Actual 02/03	Estimate 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh			-	
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	18,071,005	21,272,690	25,953,992	
F	Income from sales		N\$	18,071,005	21,272,690	25,953,992	
G	Other		N\$	-			
Expenses							
H		Sum(I:Q)	N\$	12,815,558	14,267,125	17,288,206	
I	Energy Purchases		N\$		7,600,000	10,135,850	
J	Remuneration		N\$	1,265,077	1,739,665	1,993,096	
K	General Expenses		N\$	9,822,922	171,885	458,875	
L	Repairs		N\$	238,600	107,600	132,960	
M	Capital Charges		N\$	1,033,759	1,126,262	934,215	
N	Reserves		N\$	425,000	584,500	595,000	
O	Contribution to Capex		N\$	85,200	100,000	88,020	
P	Administration Charges		N\$		2,837,213	2,950,190	
Q	Other		N\$	- 55,000	-	-	
Surplus/LA Surcharge							
R		E-H	N\$	5,255,447	7,005,565	8,665,786	7,182,527
S	% of Expenses (Markup)	R/H*100	%	41.0%	49.1%	50.1%	46.7%
T	% of Revenue (Margin)	R/E*100	%	29.1%	32.9%	33.4%	31.8%
U	c/kWh	R/B/10	c/kWh	-	-	-	
Asset Rental Charge							
V							
W	Admin as % of Revenue	P/E*100	%	0.0%	13.3%	11.4%	12.4%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	1,033,759	1,405,831	1,126,439	1,229,714
Y	% of Expenses (Markup)	X/H*100	%	8.1%	9.9%	6.5%	8.1%
Z	% of Revenue (Margin)	X/E*100	%	5.7%	6.6%	4.3%	5.6%
AA	c/kWh	X/B/10	c/kWh	-	-	-	

Development of a methodology to determine the LA surcharge

15.6 Outjo

Row	Description	Calculation	Unit	Actual 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	-	-	4,901,693	
F	Income from sales		N\$			4,901,693	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	-	-	3,580,977	
I	Energy Purchases		N\$			2,332,705	
J	Remuneration		N\$			239,897	
K	General Expenses		N\$			69,464	
L	Repairs		N\$			229,287	
M	Capital Charges		N\$			208,587	
N	Reserves		N\$			1,222	
O	Contribution to Capex		N\$			10,000	
P	Administration Charges		N\$			489,815	
Q	Other		N\$				
Surplus/LA Surcharge							
R		E-H	N\$	-	-	1,320,716	1,320,716
S	% of Expenses (Markup)	R/H*100	%	0.0%	0.0%	36.9%	36.9%
T	% of Revenue (Margin)	R/E*100	%	0.0%	0.0%	26.9%	26.9%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V							
W	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	10.0%	10.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	241,639	241,639
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	6.7%	6.7%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	4.9%	4.9%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

15.7 Tsumeb

Row	Description	Calculation	Unit	Budget 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh			-	
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	14,743,595	17,108,091	18,818,890	
F	Income from sales		N\$	14,743,595	17,108,091	18,818,890	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	12,341,837	14,800,314	16,110,465	
I	Energy Purchases		N\$	8,000,000	9,830,000	10,802,000	
J	Remuneration		N\$	679,470	835,060	887,723	
K	General Expenses		N\$	71,500	85,395	104,936	
L	Repairs		N\$	368,000	514,000	565,400	
M	Capital Charges		N\$	1,103,747	915,691	908,476	
N	Reserves		N\$	64,694	71,548	110,618	
O	Contribution to Capex		N\$	-	-	-	
P	Administration Charges		N\$	2,054,426	2,548,620	2,731,312	
Q	Other		N\$				
R	Surplus/LA Surcharge	E-H	N\$	2,401,758	2,307,777	2,708,425	2,549,756
S	% of Expenses (Markup)	R/H*100	%	19.5%	15.6%	16.8%	16.2%
T	% of Revenue (Margin)	R/E*100	%	16.3%	13.5%	14.4%	13.9%
U	c/kWh	R/B/10	c/kWh	-	-	-	
V	Asset Rental Charge						
W	Admin as % of Revenue	P/E*100	%	13.9%	14.9%	14.5%	14.7%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	1,324,168	1,106,175	1,093,939	1,120,023
Y	% of Expenses (Markup)	X/H*100	%	10.7%	7.5%	6.8%	7.1%
Z	% of Revenue (Margin)	X/E*100	%	9.0%	6.5%	5.8%	6.1%
AA	c/kWh	X/B/10	c/kWh	-	-	-	

