

ETHEKWINI MUNICIPALITY

2011 / 2012

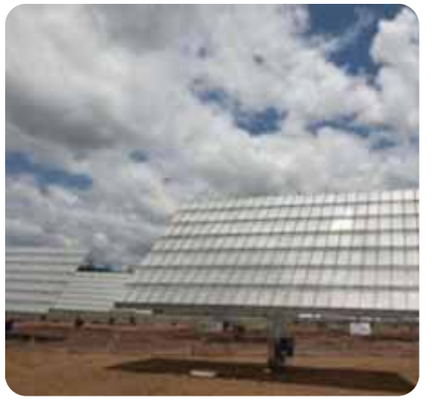
ANNUAL REPORT

ETHEKWINI ELECTRICITY

The South African Government has developed an integrated resource plan for a 20 year period that provides an indication of the country's future electricity demand as well as various supply side options. The Long-term Electricity Planning goal is to ensure sustainable development considering: Technical constraints, Economic constraints, Social constraints and Externalities.

The recently adopted Intergrated Resource Plan has provided a clear indication of national government's commitment to promote renewable energy as a source of energy supply. This plan is complemented by the Renewable Energy Independent Power Producer Procurement Programme implemented by the National Energy Regulator of South Africa (NERSA) to stimulate the renewable energy market in South Africa.

EThekwini Municipality hereby responds to the IRP and is committed to promoting the up-take of renewable energy projects within its boundaries.



Solar PV Plant

A solar CPV power plant located in the city of Durban would serve as a high visibility flagship project that will also demonstrate South Africa's capability and readiness to implement renewable energy projects on a large scale as well as promote the renewable energy investment potential in the country. The Solar PV array is one of the largest in the country, making eThekwini Municipality a front runner to contribute to the country's renewable energy target as set by the Department of Energy. The CPV system incorporates high-performance triple-junction solar cells - the same solar cells utilised to power satellite systems. Triple-junction cells have the solar industry's highest conversion efficiency of nearly 40%, double the efficiency of conventional solar cells.

The CPV system requires a high precision dual axis tracker. At each moment of the day, the CPV modules have to be perpendicularly aligned to the sunlight in order to concentrate its light directly onto the cells. The dual-axis tracker system follows the course of the sun from east to west and its height above the horizon. Thirty-four CPV units can produce up to 500 kW peak.

The Landfill Site

EThekwini Municipality is currently generating electricity from household waste, reducing greenhouse gas emissions. The project captures methane rich gas from two landfill sites to provide fuel for the production of electricity. The gas is captured by sinking wells up to 40m deep in the landfill waste sites. The wells are ducted to the generator through interconnecting pipes linked to an underground main gas collector and extracted via a roots blower system which maintains a partial vacuum in the pipes resulting in the gas being sucked out of the landfill.

Operational sites:

1. Bisasar Road - 7km from the Durban Central Business District
2. Mariannhill located in the western area of Durban in the Metro area formerly called the Inner West City Council.

The approx. combined operating output of the sites: 7.5 MW.

The Wind Re-powering Project

This project involves the installation of four wind turbines and masts for operation in Durban. The project was initiated by Bremen Overseas Research and Development Association (BORDA) under their "Re-powering" program. The four units (150 kW each) were originally used by HanseWasser Waste Water Treatment (HWWT) but were decommissioned after a town planning ordnance held that HWWT remove these wind turbines following the town planning approval of HWWT's application for a larger wind farm on their premises.

BORDA together with Deutsch Windtechnik have since worked together with eThekwini Municipality and visits have been conducted between both Bremen and Durban to further develop the Wind re-powering Project.

PROFILE

Our Vision

EThekwini Electricity - a leader in electricity distribution providing energy for the future.

Our Mission

To provide electricity, public lighting and other energy services that satisfy our customers and community whilst maintaining sound business principles.

Strategy

To develop the Electricity Unit as an undertaking that maximises the value of its electricity supplies and makes effective use of all its resources

Scope

EThekwini Electricity supplies more than 640 000 customers in an area covering nearly 2 000 square kilometres. This encompasses the area of the eThekwini Metropolitan Region and some adjacent areas.

Electricity for the main supply to the Metro Region is purchased at 275 000 Volts from Eskom at three in-feed points. EThekwini Electricity also purchases electricity from Eskom for Winkelspruit, Mpumalanga and Magabeni. From these points electricity is transmitted and distributed for use by the full spectrum of customers ranging from the large industrial and commercial sector to the residential communities. EThekwini Electricity purchases just over 5% of the total energy generated by Eskom. EThekwini Electricity operates under the Electricity Regulation Act, 2006. Its policies are determined by the Metropolitan Council of Durban and the National Energy Regulator of South Africa (NERSA).

- **Name:**
  Sandile Maphumulo
- **Designation:**
  Head - Electricity Unit
- **Resume':**
  Sandile began his career as an apprentice electrician 27 years ago. He progressed through the ranks within the council and culminated at the helm of the organisation in November 2006 as the Head of Electricity.

Further Experience within eThekwini:

Deputy Head - MV/LV Operations
Manager - Lighting Works
Manager - Regional Operations

- **Professional Affiliation:**
  President of the AMEU (2007),
  Board member of EDI Holdings (2005 - 2010)
  SALGA representative on national committees

HEADS OVERVIEW

Throughout my career, I've always emphasized efficiency and improved performance. I am really proud that my team and the Electricity Unit as a whole has embraced these values as they carried out their duties in the 2011/2012 fiscal year, despite it being a year challenged by a difficult economy and rapidly rising electricity costs.

Our good financial and operational performance for the year clearly reflects the underlying strength of our business and proves that our strategies are keeping us on the "right track" and successfully leading us to achieve our vision of making eThekwini the most caring and livable city in Africa

One of the most gratifying events for me over the past year was to see the smile on the faces of those who flipped the light switch for the very first time in their lives and were able to enjoy the benefits of being connected to the electrical grid. It makes me even happier to note that my Unit has made a total of 15866 connections to the electrical grid during the financial year and I want to assure you that we have plans in place to continue in this fashion as we progress through the future years. We also heed and recognize the plight of the informal dwellers within the city and we are devising an electrification strategy to gradually introduce electrical services to these sectors of the community in a safe and reliable manner.

Electricity price increases for the year were primarily driven by Eskom's Multi Year Price Determination 2 plan (MYPD 2) which raised electricity costs to municipalities by 26.71% for the 11/12 year. After considering other municipal cost increases and the rate of inflation, eThekwini implement an average tariff increase of 19.8% to its customer base. Due to these tariff increases, our annual costs for electricity purchases from Eskom ascended to R 5.5 billion and our income grew to R 9.0 billion leaving us with an approximate budget of R 3.5 billion to fund our operating expenses including network repairs, maintenance, salaries, interest on capital, returns and related expenses.

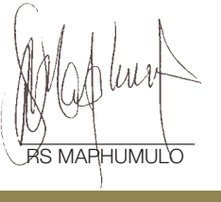
Every year brings its own challenges, and the 11/12 year was no exception. Illegal connections and network theft remain the two biggest challenges to plague the Electricity Unit. Despite our intense mitigation strategies, we are battling to bring these issues under control.

As part of our extended mitigation program, we are now taking greater cognizance of assessing the feasibility of informal reticulation and we are hoping that this will play a pivotal role in reducing illegal connections as more and more communities become electrified. Our loss figures are estimated to be in the region of 6 %. 3 % of which is attributed to technical losses and the remainder considered as non-technical and administrative losses.

Our recruitment strategy has unfolded well during the year and we enjoyed great success in attracting new staff to our Unit. We managed to raise our staff compliment to a grand total of 2201. This includes technical and non technical employees. Whilst the increase in numbers is a step in the right direction, we still need to attract and retain a further 1574 employees to bring the staff compliment to a 100%. Staff attraction especially for highly technical posts, proves difficult within a local government environment as we are competing against the private sector that generally have better leverage and negotiation margins in terms of remuneration offerings and benefits.

This year, eThekwini has experienced a tad bit more rain than usual. Whilst the down pours are great for our water reserves, it does little good for the electrical network other than introduce faults and outages. The prolonged rains caught us by surprise and lead to hundreds of backlogged faults. This placed tremendous pressure on our limited resources and negatively affected our SAIDI and SAIFI indices which unfortunately downgraded our network reliability index for the year.

In closing, I want to thank the men and women of this unit for their hard work, discipline, dedication and loyalty. I urge you to continue in this fashion despite the challenges and difficulties that we may face, ensuring that eThekwini grows from strength to strength and remains one of the leading municipalities in the country.