Development of a methodology to determine the LA surcharge

16 Annexure E (Analysis & Results for Towns)

16.1 Arandis

Arandis

Row	Description	Calculation	Unit	Budget 02/03	Actual 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	-	3,769,113	3,915,500	
F	Income from sales		N\$		3,769,113	3,915,500	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	-	3,325,800	3,834,049	
I	Energy Purchases		N\$		2,985,575	3,000,000	
J	Remuneration		N\$		182,017	223,279	
K	General Expenses		N\$		143,973	279,000	
L	Repairs		N\$		14,235	90,000	
M	Capital Charges		N\$		-	-	
N	Reserves		N\$		-	-	
O	Contribution to Capex		N\$		-	241,770	
P	Administration Charges		N\$		-	-	
Q	Other		N\$		-	-	
Surplus/LA Surcharge							
R		E-H	N\$	-	443,313	81,451	270,384
S	% of Expenses (Markup)	R/H*100	%	0.0%	13.3%	2.1%	7.7%
T	% of Revenue (Margin)	R/E*100	%	0.0%	11.8%	2.1%	6.9%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	-	-
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	0.0%	0.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	0.0%	0.0%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

16.2 Khorixas

Khorixas

Row	Description	Calculation	Unit	Actual 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	2,770,766	2,391,000	2,986,000	
F	Income from sales		N\$	2,770,766	2,391,000	2,986,000	
G	Other		N\$				
Expenses							
H		Sum(I:Q)	N\$	1,914,492	2,189,625	2,986,000	
I	Energy Purchases		N\$	1,440,780	1,200,000	1,350,000	
J	Remuneration		N\$	373,194	417,600	374,000	
K	General Expenses		N\$	66,518	306,000	275,000	
L	Repairs		N\$	34,000	159,025	142,000	
M	Capital Charges		N\$	-	-	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	-	107,000	100,000	
P	Administration Charges		N\$	-	-	745,000	
Q	Other		N\$	-	-	-	
Surplus/LA Surcharge							
R		E-H	N\$	856,274	201,375	-	474,644
S	% of Expenses (Markup)	R/H*100	%	44.7%	9.2%	0.0%	18.0%
T	% of Revenue (Margin)	R/E*100	%	30.9%	8.4%	0.0%	13.1%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V							
W	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	24.9%	8.3%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	-	-
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	0.0%	0.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	0.0%	0.0%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

17 Annexure F (Analysis & Results for Villages)

17.1 Aranós

Aranós

Row	Description	Calculation	Unit	Actual 02/03	Estimate 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	-	-	945,200	
F	Income from sales		N\$			945,200	
G	Other		N\$				-
Expenses							
H		Sum(I:Q)	N\$	-	-	857,900	
I	Energy Purchases		N\$			462,000	
J	Remuneration		N\$				
K	General Expenses		N\$	-	-	24,100	
L	Repairs		N\$	-	-	171,800	
M	Capital Charges		N\$	-	-	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	-	-	200,000	
P	Administration Charges		N\$				
Q	Other		N\$				
Surplus/LA Surcharge							
R		E-H	N\$	0	0	87,300	87,300
S	% of Expenses (Markup)	R/H*100	%	0.0%	0.0%	10.2%	10.2%
T	% of Revenue (Margin)	R/E*100	%	0.0%	0.0%	9.2%	9.2%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
W	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	-	0
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	0.0%	0.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	0.0%	0.0%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

17.2 Aroab

Row	Description	Calculation	Unit	Actual 02/03	Estimate 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	234,657	450,000	721,264	
F	Income from sales		N\$	234,657	350,000	521,264	
G	Other		N\$	-	100,000	200,000	101,203
Expenses							
H		Sum(I:Q)	N\$	233,446	411,216	672,849	
I	Energy Purchases		N\$	203,264	320,000	362,000	
J	Remuneration		N\$	8,557	29,916	52,249	
K	General Expenses		N\$	3,716	7,800	39,400	
L	Repairs		N\$	17,909	28,500	19,200	
M	Capital Charges		N\$	-	-	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	-	25,000	200,000	
P	Administration Charges		N\$	-	-	-	
Q	Other		N\$	-	-	-	
R	Surplus/LA Surcharge	E-H	N\$	1,211	38,784	48,415	29,981
S	% of Expenses (Markup)	R/H*100	%	0.5%	9.4%	7.2%	5.7%
T	% of Revenue (Margin)	R/E*100	%	0.5%	8.6%	6.7%	5.3%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
V	Asset Rental Charge						
W	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	-	0
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	0.0%	0.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	0.0%	0.0%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

17.3 Berseba

Row	Description	Calculation	Unit	Estimate 02/03	Estimate 03/04	Estimate 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	355,000	330,000	498,000	
F	Income from sales		N\$	190,000	280,000	398,000	
G	Other		N\$	165,000	50,000	100,000	111,576
Expenses							
H		Sum(I:Q)	N\$	254,450	344,675	384,585	
I	Energy Purchases		N\$	185,150	211,000	230,000	
J	Remuneration		N\$	23,650	24,510	29,045	
K	General Expenses		N\$	5,650	8,165	9,390	
L	Repairs		N\$	20,000	30,000	34,500	
M	Capital Charges		N\$	-	-	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	20,000	71,000	81,650	
P	Administration Charges		N\$	-	-	-	
Q	Other		N\$	-	-	-	
Surplus/LA Surcharge							
R		E-H	N\$	100,550	(14,675)	113,415	69,894
S	% of Expenses (Markup)	R/H*100	%	39.5%	-4.3%	29.5%	21.6%
T	% of Revenue (Margin)	R/E*100	%	28.3%	-4.4%	22.8%	15.6%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	-	0
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	0.0%	0.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	0.0%	0.0%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

17.4 Bethanie

Bethanie

Row	Description	Calculation	Unit	Budget 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	749,163	774,175	870,000	
F	Income from sales		N\$	719,163	689,175	870,000	
G	Other		N\$	30,000	85,000		60,664
Expenses							
H		Sum(I:Q)	N\$	580,619	568,751	674,744	
I	Energy Purchases		N\$	420,720	455,000	560,000	
J	Remuneration		N\$	111,896	66,737	63,762	
K	General Expenses		N\$	5,967	16,251	18,682	
L	Repairs		N\$	29,536	28,063	29,600	
M	Capital Charges		N\$	12,500	-	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	-	2,700	2,700	
P	Administration Charges		N\$	-	-	-	
Q	Other		N\$	-	-	-	
Surplus/LA Surcharge							
R		E-H	N\$	168,544	205,424	195,256	198,316
S	% of Expenses (Markup)	R/H*100	%	29.0%	36.1%	28.9%	31.4%
T	% of Revenue (Margin)	R/E*100	%	22.5%	26.5%	22.4%	23.8%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V							
W	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	12,500	-	-	4,619
Y	% of Expenses (Markup)	X/H*100	%	2.2%	0.0%	0.0%	1.1%
Z	% of Revenue (Margin)	X/E*100	%	1.7%	0.0%	0.0%	0.8%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