RS MAPHUMULO

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- **Name:**
  Raj Dhrochand
- **Designation:**
  Deputy Head - HV Operations
- **Qualification:**
  B.Sc. Electrical Engineering
  Masters in Business Leadership (MBL)
  Government Certificate of Competency (GCC)
  Trade Test (Electrician)
- **Professional Registration:**
  PrEng (ECSA)
- **Experience:**
  Within eThekwini (21 yrs)
  BC Hydro in Vancouver (01 yr)

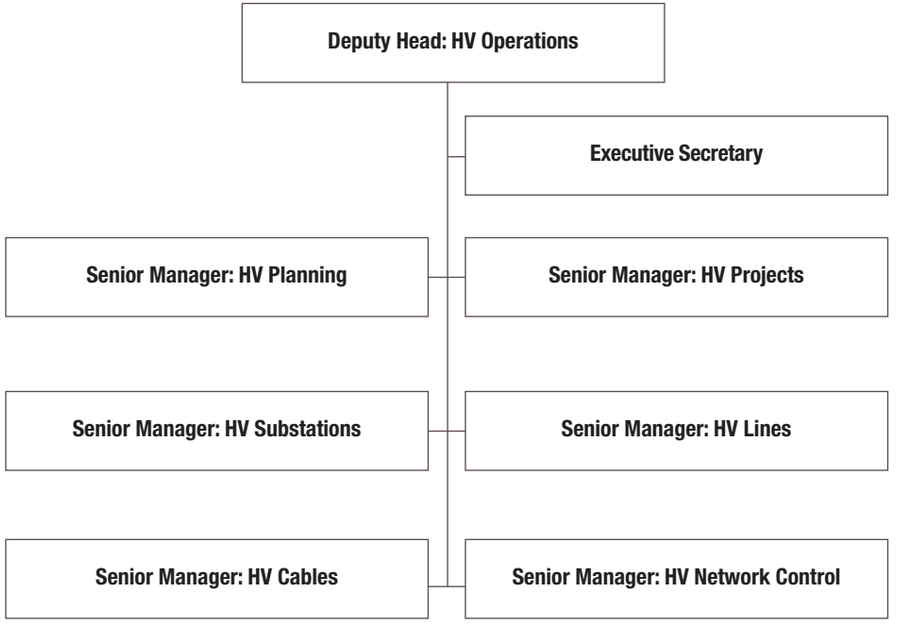
HV OPERATIONS DEPARTMENT

The HV Operations Department is responsible for the planning, construction, operation and maintenance of eThekwini Electricity's primary network of high voltage lines, cables and substations. The projects undertaken by this Department are to provide for increased bulk capacity and to improve the reliability of the regions electricity supply.

Accordingly they are typically large, high cost projects which require considerable time and attention to satisfy environmental legislation in the first instance and then 30 months or more in the construction phase.

Our Department prides itself in providing reliable, state of the art solutions for the delivery of high voltage power from our intake points to our customers and secondary networks.

DEPARTMENT ORGANOGRAM



HV PLANNING BRANCH

The HV Planning Branch is responsible for planning the unit's primary network of high voltage cables, lines and substations. The timelines for providing HV infrastructure spans several years and therefore necessitates careful planning so as to ensure that there is sufficient HV infrastructure in place to meet the City's ever increasing demand in a sustainable manner. The HV Planning Branch is the custodian of the transmission network master plan which is inclusive of a twenty year capital program that allows for HV network development, reliability requirements and refurbishment requirements. Key initial capital project life cycle processes; namely application for council funding, acquisition of land and servitudes, environmental impact assessment approvals and completion of preliminary designs is also completed by the Branch.

Highlights / Lowlights for 2011_2012 year

- Handed over to HV Projects for execution - establishment of KE Masinga 132/11 kV substation.
- Handed over to HV Projects for execution - establishment of Jameson 132/11 kV substation.
- Handed over to HV Projects for execution - upgrade of Congella 132/33 kV substation.
- Delays in securing servitude for new 132 kV supply to Sapref due to sale of land by ACSA to Transnet for the new dig out port.

New technology

- The main planning processes have now been captured on the Ellipse system. This allows authorised officials to view project information electronically rather than information residing on Planning Engineers computers or manual filing systems.
- The acquisition of Digsilent Software which will be used by the HV Planning and Control, Medium Voltage and Protection and Test Departments will allow for an integrated approach to fault level and load flow studies.
- HV Electricity Power Corridors showing existing and proposed HV land boundaries now appear on the Corporate GIS system, available to both City officials and the public. This will facilitate management of encroachments.
- DCB used at Plangweni Substation offers space savings, lower maintenance and higher reliability.

Progress on existing projects

- Underwood 132/11 kV Substation - Design Proposal stage
- Rossburgh 132/11 kV Substation - Design Proposal stage
- Glenwood 132/11 kV Substation - Investigating alternative site
- Austerville 132/11 kV Substation - Land Acquisition stage
- NCP 132/11 kV Substation - Land Acquisition stage
- Frametex 132/11 kV Substation - Land Acquisition stage
- Verulam Switching Station - Land Acquisition stage
- Verulam 132/11 kV Substation - Land Acquisition stage
- Congella 132/11 kV Substation - Design Proposal stage
- Mahogany Ridge 132/11 kV Substation - Land Acquisition stage
- Kloof 132/11 kV Substation - Land Acquisition stage
- Stockville Switching Station - Land Acquisition stage
- Reunion 132/11 kV Substation - Land Acquisition stage
- Bellair 275/132 kV Substation - Design Proposal stage
- Klaarwater-Umgeni OHTL upgrade - Design Proposal stage
- Woodlands 132/11 kV Substation - Design Proposal stage
- Cornubia 132/11 kV Substation - Design Proposal stage
- Sibiya 132/11 kV Substation - Design Proposal stage

Key challenges

- Long acquisition time lines for sites and servitudes - foster a closer working relationship with Real Estates Department.
- Long turn-around times for wayleave approvals by third parties - meet with management of third parties with a view to agreeing on an approval process and reasonable turn-around time for both parties.
- Registering servitudes for properties where HV infrastructure exists without servitude agreements - work jointly with Real Estates Department to work through backlog.
- Developing a model for Developer/Customer capital contribution for new HV infrastructure - use NRS069 document as a guideline.

Achievements

- Completion of transmission network master plan

HV PROJECTS BRANCH

The HV Projects Branch is responsible for the detailed design and specification of equipment and management of major system reinforcement projects. There were 36 projects in progress during the 2011/2012 year. The status of the projects at the end of the period under review is as follows:

- Parlock 132 kV Switching Station: Establishment of a 132 kV switching station to provide for a new 132 kV interconnector between various sources.
- Phoenix Industrial 132/11 kV Substation: Replacement of the ageing and unreliable 11 kV switchgear. First phase of the board has been replaced and are in the progress of being commissioned.
- Hillcrest 132/11 kV Substation: The load is reaching the firm capacity and the 11 kV switchgear needs to be replaced and extended. Fourth phase of the replacement has been commissioned. Fifth and final stage to follow.
- Phoenix North 132/11 kV Substation: The commercial and residential load demand has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Final commissioning in progress.
- Fynnlands 132/11 kV Substation: The commercial and residential load demand has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Final commissioning in progress.

- Umbogintwini 132/33 kV Substation: Replace the 33/11 kV transformers with 132/11 kV transformers and associated equipment. Final commissioning in progress.
- Umhlanga Ridgeside 132/11 kV Substation: This substation will provide supply to the various Umhlanga developments and also facilitate the de-commissioning of the old and unreliable Umhlanga and Glenashley 33/11 kV Substations. Final commissioning in progress.
- Glenashley 33/11 kV Substation: Replacement of the 11 kV switchgear required due to it becoming obsolete. Commissioned.
- Pineside 132/11 kV Substation: Conversion required from the 33/11 kV system to the more reliable 132/11 kV system. Advanced stage of pre-commission testing of the plant.
- Kingsburgh 132/11 kV Substation: New substation for the anticipated demand in the Winkelspruit and Illovo areas and de-commissioning of parts of the old and unreliable 33 kV network in the Southern region. Installed 2 x 132/11 kV transformers and associated 132 and 11 kV switchgear. In advanced stage for final commissioning of substation.
- Klaarwater 275/132 kV Substation: Upgrade current 250 MVA transformers to 315 MVA due to the increase in load. The fifth transformer and all its associated equipment has been installed and commissioned. Procurement for the replacement of the other 4 x 250 MVA 275/132 kV transformers and their associated equipment are in progress.
- Klaarwater and Durban North Substation Capacitor Banks: Replacement required for the old and unreliable capacitor banks. First set of capacitor banks have been replaced and commissioned.
- Gyles 33/11 kV Substation: Replace old and unreliable 6.6 kV switchgear with new 11 kV switchgear.
- Randles 132/11 kV Substation: New substation being fed by the more reliable 132 kV system due to the Sydenham 33/11 kV Substation reaching its firm capacity. Advanced stage of pre-commission testing of the plant.
- Mondi 132/33 kV Substation: Establishment of a new 132/33 kV substation to increase reliability to large industrial customers in the Southern Industrial Basin. New 132/33 kV transformer have been installed. 33 kV switchgear and feeder cables are on order.
- Pinetown 132/11 kV Substation: The commercial and residential load demand in the Pinetown, New Germany and Cowies Hill areas has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Advanced stage of pre-commission testing of the plant.
- Newlands 132/11 kV Substation: The commercial and residential load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Installed 2 x 30 MVA transformers and associated 132 kV equipment and in final stages of being commissioned. First phase of 11 kV board replacement in final stages before commissioning.
- Blair Atholl 132/11 kV Substation: The commercial and residential load demand in the Westville area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Advanced stage of pre-commission testing of the plant.
- Havenside 132/11 kV Substation: The commercial and residential load demand in the Chatsworth area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. 132 kV switchgear has been installed and final testing is in progress.
- Karim Lane: Replacement of the 11 kV switchgear required due to its age and unreliability. First phase of the replacement is in progress and requires temporary board to be commissioned.
- Ridgeview 132/11 kV Substation: The commercial and residential load demand in the Cato Manor area has increased and the 11 kV system needs to be reinforced. Awaiting final energizing.
- Clermont 132/11 kV Substation: The commercial and residential load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Final stage of commissioning in progress
- Mobeni South 132/11 kV Substation: The commercial and residential load demand in the Mobeni South area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. New 11 kV switchgear has been energised through the existing 11 kV switchgear.
- Greenbury 132/11 kV Substation: The commercial and residential load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. All primary plant has been installed and final testing in progress.
- Umdloti Beach 132/11 kV Substation: The commercial and residential load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. All primary plant has been installed and final testing in progress.
- Ottawa 132/11 kV Substation: Transformers were moved to more critical substations and two new transformers are required. 132/11 kV transformers have been installed. Pre commission testing in progress.
- Dalton Rd 132/11 kV Substation: The commercial and residential load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Pre commission testing in progress..
- Plangweni 132 kV Substation: New 132 kV switchyard required to feed the Transnet Pump station. All primary plant has been installed and final testing in progress.
- Spare 11 kV Mobile Switchgear: Required for on-going projects and maintenance. Spare mobile switchgear is on order.
- Marrianridge 132/11 kV Substation: The commercial and residential load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Final commissioning in progress.
- Plangweni Transnet 132 kV Substation: New 132 kV substation at Transnet's side being supplied from Plangweni. 132 kV supply cable has been installed. Commissioned.
- Chamberlain Road : Replacement of the 11 kV switchgear required due to its age and unreliability. To follow after completion of Karim Lane project due to availability of temporary 11kV switchboard.
- Jameson Park 132/11kV Substation : The commercial and residential load demand in the area has increased resulting in the need to upgrade the existing 33/11kV Substation and replace it with two new 30 MVA 132/11kV transformers and associated plant and equipment. Detailed Architectural design and plant procurement in progress.