17.5 Kamanjab

Row	Description	Calculation	Unit	Budget 02/03	Budget 03/04	Budget 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	340,000	432,783	1,250,978	
F	Income from sales		N\$	340,000	432,783	599,978	
G	Other		N\$			651,000	217,000
Expenses							
H		Sum(I:Q)	N\$	1,025,590	1,406,840	1,508,956	
I	Energy Purchases		N\$	925,000	1,009,950	1,161,443	
J	Remuneration		N\$	57,250	89,890	160,513	
K	General Expenses		N\$	12,340	2,000	12,000	
L	Repairs		N\$	31,000	35,000	25,000	
M	Capital Charges		N\$	-	-	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	-	270,000	150,000	
P	Administration Charges		N\$	-	-	-	
Q	Other		N\$	-	-	-	
R	Surplus/LA Surcharge	E-H	N\$	(685,590)	(974,057)	(257,978)	(675,754)
S	% of Expenses (Markup)	R/H*100	%	-66.8%	-69.2%	-17.1%	-51.1%
T	% of Revenue (Margin)	R/E*100	%	-201.6%	-225.1%	-20.6%	-149.1%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
V	Asset Rental Charge						
W	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	-	0
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	0.0%	0.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	0.0%	0.0%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

17.6 Leonardville

Row	Description	Calculation	Unit	Actual 02/03	Estimate 03/04	Estimate 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	368,242	382,500	483,000	
F	Income from sales		N\$	368,242	382,500	483,000	
G	Other		N\$				-
Expenses							
H		Sum(I:Q)	N\$	276,759	379,230	397,990	
I	Energy Purchases		N\$	245,109	330,000	320,000	
J	Remuneration		N\$	7,070	11,180	31,540	
K	General Expenses		N\$	9,740	14,950	27,650	
L	Repairs		N\$	14,841	23,100	18,800	
M	Capital Charges		N\$	-	-	-	
N	Reserves		N\$				
O	Contribution to Capex		N\$				
P	Administration Charges		N\$				
Q	Other		N\$				
Surplus/LA Surcharge							
R		E-H	N\$	91,483	3,270	85,010	63,273
S	% of Expenses (Markup)	R/H*100	%	33.1%	0.9%	21.4%	18.4%
T	% of Revenue (Margin)	R/E*100	%	24.8%	0.9%	17.6%	14.4%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	-	-	-	0
Y	% of Expenses (Markup)	X/H*100	%	0.0%	0.0%	0.0%	0.0%
Z	% of Revenue (Margin)	X/E*100	%	0.0%	0.0%	0.0%	0.0%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

Development of a methodology to determine the LA surcharge

17.7 Witvlei

Row	Description	Calculation	Unit	Estimate 02/03	Estimate 03/04	Estimate 04/05	Average
Sales & Prices							
A	Inflation			7.0%	3.6%		
B	Annual Sales		MWh				
C	Avg purchase price	I/B*100	c/kWh	-	-	-	-
D	Avg selling price	F/B*100	c/kWh	-	-	-	-
Revenues							
E		F+G	N\$	385,000	404,120	752,959	
F	Income from sales		N\$	385,000	404,120	452,959	
G	Other		N\$	-	-	300,000	100,000
Expenses							
H		Sum(I:Q)	N\$	298,175	491,015	1,013,362	
I	Energy Purchases		N\$	240,000	330,000	283,128	
J	Remuneration		N\$	11,455	13,215	263,454	
K	General Expenses		N\$	4,170	5,500	6,325	
L	Repairs		N\$	25,000	32,300	37,145	
M	Capital Charges		N\$	17,550	-	-	
N	Reserves		N\$	-	-	-	
O	Contribution to Capex		N\$	-	110,000	423,310	
P	Administration Charges		N\$	-	-	-	
Q	Other		N\$	-	-	-	
Surplus/LA Surcharge							
R		E-H	N\$	86,825	(86,895)	(260,403)	(84,726)
S	% of Expenses (Markup)	R/H*100	%	29.1%	-17.7%	-25.7%	-4.8%
T	% of Revenue (Margin)	R/E*100	%	22.6%	-21.5%	-34.6%	-11.2%
U	c/kWh	R/B/10	c/kWh	-	-	-	-
Asset Rental Charge							
V	Admin as % of Revenue	P/E*100	%	0.0%	0.0%	0.0%	0.0%
X	Asset Rental Charge	M*(1+W*E/(H-P))	N\$	17,550	-	-	6,485
Y	% of Expenses (Markup)	X/H*100	%	5.9%	0.0%	0.0%	2.9%
Z	% of Revenue (Margin)	X/E*100	%	4.6%	0.0%	0.0%	2.3%
AA	c/kWh	X/B/10	c/kWh	-	-	-	-