- Umlazi 132/11 kV Substation : The commercial and residential load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA. Civil work in progress and plant and equipment on order.
- Sapref 132/33 kV Substation : The 33kV supply to Sapref refinery replaced with more secure supply from the new Sapref Substation. Civil works in progress and plant and equipment on order.
- Durban South 275kV Bus Section : Required to improve the security of supply at this strategic substation. Plant and equipment on order.

HV SUBSTATIONS BRANCH

The HV Substations Branch of HV Operations Department deals with the operation and maintenance of equipment that has voltage ranging from 11 kV to 275 kV. There are 5 National key point substations that import energy from Eskom at 275kV. The 275kV is then transformed to 132 kV, 132 kV transformed to 33 kV and 11 kV, and 33 kV is then transformed to 11 kV and in few cases to 6.6 kV. The types of equipment that the HV Substation Branch works on, covers switchgear, power transformers, instrument transformers, busbars, surge arresters, lightning masts, and power line carriers. The different types of insulating medium in circuit breakers are oil, vacuum and gas. The oil circuit breakers are of old technology that render themselves uneconomical to maintain and unsafe to operate. Consequently they are gradually being phased out and replaced by vacuum and gas circuit breakers. However there is still a large amount of oil circuit breakers present in HV substations especially at 11 kV and also at 33 kV. As a result more resources (staff, labour, material, and time) are spent on maintaining this type of switchgear. A significant amount of plant is older than 30 years of age. There are frequent problems associated with their old age such as shortage of spares and mal-operation. The decision was taken to phase out 33 kV plant and equipment because of age and other associated problems such as unavailability of spares and multi transformation. The decommissioning of such plant and equipment has been made possible by construction of new 132/11 kV substations.

Highlights

- The diagnostic testing and condition monitoring programs have improved.
- The training of Internal staff to do Thermography as opposed to using external contractor.
- The acquisition of new and advanced condition monitoring equipment such as Dillo multi-analyser to check dew point, percentage impurity, and presence of SF6 bi-products in gas insulated switchgear.
- The acquisition of digital pressure gauges that would replace the density gauges on the GIS boards.
- The continuous Endeavour to do full maintenance of transformers and its ancillaries, switchgear, isolators, and earth switches in HV yards and switchgear rooms.
- The reduction of overdue hours.
- The appointment of the second Electrical Inspector despite the challenge of post grades to try and improve on Substation inspection.
- The reduction of equipment that is out of commission.

The maintenance done by the external Contractor covered the following:

1) Bayhead transformer 2 - Install VT & Commission T/C - Nov11
2) Livingstone transformer 2 - Repair Tapchanger - Nov11
3) Gyles transformer 1 - Replacement of transformer - Nov11
4) Coronation transformer 1 - T/C Maintenance - Aug 11
5) Underwood transformer 2 - T/C Maintenance - May 12
6) Chatsworth transformer 2A - Maintenance - June 12
7) Doonside transformer 2 - Maintenance May 12
8) Prospecton transformer 1 - Maintenance June 11
9) Mayville Ttransformer 3 - Maintenanace June 11
10) Springfield transformer 1B - Filter - Nov 11
11) Springfield transformer 1A - Filter - Nov 11
12) Northdene transformer 2B - Nov 11
13) Congella transformer 2B - Replace bushings - March 12
14) Umgeni transformer 3 - Finished June 12 but only energized Aug 12
15) Mt Edge transformer 1A - Maintenance - in progress
16) Cat Rd transformer 1 - Install - in progress
17) Northdene transformer 1A - Maintenance - in progress
18) Reservoir Hills transformer 2 - Maintenance - in progress

Lowlights

- The incidents of copper theft in HV substations were a threat to substation stability.
- Security guards were placed in those substations that were not manned.
- The failure of Mobeni South 1 module of the Himalayas substation GIS Board.
- The blowing up of switchboard at Parkhill substation.
- The failure of 315 MVA transformer at Lotus Park

Challenges

- The shortage of office space leads to difficulty in filling some critical posts.
- The Electrician complement is 75%. The retention is a challenge.
- The category 8 pay curve still poses a threat in the filling of posts.
- The condition and ageing of vehicle fleet.
- Keeping the aged equipment such old oil circuit breakers, running.
- Lengthy procurement processes due to lack of resources in P&T. They are in the line of our production.
- The bottle necking of maintenance
- Difficulty in getting equipment to maintain due to inability to shift loads to other parts of the network. This problem makes it difficult to maintain plant and equipment during normal working hours. Hence increases overtime hours.

HV LINES BRANCH

The HV Lines Branch is responsible for the operation and maintenance of the high voltage overhead line system presently consisting of 141 circuit kilometers of 275kV, 478 circuit kilometers of 132kV and 35 circuit kilometers of 33kV overhead line. Whilst the current year has posed many challenges for the Branch. The staff shortage situation has been stable when compared to last year.

Challenges:

- Challenges of this year is increasing theft of copper cable and tower steel members in-spite of the Division embarking on increasing patrol on HV Lines.
- The Branch has finalise testing of a theft detection unit which will start rolling out on our high risk strategic power lines with the proposed initial purchase of 250 units to be installed initially.
- Another challenge is to get all the Municipal Departments and communities at large to keep the power line corridors free of any developments.

Achievements:

- The Division has also purchase four emergency towers which facilitates quick erection during times of emergency, these will be delivered by early next year.
- Safety earthing equipment (E 9036) has been purchased for delivery before the end of the year.
- The Division has sourced out two Isuzu 4X4 crew cabs for servitude maintenance teams.
- The Division has reduced the number of old 33kV power lines and replaced them with more reliable 132kV power lines to ensure quality of supply to eThekwini customers.

Future plans:

- As part of improving skills of staff in the Branch some of our staff have attended HV Lines maintenance course, infrared scanning course and also design and construction course.
- In future the Division is looking at building a specialized line to assist with training of our Electrician and Assistants. This will be used for new HV Lines staff training.
- To train technical staff for switching authorization up to 275kV.
- To purchase a 4X4, Areal platform truck for easy working at heights.

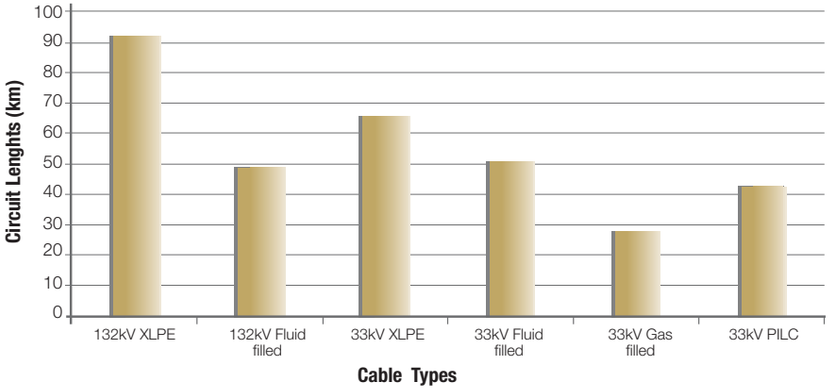
Awarded contract to carry out refurbishment project (E8960). The following projects will be starting under this contract:

1. Avoca to Phoenix Industrial Park - Full refurbishment.
2. Bellair to Mayville - Steel replacement and painting.
3. Bellair to Rossburgh - Steel replacement and painting.
4. Durban North to Park Hill - Steel replacement and painting.
5. Durban South to Lotus Park - Full refurbishment.
6. Illovo to Lotus Park - Steel replacement, re-insulation and painting.
7. Ottawa to Durban North - Steel replacement.
8. SATS Canelands - Full refurbishment.
9. Tee Duffs Road - Steel replacement.
10. Tee Marianridge - Steel replacement and painting

HV CABLES BRANCH

The high voltage (HV) cables Branch is responsible for the maintenance and operation of all 132 kV and 33 kV underground transmission cables, as well as all the 11 kV cables that form part of the primary network infrastructure.

The chart below is an illustration of the cable system types and circuit lengths that the Branch is responsible for, as at the end of 2011/2012 financial year.



The maintenance of pressurised gas and fluid-filled cables continues to be a problem especially on the gas-filled cables. However, major projects are under way to replace several unreliable cable circuits of this type in the near future. Some of these projects will see four unreliable gas-filled cable circuits viz Rossburgh-Bayhead 1&2 and Mayville-Sydenham 2&3 decommissioned within 2012/2013 financial year. Although there is progress being made regarding these problematic cables, it will take some years before they are completely phased out of the network, therefore the Branch is also investigating some short term solutions in efficiently maintain these cables and solve problems associated with these cables, such as a more technologically advanced PFT leak location method.

In 2011/2012, the Branch experienced only one 132 kV fault, which is very positive compared to four 132 kV faults experienced in 2010/2011 financial year. This fault was a result of mechanical damage by a third party and faults of this nature also contributed to about 40% of faults on the 33 kV network within the 2011/2012 financial year. This is a serious cause for concern and calls for drastic measures to be taken against the liable third parties where negligence can be proven. The number of cable theft incidents also increased in 2011/2012 and the Branch will now look at possible methods to secure cables and ancillary equipment vulnerable to theft.

Cable jointing and terminating is a routine activity for the Branch, this is intricate, time consuming and a specialised process. Over the past years this Branch has been under pressure when it comes to performing these jointing and terminating duties due to issues such as resource availability and difficulty in hiring new skilled electricians due to the general lack of skill in this field countrywide. To strengthen and enhance the skills of in-house electricians, the Branch appointed a specialist to conduct a week long theoretical and practical training course for electricians.

In financial year 2011/2012, two electricians were promoted to senior positions and two left the Branch. This resulted in the number of electricians being reduced to five out of a total complement of fourteen. This has a negative impact on the Branch's productivity level and also leads to the increase in overdue maintenance. To tackle this problem, the Branch recently brought in ten trainee electricians from the Sherq&Training Branch. These electricians will be trained specifically for the HV Cables environment. Thereafter, those who successfully complete this training will be employed permanently within the Branch. The Branch currently has a contract for 33 kV and 132 kV jointing and terminating. This contract is currently being updated and made a generic maintenance contract that will, include jointing and terminating and other type of work that is frequently performed by the Branch. This will also assist in reducing the overdue maintenance and ensure that HV Cables staff focuses more on preventative maintenance instead of attending more to breakdowns.

In 2011/2012 the Branch purchased a 'VLF' test set for testing of all 33 kV and 11 kV cables. In 2012/2013 the Branch has budgeted and will be purchasing an additional 'TD' module for this 'VLF' test set that will be used to perform the diagnostic testing of cables in order to reduce the risk of unplanned and costly outages. The Branch also intends purchasing the ready-to-use stand-by cable links that will be used to bypass 'some' substation equipment during maintenance and/or repair operations, offering the continuity of supply to maintain end-consumer satisfaction and avoid business downtime. The Branch is also doing a research on the feasibility of installing the Distributed Temperature Sensing (DTS) on 132 kV underground cables. This system measures temperature profiles along an underground power cable to detect hot spots and other temperature events and can also detect accurate location of underground cable faults.

HV NETWORK CONTROL BRANCH

The Network Control Branch comprises of four Divisions: HV Network Control, System Performance, Control Systems and Network Management.

HV Network Control Division

The HV Network Control Division is responsible for the safe operation and efficient performance of the High Voltage Network, which incorporates a 24-hour, manned HV network control centre with remote control and alarm facilities. Durban's primary transmission network being the supply networks at voltage levels from 275 000 V down to 6 600 V, is monitored and controlled from this network room using a sophisticated Supervisory Control and Data Acquisition (SCADA) system.

The Branch continues to carry out detailed exercises to ensure its readiness in response to possible disasters affecting the electricity network. The HV Network Control Division is responsible for the design of the load shedding schedule and execute load shedding from the HV control room via the SCADA system.

System Performance Division

The System Performance Division is responsible for network optimization, ensuring the HV network can meet the demand for electricity and quality of supply. The Branch continues to strive to ensure that customer complaints regarding power quality issues are addressed and resolved swiftly.

The new Quality of Supply database has been successfully implemented and information is readily available to the HV Network Control Division after a network fault which assists in fault analysis and supply restoration decision making. A user friendly web interface for this database is available on the internet for public view.

This Branch embarked on a massive drive to ensure the network will perform optimally during the COP 17 event by conducting network studies using software packages and developing contingency and emergency plans.

Network Management Division

The Network Management Division is responsible for the deployment of world leading substation automation schemes to improve the operations function of the business. The Division is also responsible for the provision of accurate data for strategic planning on capacity. In facilitating this, the Division has deployed a Web Intelligence tool over the past year that enables key business stakeholders access to up-to-date field information through the corporate intranet. The Division has also embarked on several improvement programs to allow HV operators to make more informed decisions and have better control over the network.

In an attempt to improve the operations function within the MV network, the Division has now extended supervisory control functionality to approximately 200 medium voltage substations and intend on commissioning a further 200 medium voltage substations within this financial year.

Challenges:

- Staffing of the HV Control Room continues to be a challenge given that Eskom and other municipalities compete for a very small pool of scarce skilled resources.

Future Plans:

- Installation of Closed Circuit Surveillance Systems at all High Voltage substations
- Installation of a new Access Control System for all High Voltage substations

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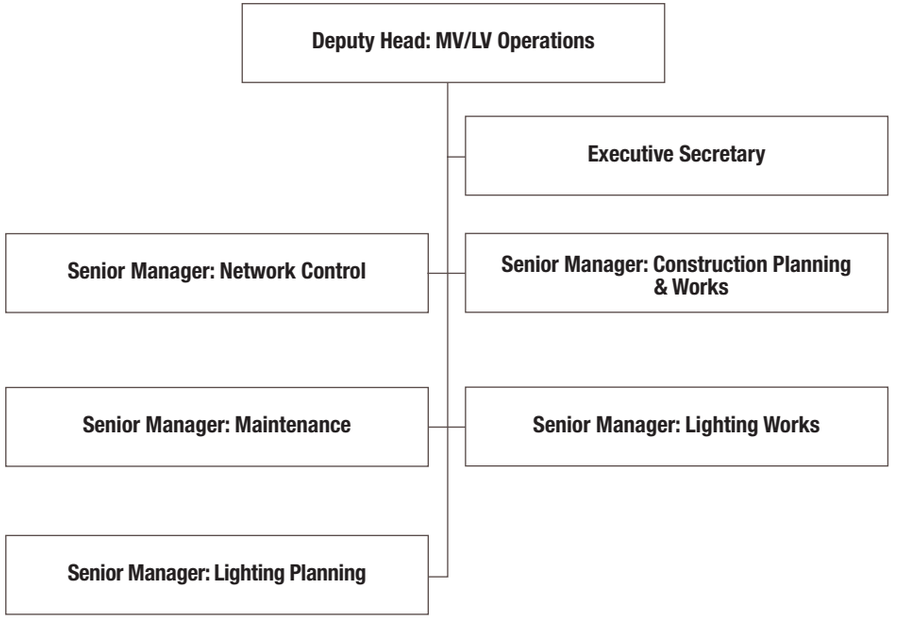
- **Qualification:**
  B.Sc. Electrical Engineering
  Masters in Business Administration (MBA)
- **Professional Registration:**
  PrEng (ECSA)
- **Experience:**
  Within eThekwini:
  MV/LV Operations (10 yrs)
  Technical Services Director (12 yrs)
  Special Projects (05 yrs)

MV/LV OPERATIONS DEPARTMENT

The MV/LV Operations Department is responsible for the planning, construction, operation and maintenance of the Unit's medium and low voltage network. The department plays a major role in connecting new customers to the electrical grid thus helping to spread electrical services to all sectors of the community. The department is also responsible for providing public/street lighting and has a strategic focus of introducing new and improved energy efficient lighting technologies into the city. Further to the above roles, the department manages and controls all medium to low voltage substations.

Advancements in technology with the benefit of cost/operational optimization is driving significant changes in the electricity supply industry and the MV/LV Department is strategically embracing these advancements to improve the overall operation, stability and reliability of the network.

DEPARTMENT ORGANOGRAM



NETWORK CONTROL BRANCH

Power outages are disruptive and most definitely a frustrating part of our lives, and it is at this moment that everyone looks to the Municipality to restore the power. The Network Control Branch holds an important and pro-active role in providing solutions to ensure the security, stability and continuity of supply to eThekwini Municipality's area of supply. On a twenty four (24) hour basis our dedicated team are responsible for maintaining the electrical network and in the event of a system disruption, we must respond appropriately and promptly to facilitate the co-ordination of the system and customer load restoration.

The various contributing factors to power outages include theft on our network, the weather and defective equipment. In this financial year there has been an increase in the number of outages, we attribute this increase to erratic weather patterns and the increase of theft on our electrical network.

There are approximately 500 informal settlements within the greater Durban area and these informal settlements are responsible for the majority of the illegal connections on our network. This causes an overload to existing circuits feeding formal residential areas, resulting in a loss of supply. Tragically innocent humans and animals are injured or killed due to this form of theft. Cable theft is also on the increase, leaving residents without power and negatively impacting on the municipality's economic growth. In this financial year, theft on our electrical network has increased by 226 %. At Network Control we constantly play a supporting role to Electricity's Business Risk section, whether it is identifying cable at the scene of thefts or reporting cases of cable theft to the SAPS. We will continue to pledge our commitment to assisting the Business Risk section and the SAPS to reduce the level of theft on the network.

For the period under review the following faults were attended to;

Type of Fault	Number of incidents
Individual Faults	252 975
LV Faults	10 114
MV Faults	5 008
Total	268 097
Total incidents of copper theft:	13 220

eThekwini's international profile is being steadily raised, having successfully hosted two global events. Firstly in November 2011, the 17th United Nations Framework Convention on Climate Change (COP 17) was held in Durban, wherein our city was host to 13 300 delegates and more than 10 000 observers from across the world to discuss climate change. Then in May 2012, the streets of Durban turned into a super racing circuit, and the exhilarating roar of the formula 1 engine could be heard in the Top Gear Festival.

Events such as these showcase our great city, and we at Network Control work behind the scenes to ensure a stable power supply and backup power. Local events are just as crucial to us, with the Ward Committee Elections programme and the Mayoral Izimbizo. We have dedicated teams and standby staff to provide security of supply and where necessary provide generators and temporary lighting.