18 Annexure G: Proposed Amendments to the Electricity Act

The following changes to the Electricity Act are foreseen to protect the right of Local Authorities to receive a levy on the sale of electricity to support the financial performance of Local Government.

a) Amendment of section 25 of Act 2 of 2000

12. Section 25 of the principal Act is amended by the addition of the following subsections:-

- (a) by the substitution for the section heading of the following section heading:

"Schedule of approved tariffs, [and] revision thereof and other charges by licensees"; and

- (b) by the addition of the following subsections:

"(4) The schedule of approved tariffs contained in generation and trading licences must be based on market pricing mechanisms set out in the market rules referred to in section 3(4)(a).

(54) This section does not apply to a licensee who is licensed to export electricity."

(5) Notwithstanding subsection (1), the following charges are not part of the schedule of approved tariffs but, if applicable, must be reflected on an application for approval or revision of a schedule of tariffs in such manner as the Board may determine -

(a) the levy anticipated in section 13;

(b) the surcharge anticipated in section 32A.

(6) In the event of an amendment to the levy or surcharge referred to in subsection (5) such amended levy or surcharge is from the date of commencement thereof applicable and payable in the manner determined by or under this Act notwithstanding a different levy or surcharge appearing in an approved schedule of tariffs.

(7) The Board may exempt any cost or type of cost incurred in connection with the provision of electricity by a licensee from the requirements of subsection (1) or (5) subject to such conditions as the Board may determine."

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"Surcharges

32A.(1) Regional councils and local authorities are entitled to levy a charge against the customers (in this Act called a 'surcharge') in their respective areas of jurisdiction in accordance with the manner determined by the Board, after consultation with the regional councils and local authorities, subject thereto that -

- (a) the surcharge and the amount thereof, including interest on late payments thereof, must be approved by the Board;
- (b) such surcharge must be reflected on the invoice to the customer against whom it is levied by the licensee who is responsible to supply electricity to such customer;
- (c) the Board may distinguish between various classes of regional councils and local authorities and different amounts of surcharges may be approved for different regional councils and local authorities or different classes of local authorities and regional councils;
- (d) the purpose of such surcharge is to provide additional income to the relevant regional council or local authority council for the purposes of covering the expenses of services to be rendered by such regional council or local authority council and for this purpose the Board must determine which services may be taken into consideration and the methodology of calculation of the surcharge;
- (e) a customer is liable towards the relevant regional council or local authority council for such surcharge notwithstanding a licensee other than the relevant regional council or local authority council collecting such surcharge on behalf of the regional council or local authority council;
- (f) in the event of a licensee other than the relevant regional council or local authority council collecting such a surcharge, the collecting licensee must collect and pay such surcharge to the relevant regional council or local authority council in accordance with an agreement reached between the parties which agreement must include, but is not limited to, the period within which the surcharge must be paid over to the regional council or local authority council and interest on arrear payments; and

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(g) the surcharge is not subject to any form of taxation under any other law."

19 Annexure H: (Stakeholder Comments)

19.1 Comments from Windhoek

Diversity

Comment: A new RED company would be worse off with a worse load factor. The existing load factor of Local Authorities must be made known to a new RED company for them to be able to protect themselves against worse load factors.

Reply: It has been proposed that the LA surcharge amount will be calculated as a percent on the customers' bills. In other words every year a new percentage amount will be determined taking into account the latest projections and load factors. In this way changing load factors will not influence the amount of LA surcharge amount that must be paid over to the LA. In addition the ECB's tariff methodology will allow the LA to recover the cost of the LA surcharge from its customers. In other words the RED will collect sufficient revenue from the customers to meet its LA surcharge obligation even if load factors change.