In order to streamline our business process and improve operational efficiencies, we are currently implementing an Advanced Distribution Management system (ADMS) made up of Outage Management (OMS) and Distribution Management (DMS) systems. The process of getting an accurate electronic network model is a mammoth task and there is a tremendous amount of configuration to the standard OMS product that is required to suit our business processes and safety regulations. Once this system of computer based tools and equipment is commissioned, we will be better equipped to handle any size or scale of outage.

Another initiative that is currently being implemented to improve performance of our network is the installation of mini remote terminal units (RTU's) into all of our substations. This will provide valuable information on the state and performance of the distribution network. We set the ball rolling last financial year as we began the lengthy process to re-wire our existing substations in order to install the mini RTU's and to date we have re-wired more than 100 substations and installed and commissioned the RTU's in them. We are eager to see it being able to communicate real time information from equipment on the network to the Control Centre.

Last financial year the City's Architectural department undertook a project for new offices for the Faults Division of Network Control. The new offices are complete and the staff are in the process of moving in to their renovated premises in Springfield.

In the year ahead, we will embrace a shared vision for significant technology and business changes in order to ensure an acceptable quality of supply and service to our fellow citizens. We will also strive to ensure that the level of commitment afforded is second to none.

CONSTRUCTION PLANNING AND WORKS BRANCH

COP 17 was the highlight of this year as the communities from around the world focused their attention to South Africa. Staff fielded many queries and provided technical advice to customers wanting to connect electricity generated through renewable energy sources onto the grid. Electrical networks were installed and commissioned timeously to support this major event, and in true eThekwini-style provided we maximum reliability with configured networks and operational personnel on standby. The next event to be held in the Metro is the African Cup of Nations. Preparations are already underway to ensure its success.

With top up funding added to the Department of Energy's grant for electrification, we electrified 12,760 dwellings and another 60,000 people can enjoy a better quality of life. 1,681 non-prepaid supplies were provided to other residential, industrial and commercial developments within the eThekwini municipal area.

We unfortunately were not able to spend our entire capital budget allocation. We faced many challenges such as conflicting priorities, resource constraints, procurement delays (specifications, adjudication, orders and delivery of material) and co-operation of supporting services.

We filled a few vacant positions in the Planning and Construction Branch. However, we are still under-resourced. Vacant positions include Electricians, Planning Officers, Technicians and Chief Engineers and a Construction Manager. The Branch procured the services of Consultants to process applications for new connections and the project management of electrification service installations. Contractors continue to complement our staff in installing reticulation infrastructure and connecting new services. The efforts of all staff and agents, acting on our behalf, are greatly appreciated.

MAINTENANCE BRANCH

The Maintenance Planning and Works Branch is responsible for the inspection, maintenance planning and maintenance implementation on all medium and low voltage apparatus as well as the repair of associated faults on the electrical distribution network within the municipal supply area. This Branch comprises of six regional works depots and a Maintenance Planning Division based at the Electricity Headquarters. The Branch consists of a Senior Manager, 7 Managers, Engineers, Technicians, Electricians and the various levels of administration and assistant staff.

The maintenance of eThekwini Electricity's distribution network is vital in ensuring the integrity and reliability of supply to our large customer base. This Branch prides itself on high standards and strives to comply with various national standards and the Power Quality Charter in order to meet the requirements of customers. The major challenge facing the Branch is the growing pandemic of theft of electrical infrastructure.

The growing global need for non ferrous metals such as copper has resulted in high volumes of theft of electrical infrastructure both locally and abroad. The net result for this Branch is that it theft has significantly increased the workload, maintenance budgets had to be significantly increased, supply restoration times have increased and the integrity of the electrical network becomes compromised. The Electricity Unit is however investigating various methods of monitoring and dealing with the scourge of theft.

Rapid growth of the electrical network coupled with the shortage in human resources and an increase in failures, has resulted in significant backlogs of planned and preventative maintenance work. The Branch has undertaken an aggressive recruitment drive, during the year under review to bolster its internal resources and reduce the reliance on external service providers. Various appointments were made at all levels and the staff vacancy levels have significantly reduced. The technical staff will however, need to go through a mandatory pre-competency period before they are deemed to be fully functional and are able to work independently.

The Branch is in the process of researching various technologies that may assist with the extremely challenging conditions and the immense workload. Our Engineers are currently investigating cable and switchgear diagnostic systems that will assist in the condition monitoring of these apparatus. Various options are also being looked at in order to assist with vegetation control and to combat the impact that animals such as birds and monkeys have on the electrical network. In addition, all equipment failure is intensively investigated with the compilation of formal reports.

The Branch has seen a significant increase in maintenance expenditure over the past few years. This figure has increased significantly, especially during the past 5 years and is now in excess of R400 million per annum. This increase in expenditure was mainly due to a considerable focus on fault rectification caused predominantly by an ageing network, third party damage, theft of infrastructure, vandalism and the acquisition of external service providers which has resulted in reduced levels of workmanship. The co-operation of internal staff, consultants and contractors in delivering an acceptable level of service to our customers is vital in ensuring that this Branch meets it objectives.

LIGHTING WORKS BRANCH

Lighting Works Branch is responsible for construction and maintenance of about 200 000 streetlights in the whole of the eThekwini Municipality area of supply. The Division is constantly being challenged technical in dealing with theft related faults, which are forcing the technical teams of the Division to come up with ways and means of minimising theft. Though the current situation has not changed much but the theft rate has decrease.

The Division saw the retirement of one of the senior personnel during the year. Furthermore to that, we had one electrician completing his OHM competency which is a drive to improve the skills of Lighting Works electricians. The Division welcome new electricians. The Division achieved a 4 star NOSA rating which has since improved to a 5 NOSA star rating. The Division has set a target of 70% turnaround time on faults/complaints received and attended to within 5 working days.

Management would like to thank all staff in the Division for their loyalty and dedication in keeping the lights burning during the trying and challenging times.

LIGHTING PLANNING BRANCH

The Lighting Planning Branch is responsible for the planning, design, inspection and maintenance of the public lighting infrastructure for the eThekwini Municipality, including the planning and design of new lighting installations, upgrading of existing lighting infrastructure, research and investigation into new lighting technologies and bulk lamp replacements.

This Branch is responsible for the planning and design of capital projects. The annual capital budget was reduced to R10.7 million and projects were planned for major route improvements, new major routes, lighting of parks, and sundry lighting. Major projects for the current and future financial years include; Umgeni Road/N2 Interchange, completion of MR 577 (Kwadebeka), M4 Ruth First Highway (centre median lighting), Inanda Road (Waterfall) and floodlighting for ablution facilities in informal settlements.

The Branch operates on an annual budget of approximately 20 million rands, taking into account salaries, allowances, general expenses, repairs and maintenance. Repairs and maintenance accounts for 80 percent of this operating budget and this is further broken down into planned lighting maintenance, bulk lamp replacement and pole painting. There are currently approximately 185 000 streetlight installations, 49 cemeteries, 250 parks, 12 beaches, 17 subway lanes, 31 swimming pools and 93 stadia and sports fields for which the municipality is responsible and provides lighting for.

Many of our projects involve the interaction with other service units and external entities such as Roads Provision, Architectural Department, Parks, Leisure & Cemeteries, Roads and Stormwater, Strategic Projects, developers Tongaat Huletts and a host of external electrical consultants. We plan and design normal and special lighting projects for these units, taking into account each one's specific requirements.

With the national electricity crisis in recent years and the ever-increasing emphasis on energy efficiency, the Lighting Planning Branch has dedicated itself to research and investigation into energy-efficient lighting technologies. Technology such as LED (Light Emitting Diode) lighting is being hailed as the future of lighting and is becoming increasingly present in the lighting environment. Consumers have shown an appreciation of this “new” white light.

In addition to LED lighting from various suppliers, the Lighting Planning Branch is considering a telemanagement system of lighting control whereby lighting levels along major routes could be reduced by dimming for that part of the night where traffic volumes are minimal.

Grant funding of R20m was received from EEDSM for the installation of LED streetlights to replace the 80w mercury lamps in residential areas, 150W hps on secondary roads and 250W hps on main arterial roads. Due to an appeal, this installation has been delayed, but will commence as soon as the final award is made.

The Branch has recently achieved an acceptable staff compliment and we now aim to work on building their skills and experience within the Division. Our long-term goals are to initiate complete audits of all public lighting systems and undertake the necessary upgrades and improvements thereof.

- **Name:**
  Veer Ramnarain
- **Designation:**
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- **Qualification:**
  B.Sc. Electrical Engineering
  Masters in Business Administration (MBA)
  Government Certificate of Competency (GCC)
- **Professional Registration:**
  PrEng (ECSA)
- **Experience:**

Within eThekwini	Deputy Head (02 yrs)
Siemens LTD	Engineer (03 yrs)
Eskom:	
Transmission	Snr Engineer (04 yrs)
Distribution	Snr Manager (08 yrs)

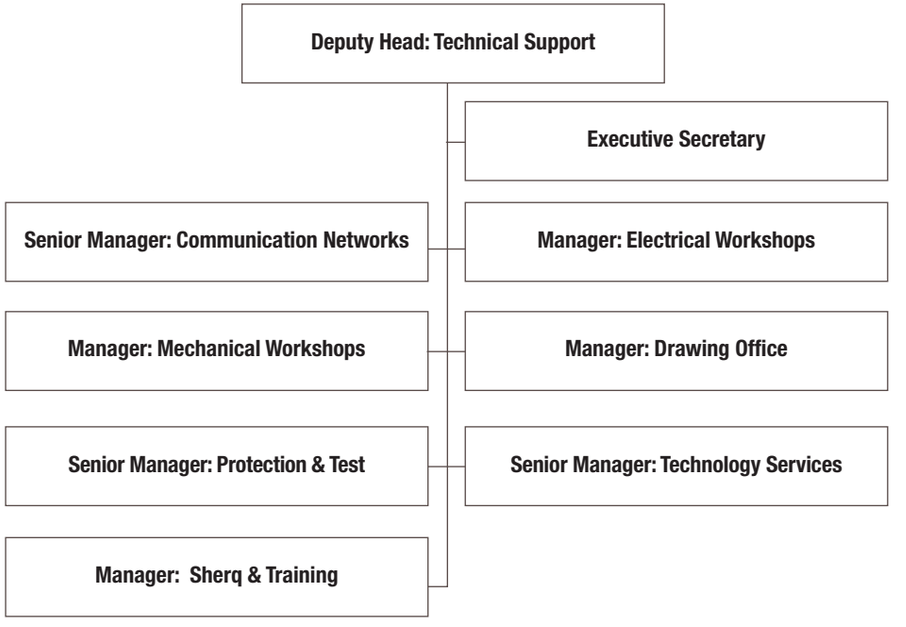
TECHNICAL SUPPORT DEPARTMENT

The Technical Support Department provides a diverse range of specialist services within the Electricity Unit. These services contribute towards the Vision of the unit, which is to be a leader in electricity distribution providing energy for the future. The Department comprises of seven branches, that ensure that all resources are effectively and efficiently utilised so that value is added to the 690 000 customers that the Electricity Unit supplies.

The Technical Support Department goals are set to achieve continuous improvement in all its operations by:

- Keeping abreast with technological developments;
- Introducing technologies that add real value;
- Training and assessing staff on technical and operational matters;
- Training and assessing contractors on technical and operational matters;
- Ensuring that staff are trained on safety related matters;
- Implementation of new technologies;
- Specialised maintenance, testing and repair services;
- Investigating technical and operational deficiencies to establish the root causes;
- Systematically eliminating deficiencies to improve the quality of service and supply;

DEPARTMENT ORGANOGRAM



COMMUNICATION NETWORKS BRANCH

The Communication Network Branch is responsible for the fibre, radio/wireless, technical data, copper pilot and other medium communication networks that provide vital communication links for all technical systems/equipment that monitor, control and protect all electrical plant and equipment in the HV transmission and MV distribution networks from which all customers are supplied. It also provides fibre communication cores/data channels for the City and other departments within Electricity.

The aim of this Branch is to investigate, plan, implement, maintain and repair the required communication networks that ultimately enhance the security and quality of electricity supply in the most effective manner and provide other users with communication links for the effective operation of their non-technical systems.

Routine activities

- Planning, installation, termination and commissioning of new fibre, data, radio and copper pilot communication network links for new substations/other sites utilising Transmission & Regional Planning/Projects/Consultants and Communication Networks/Contractors to enable the commissioning of SCADA, Protection, Security, Telephone, IT and City systems by set deadlines.
- Acquisition, installation and commissioning of customised dust proof equipment/termination panels, ruggedised carrier class DWDM and SDH access multiplexers, optical switches/routers/media converters, GPRS cellular radio modems, Voice over Internet Protocol (VOIP) adaptors, Etherpads/protocol converters and, electronic alarm boards at substations/other sites to enable the commissioning of SCADA, Protection, Security/Access Control, Telephone, IT and City systems by set deadlines.
- Location of all communication link and system equipment failures and restoration of critical user system services/operations within set time periods without backlogs developing. Maintenance and repair of all communication links and system equipment within set time periods without backlogs developing to ensure continuous reliable operation of critical user systems.

Highlights and Lowlights for the 2011/12 year

- Attraction and retention of technical skills
- The installation and commissioning of 9 access multiplexers at HV substations
- Installation and commissioning of 10 Dense Wave Division Multiplexers (DWDM) at critical major substations
- Planning, installation and commissioning of 20 Ether1 and 8 Sin4E cards in access multiplexers in the existing fibre system
- The installation, testing and commissioning of new Layer 3 Routing Software on new 1GB optical port switches at 41 transmission substations
- Completion of the programming and implementation of GIS in-station software modifications in the GPRS Cellular Radio System
- The installation of 53 'digital to analogue' Voice over IP (VOIP) telephone adaptor units at transmission substations
- The acquisition and installation of an overall Management, Authentication and Notification System for the WAN/LAN Networks at all transmission substations, depots and Control Centre

Key deliverables for 2012/13

- Upgrade further legacy Fibre Optic Network Fibre Panels and Fibre Termination Equipment in transmission substations with new dual dust proof panels
- Configure and install new DWDM multiplexers in new Fibre Panels installed on the southern DWDM fibre ring circuit
- Extend the existing GPRS Radio System to MV Mini Substations, RMPs and Autoreclosers that are electrically switchable and can incorporate RTUs
- Test and record the status of all PVC pilot cables terminated in pilot boards in the system
- Acquire, install and commission a 'pilot' Tier 2 Wireless Distribution Area Network (DAN) in the New Germany supply area for Smart Grid/Distribution Automation and Smart Metering

Challenges

- Retention of scarce skills in the Communication Networks Branch
- Recruitment of sufficiently experienced technical staff to fill vacancies.
- Maintenance and continued operation of existing critical technical systems.
- Completion of Capital Projects according to plan with limited human resources.

ELECTRICAL WORKSHOPS BRANCH

This Branch was established to ensure that all equipment received from the manufacturers are tested prior to installation into the Electricity Network. It has been responsible for repairing equipment which has failed while in service. This Branch is also responsible to supply other departments with mineral oils which are utilized as coolant medium in the transformers, autoreclosers, etc. Over the years this Branch has evolved to undertake specialised intrusive maintenance on MV switchgear and transformers.

Routine activities

- Conducting acceptance testing on all new equipment purchased, ie. Minisubstations, transformers,ring main Panels, autoreclosers, sectionaliser and motors in the workshop or site, prior to it being handed over to stores.
- Carry out repairs and overhauls to Transformers, minisubstations circuit breaker in the workshop or on site.
- Provide a breakdown service to attend to faulted transformers, minisubstations, circuit breakers, auto re-closers and sectionalisers within the MV/LV Operations network either on site or in the workshop.
- Oil processing is carried out to provide MV/LV Operations and HV Operations with regenerated transformer oil which ensures the effective management of the processing, storage and issuing of regenerated transformer oil.

- Reclamations of waste and scrap is carried out by the reclamation Division. The disposal of cables which have returned from site due to failure or new network developments is processed by this Division. These cables are cut into 1metre lengths to prevent being utilized unlawfully. Upon job completion by contractors or electricity staff, all scrap cable is returned for disposal and respective proceeds are received.

Highlights and Lowlights for the 2011/12

- Installation and commissioning of state of the art oil regeneration plant at the electrical workshops.
- The establishment of new test facility to conduct test on various electrical equipment.
- New advanced tools acquired for Artisans to allow better productivity.

Key deliverables for 2012/13

- Electronic capturing and data analysis of equipment tested within test bay
- Installation and commissioning of automation for pumping regenerated oil to tank farm and storage facility
- Restructuring the disposal process for transformers and switchgear in order to better manage the storing and scrapping of redundant and damaged equipment.
- Establish new oil testing Laboratory to analyse oil samples from regeneration oil plant and site equipment

Challenges

- Research and development of more advanced test methods for new electrical equipment by engineering staff.
- Developing the required level of skill to all newly qualified field staff to provide higher level of support to the operational Branches.

MECHANICAL WORKSHOPS BRANCH

Mechanical Workshops Branch provides a specialist mechanical support service to the Electricity unit, other units within the municipality and external customers and comprises of three sections. These are the Work Programming Division, Fitting, Machining & Rigging and Welding Workshops. The Branch is involved with a wide range of repetitive fabrication, production and maintenance, and also a diversity of mechanical tasks that change on a daily basis as per our customer's requirements.

Routine activities

- Costing, planning, design, research and purchasing of materials and equipment for works orders received.
- Manufacturing of galvanized equipment, repairs to fibreglass ladders, maintenance and fabrication of electrical equipment, installation of support structures, rigging services and safety inspections.
- Repetitive production work, maintenance, manufacturing and repair of electrical infrastructural equipment and component fabrication.
- Maintaining of ISO 9001 accreditation by ensuring successful audits.
- Practical training of Mechanical Apprentices.

Highlights and Lowlights for the 2011/12

- Retaining ISO 9001 accreditation following the re-audit in January 2012
- Appointment of a Quality Control Technologist
- Replacement/purchase of Guillotine and Bending Brake

Key deliverables for 2012/13

- Improve on workshop layout ergonomics for improved movement of materials.
- Introduction of ultrasonic non-destructive testing of lifting equipment to replace present methods.
- Rehabilitate and/or replace aged machinery in the workshops
- Research into a computerised tool store inventory system to improve and replace the present system.
- Conduct Base Line Risk Assessments

Challenges

- Ensuring safety at the workplace and preventing injuries to staff

NETWORK DRAWING OFFICE AND SURVEY BRANCH

The Network Drawing Office and Survey Branch comprises of six Divisions, namely Administration, Network Records, Geographic Information Systems (GIS), Special Projects, Utility Plans and Survey. The main focus of the Branch is to maintain an accurate record of all Underground and Overhead electrical assets and provide an efficient GIS to support the many other enterprise systems within the Electricity Unit.