Load Management

Comment: Existing Local Authorities are generating surpluses by the implementation of load management tools which includes ripple control power factor correct and correct load flow with minimum losses. Should the RED company not be able for certain reasons to maintain the operation of these load management tools then the RED will be placed in a difficult situation to pay over a fixed Local Authority levy. For example the City of Windhoek enjoys an average monthly saving of N\$1 million per month from the ripple control and power factor units alone. If it is possible to switch off all geysers during-peak times (if all geysers are "on" and not switched off by the temperature control unit) more than 20 MVA can be saved. (20MVA have a maximum demand cost of $20\,000 \times 72,84 = \text{N}\$1\,456\,800$).

Reply: We agree. If the RED cannot manage its load purchases from NamPower properly then its energy cost will increase. This will result in poorer financial results from the RED. However, it is expected that the RED will not only maintain the existing excellent load control capabilities from Windhoek but would also look for opportunities to apply these techniques in other parts of the RED to "multiply" the benefits from active load control.

Tariff Changes

Comment: Tariff changes from NamPower could have an effect on possible payment of Local Authority surcharge payments.

Reply: The surcharge amount will be recovered from the electricity customers as a percent of the bill. The percentage amount will be adjusted annually to yield the desired surcharge amount. The bill (before the surcharge) will include all allowed costs inclusive of NamPower's approved tariffs. From this discussion it is clear that tariff changes from NaPower should impact on LA surcharge payments from the REDs.

19.2 Comments from Walvis Bay

Overall Comment

Your presentation of the proposed Local Authority Surcharge methodology on 3 November 2004 and your facsimile dated 12 November 2004, requesting comments, refer.

The proposed methodology regarding the Local Authority Surcharge [LAS], as presented to shareholders on 3 November 2004, appears to be a workable solution, except that it does not appear to cater for growth in the electricity consumption in a Local Authority area.

The main premise for this argument is that as more electricity is supplied by the RED in a Local Authority area it also goes without saying that the non-remunerative services that the Local Authority has to provide to its citizens also increase.

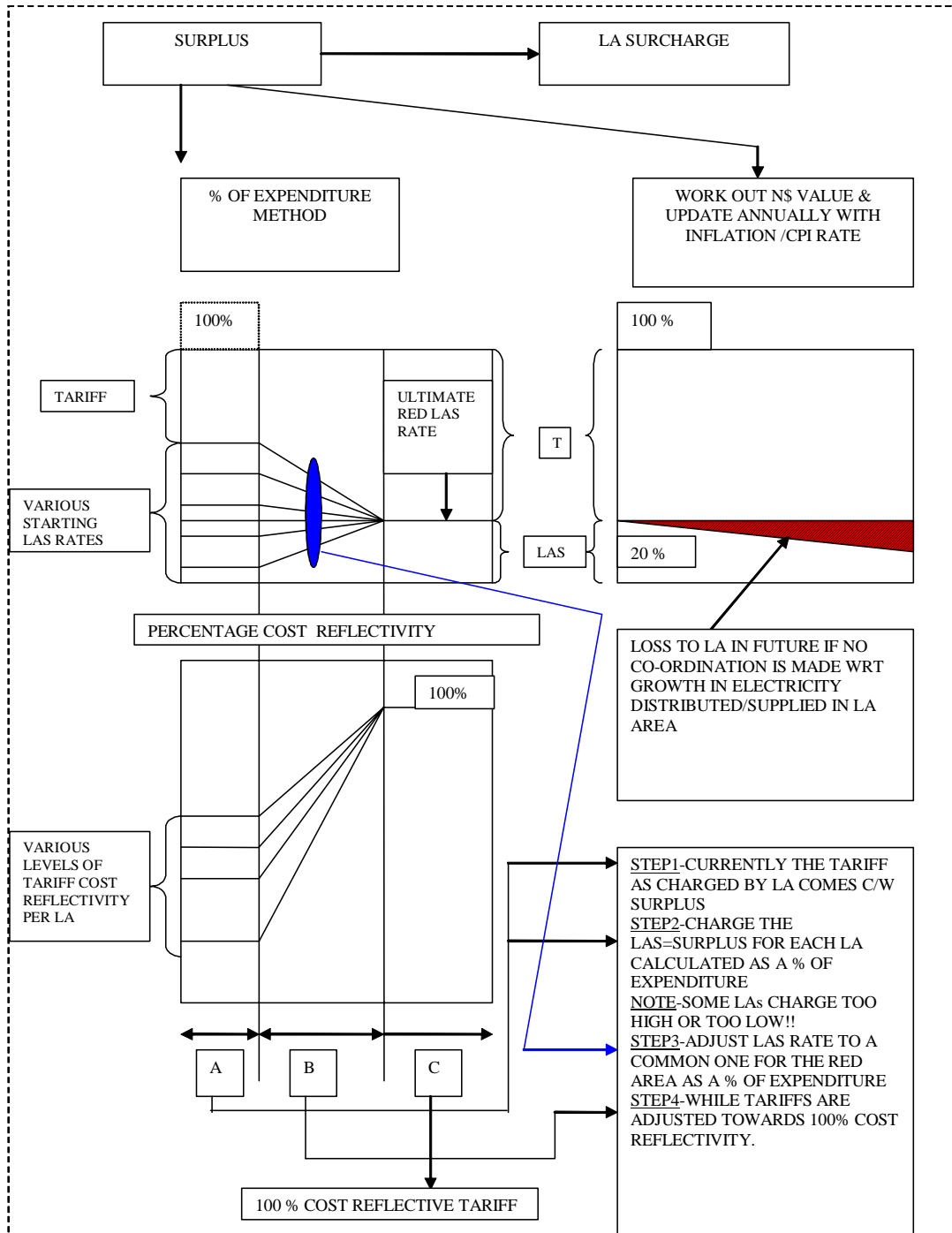
Thus there is a need to adjust the payment of LAS to the Local Authority for such increase/decrease in electricity consumption.

You will see in the diagram below that this has been shown by taking into account the two parallel processes:

- The process of determining and using the methodology of calculating a percentage on expenditure as is currently done by the various Local Authorities and applying this percentage for a period of time. There after there may need to be a period of time during which the LAS [=surplus] would need to be adjusted to one common percentage throughout the RED area. It must be noted that that there are some Local Authorities that charge a large percentage of LAS [=surplus] and there are others that charge much too little and these need to be aligned towards a common percentage of expenditure. The Local Authority that opts NOT to receive a LAS is welcome to do so, in writing, at any time. For the RED the amount of LAS should be seen as something like the ECB Levy or a statutory amount to be collected and paid over.
- The drive from the Electricity Control Board [ECB] is for the attainment of cost reflective tariffs throughout Namibia. This process will inevitably put upward pressure on tariffs and if this is run in parallel with the first process then there will be counter balancing shifts along both process graphs until the playing fields have been levelled.

The diagram below describes the processes discussed above. It would be appreciated if consideration could be given to the proposed changes to the methodology by the consultants of the ECB.

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Overall Reply

It is true that under the current proposal the LA surcharge N\$ amount will grow with inflation from year to year but no provision has been made to adjust the LA surcharge amount due to increases or decreases in electricity sales. There are a number of important reasons why this adjustment has not been included in the proposed methodology at this stage. The most important of these is that any decision to increase

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or decrease the amount of the surcharge in real terms should form part of a larger and more comprehensive debate about the role and purpose of the LA surcharge in the future. There are a number of possible directions the surcharge could take. However, the merits and de-merits of all the options need to be carefully weighed before a final decision can be made.

The more immediate priority is to implement a LA surcharge methodology that will meet the current financial requirements of the LAs. Once the methodology is working successfully the stakeholders can debate and decide the future direction of the LA surcharge considering all the factors, implications and experiences to date.