Routine activities

- The Administration Division provides an administrative service to the Network Drawing Office and, a printing and scanning service, to the Electricity Unit.
- The Special Projects Division updates and maintains the Low Voltage Circuit Diagram database and makes these diagrams available via a web browser. It also updates the code of practice, drawings and illustrations, for the Technology Services Branch.
- The Survey Division provides a survey function to internal and external customers.
- The Network Records Division is responsible for the capture and update of the Underground and Overhead Electrical Network, in the GIS.
- The GIS Division ensures that there is data integrity in the Network Records Database and makes this data available via the ArcGIS Server browser. This Division also provides GIS support services to all staff of the Electricity Unit.
- The Utility Plans Division attends to all way leaves, provides network information to visitors and responds to all written correspondence received by the Network Drawing Office Branch.

Highlights and Lowlights for the 2011/12

- The replacement of the monochrome plan printer and scanner has ensured that a more reliable printing and scanning service is delivered to the Unit.
- The appointment of eight Draughting staff has resulted in all Depots being staff with Depot Draughtspersons.
- The high demand for training on ArcGIS Server, indicates that this web application is being used on a daily basis to meet the needs business.
- The completion of the bulk scanning of documents to electronic format has ensured that all planned and as-built drawings is available electronically to the business.

Key deliverables for 2012/13

- Update the GIS database with surveyed data of all electrical assets, by restructuring the work processes in the Survey Division.
- Automate the GIS Database refresh, by putting procedures in place to post and reconcile GIS data on a daily basis to ensure that the latest GIS data is published regularly.
- Integrate the current GIS dataset with the Aurecon field capture asset information, by changing the existing data model to the Network data model that includes all assets.
- Investigate and capture missing underground assets in GIS that are not being captured by Aurecon in the field capture project.
- Redraw all Low Voltage Circuit Diagrams to be more geographically correct and in compliance with new business processes.

Challenges

- Review of the Network Drawing Office structure to ensure that the Branch is able to provide adequate support to the Business.
- The filling of vacancies in the Draughting and GIS Divisions.
- The migration of data from the Asset Management field capture exercise into the new Network GIS data model.

PROTECTION AND TEST BRANCH

This Branch is responsible for the forward planning, analysis, design, up-dating, testing, auditing, maintenance and repair of all protection and DC systems in the electrical network. The Branch plans, designs, tests, commissions and maintains all protection and dc systems in the eThekwini electrical network. It also effectively and timeously provides fault location, testing and repair services to the Electricity Unit as a whole, and investigates any protection or dc related mal-operations.

Routine activities

- The calculation and application of optimised protection settings to ensure proper discrimination and effective fault clearance times in the MV and HV electrical network.
- Update and maintain protection drawings.
- Investigation of protection mal-operations
- Effective maintenance and repair of protection equipment at all MV and HV substations according to stipulated maintenance guidelines
- Testing and commissioning of substation installations, protection systems, DC systems and equipment to ensure that new substations are brought online timeously and that any protection upgrades are brought back into service within set target dates.

Highlights and Lowlights for the 2011/12

- Appointment of Technicians and Engineers in the Protection Engineering Division
- Lack of technical expertise in some Divisions.

Key deliverables for 2012/13

- Addressing the backlog of un-energised 11kV switchgear at new and refurbished 11kV MV Distributors.
- Addressing protection maintenance backlogs at Major substations
- Replacement of battery banks at Major Substations
- MV Distributors with old 30V chargers have been marked for urgent replacement by new 30V Static Power chargers
- Audit of all HV protection drawings to ensure that all substations have a set of hard copy drawings
- Keeping abreast with new technology by setting up a laboratory
- Maintaining and updating the electrical network model in PowerFactory
- Roll out of Stationware to effectively manage protection settings and workflow

Challenges

- Recruiting and retaining specialised technical staff.
- Ensuring staff are made competent on new and advancing technology.
- Maintaining operations and service delivery with limited technical human resources.

TECHNOLOGY SERVICES BRANCH

One of the functions of the Branch is research into cost effective ways of distributing electricity. This function can be divided into two, namely, the cost of goods purchased and the costs associated with the installation, operation, maintenance and disposal of the said goods. Over and above the issues relating to construction and maintenance, safety of staff and public is high on the agenda both during the selection of a particular type of good and during its application. Technology Services has as its primary goals the adjudication of all tenders for technical equipment, material and services supplied to the Service Unit, and the creation and maintenance of all technical codes of practice and instructions used by eThekwini Electricity staff and contractors.

Routine activities

The Branch has continued its active participation in NRS projects as well as participating in SANS working groups where, in conjunction with work group members from other municipalities, Eskom, mines and major suppliers, specifications and guidelines have been prepared to promote uniform requirements for equipment and design methods for use in distribution systems.

Highlights and Lowlights for the 2011/12

- Appointment of new Engineer
- Adjudication of Cable Contract to include medium voltage cross-linked polyethylene (XLPE) cables.

Key deliverables for 2012/13

- Reduce fault finding duration by introducing through- fault indicators on some overhead networks to assist staff in isolating faulty sections.
- Revising and updating the Codes of Practices to ensure all relevant practices are updated, communicated and enforced by relevant staff.
- Collaboration research with Doble SA and University of Kwazulu-Natal on corrosive sulphurs within transformers by a controlled practical experiment using two distribution transformers.
- Measure savings in technical losses on various sizes of the amorphous type (low loss) distribution transformers
- Ensure all new equipment specified is installed with intelligence and communication capabilities for a smarter grids, ie MV switchgear with IEC 61850 protection relays, ring main units, autoreclosers, sectionalisers, overhead line through fault indicators and mini-subs with integrated RTU's for communications for data acquisition and limited control.

Challenges

- Appointment of additional Standards Officers or Electrical Technicians to ensure better quality control of material and workmanship.

SHERQ & TRAINING BRANCH

The SHERQ and Training Branch is responsible for the design, implementation and monitoring of systems to ensure compliance with the Occupational Health and Safety Act and associated Regulations throughout the Electricity Unit. This includes conducting risk assessments, conducting safety audits, conducting environmental audits, provision of standby personnel, operational training/competency accreditation of all persons engaged in construction and maintenance, and investigation into machinery-related incidents and the introduction of measures to prevent recurrences.

Routine activities

- Assist +/- 50 Line Managers to comply with Town Clerk Chapter 25, Construction Regulations, Codes of Practice, Accident investigation (Root cause analysis) and Assist GMR 2.1's at safety investigations.
- Conduct on-job observations and draws up deviation sheets that is sent to the relevant line manager to assist line managers operate and create a safe and healthy work environment resulting in fewer accidents.
- System Operations Senior Training Officers, Technical Training Officers and ICT Trainers ensures that the staff across the unit are competent, committed and suitably qualified staff to operate and maintain the electrical assets on the network.
- Technical Training ensures the transfer of critical technical skills to staff thus ensuring an acceptable level of quality with regards to workmanship. Installation and maintenance of plant and equipment. This also ensures that work is conducted in accordance with specifications and codes of practices as laid out by equipment manufacturers and the Electricity Unit.
- Systems Operations Training provides artisans with knowledge to operate electrical equipment safely, thus eliminating damage to equipment, injury to staff or fatalities.
- ICT Training equips eThekwini Electricity staff and contractors on the units IT systems.

Highlights and Lowlights for the 2011/12

- Initiation of architectural project to expand the existing training facility by 2013
- Re-accreditation of eThekwini Electricity for assessment of Electricians.
- Publication of eThekwini Electricity Health and Safety Plan.
- Appointment of Electrical Machinery Inspectors.
- The backlog of Trade Test Certificates issued by SETA.

Key deliverables for 2012/13

- Introduce safety messages are broadcast on computers to promote safety when users log into their computers.
- Establish Science Expo centre at the Training Center to promote the engineering profession to school kids and university students.
- Development and register specific unit standards on certain elements of M.V. and H.V. training, so that a superior standard can be maintained and shared with other industry roll-players.
- Conduct Base Line Risk Assessments

Challenges

- Attract suitably qualified Technical Training Officers

- **Name:**
  Sewraj Harilal
- **Designation:**
  Deputy Head - Customer & Retail Services
- **Qualification:**
  Government Certificate of Competency (GCC)
  Post Graduate diploma in Business Administration
  National Teachers Diploma (Technical)
- **Experience:**

  Within eThekwini: (15yrs)
  Deputy Head: Customer and Retail Services
  Director: Distribution - Northern Region
  Director: Lighting and Workshops

  Technical College:
  Lecturer/Senior Lecturer (08 yrs)

  Tongaat Municipality:
  Town Electrical Engineer (06 yrs)
  Electrician/Technician (08 yrs)

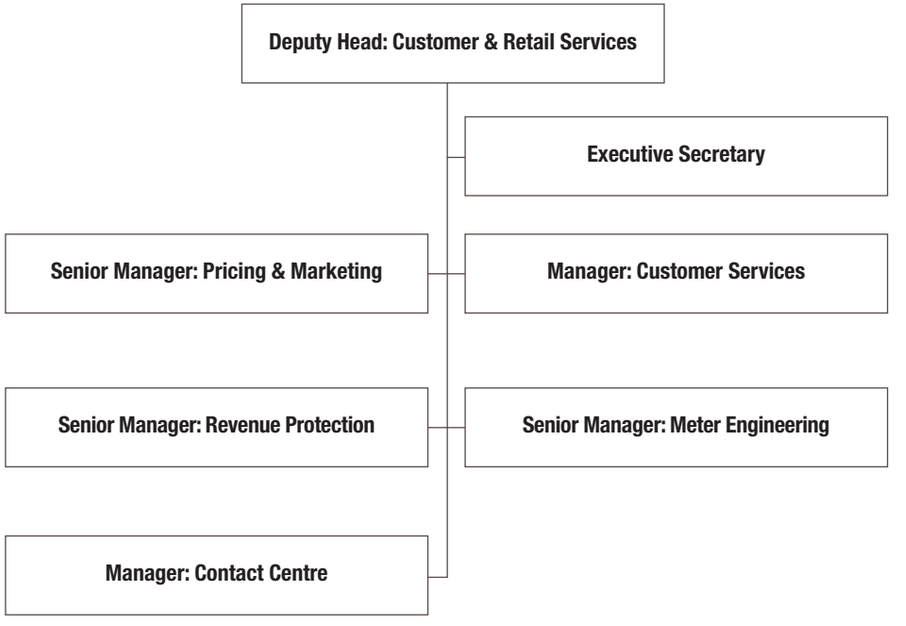
CUSTOMER AND RETAIL SERVICES DEPARTMENT

The Customer & Retail Services Department provides a customer contact and retail services function for the Electricity Unit.

The Customer & Retail Services Department consists of more than 400 employees and performs a diverse range of functions for the Electricity Unit including:

- Metering of electricity consumption
- Designing of fair and cost-reflective electricity tariffs
- Providing the services of a Contact Centre for reporting power outages, street light faults and the theft of equipment and electricity by telephone, e-mail and fax
- Assists with the protection of the city's revenue via the implementation of electricity theft mitigation strategies
- Provides four Customer Service Centres throughout the city.

DEPARTMENT ORGANOGRAM



PRICING AND MARKETING BRANCH

The Electricity Pricing & Marketing Branch has three primary functions namely:

- To raise awareness about key issues involving electricity
- To design cost-effective and accurate electricity tariffs
- To maintain a statistical database for electricity purchases and sales and other important information.

The energy crisis of recent years has set energy conservation awareness as the key issue in the industry. Safety precautions and theft of electricity are also at the top of the current agenda for the Branch.

MARKETING DIVISION

The activities of the Marketing Division creates a platform to engage with the public to address the following:

- Energy efficiency and demand side management (DSM)
- Service delivery problems and constraints
- Theft of electricity and infrastructure
- Free Basic Electricity (FBE)
- Electrical safety and electrical hazards

The Marketing Division is continuously holding interactive events to raise awareness and promote the ideals of the department, especially regarding energy efficiency. The marketing staff spent a great deal of time promoting the efficient use of electricity to scholars in primary and secondary schools.

The Marketing Division also participates in community radio talk shows and this provides a platform for the unit to interact with members of the community directly, providing useful and up-to-date electricity related information. General topics include theft of electricity, energy efficiency and the safe use of electricity. The radio shows also allow customers to raise their queries and seek advice on a resolution path. Energy Efficiency seems to be a “Hot Topic” amongst customers and is becoming more popular as customers bear the brunt of the rising energy costs.

The Marketing Division has also been working closely with communities and the internal planning staff to try and asses the feasibility of electrifying areas that are without electricity. There are numerous challenges to overcome before all citizens are electrified however the Branch is committed to make this a reality in the coming years.

PRICING DIVISION

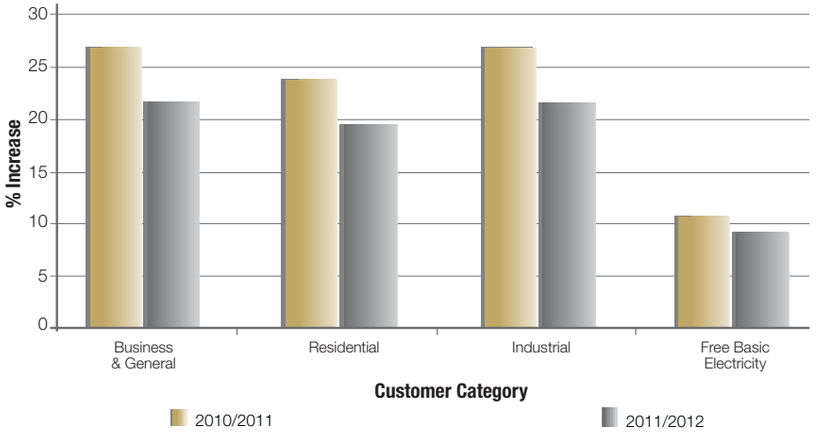
The Division designs electricity tariffs and provides tariff advice to key customers. Tariffs are designed to be cost-effective whilst ensuring accurate cost recovery and reflectivity.

The Division is also responsible for auditing the Eskom bill, which amounts to approximately R5.5 billion per annum. Changes in the industry (shortage of electricity and rising electricity prices) have caused a drive for a reduction in consumption through improved efficiency as well as research into renewable energy sources like solar power, hydroelectric power and wind generated power.

The national price hikes have been passed through the current suite of tariffs including the national tariff signal of higher prices during winter and peak periods (to business and industries). This methodology of costing has forced many customers to reduce their demand and consumptions during these times to help curb their electricity costs. The cost of electricity in South Africa is on the rising edge and it is evident that electricity is no longer a cheap resource for South Africans. As part of the multiyear price determination, NERSA awarded Eskom an average increase of 24.8% for the 2010/2011 financial year, 25.8% for 2011/2012 and 25, 9% for 2012/2013. It is clear that the regime of higher than average increases will continue at least over the next year or so.

Tariff design is proving to be a major challenge in the midst of the huge increases and we are finding it more difficult to design cost reflective tariffs that are affordable to the end customer. Major emphasis has been placed on protecting the poor to ensure that they are not adversely affected by the huge increases. The tariff increases have been calculated in line with NERSA’s guideline methodology. The methodology aims to ensure that tariffs are increased in a uniform and consistent manner.

The overall average tariff increase as approved by NERSA for 11/12 financial year was 19.8% however individual customer categories were increased as follows:



Whilst the electrical grid was extremely tight in terms of supply and demand during the year, we have fortunately not been asked to initiate load shedding in Durban. This is a good sign as it means that the system operator was able to call on available reserves to carry us through faults and unexpected outages. However we do have to continue with our energy savings efforts to ensure that load shedding does not resurface. The impact and effects of the higher electricity pricing together with the slow-down in the economy has hampered the growth of electricity in the city over the last financial year. Despite introducing in excess of 15000 new customers to the electrical grid, the total electricity consumed overall was similar to the previous year.

On the 18 August 2011, the Branch hosted a tariff presentation at the Durban Botanical Gardens. The event attracted mainly energy intensive industrial customers. There were approximately 110 people that attended the event. Presentations covered topical issues including, tariff increases, energy theft, financials, status of the Eskom grid and Demand Side Management (DSM) programs. As the electricity prices soar, customers are becoming more involved with their electricity usage and they are keen on finding efficient ways of reducing their consumption in an effort to reap financial savings.

REVENUE PROTECTION BRANCH

The Revenue Protection Branch ensures that non technical energy losses on the distribution network are kept to a minimum by effectively disconnecting consumers who are in arrears, combating illegal connections and swiftly reconnecting customers that have settled their account.

Disconnections and Reconnections

Over the past few years, we have seen a steady increase in the total number of customers disconnected. For this financial year, the total number of disconnections and reconnections carried out was 219 102. This figure has increased by 169 943 when compared to the last financial year.

The first phase of the Digital Pen project has been piloted and has proven to be great success esp. when coming to the turn around time from the disconnection actioned on site and system reporting. Disconnections performed on site are being transferred to our system instantly for actioning. The Branch is in a process of seeking a potential supplier of digital papers.

Sweep Project (Residential)

Due to the huge tariff increases over the past few years, customers are more tempted to tamper with their electricity supply. As a result, it has become crucial to enhance revenue protection measures to ensure early detection of tampering. Appointed contractors are required to carry out inspections of dwellings in designated areas to identify tampered/faulty prepaid electricity meters and/or illegal meters and to record the GPS co-ordinates of each connection. The findings of the contractors are reported to the Branch, who would then determine the appropriate follow up action. EThekwini municipality has an integrated system in place that: -

- Provides a work management program to execute all remedial field operations resulting from the initial field survey.
- Consolidate updated records with relevant findings and spatial coordinates into the back end MIMS-Ellipse central data system.
- Have effective business intelligence and regular reporting to highlight trends, impact of operations and view on all key performance indicators.

The Appointment of the consulting company has proven to be a great success in managing the above project and the Branch is currently in a process of cleaning the data obtained from site esp. wrt Non Registered Meters; Low or Null Purchases etc.

Meter Inspection

The verification of measurement and metering equipment of eThekwini Electricity's Business & General customers continued with greater speed this year. The findings (Circuit faults) obtained are analysed and the back-charges raised on customer's accounts accordingly. "'d2Circuit faults "'d2 in the meter installation means that there is a fault that affects the correct functioning of the meters, but does not affect the supply to the customer. Typically, the following circuit faults are common findings in the field: Incorrect Wiring / Connections.

We are in the process of establishing a Metering Inspection section to ensure that the co-ordination and specific functions relating to electrical metering within the Electricity Department is performed to ensure optimal electrical operation of meters and enhanced quality of measurement thus minimizing errors.

Vandal Proof Metering Kiosk (Secure Enclosures) Project

The project entails installation of protective enclosures to conform to the required safety standards, to prohibit the theft of electricity due to illegal connections and consequently improve revenue collection in the areas affected.

The municipality's objectives of pursuing the delivery of a tamper-proof metering system and services includes but are not restricted to:

- Zero tolerance approach to theft and illegal connections.
- Delivering an effective and sustainable service.
- Ensuring affordable provision of services.
- Catering for the needs of local communities.

The remote opening has been tested and has proven to be a success. The Branch together with the ICT Department are in a process of establishing a system e.g. Babelfish which will be incorporated to this Remote Opening Unit before.

Illegal Connections Project

The inspection, disconnection and removal of reported illegal services in areas with high volumes of illegal connections continued, namely, Cato Manor, Clare Estate, Reservoir Hills, Kenville, KwaMashu (Siyanda), Tongaat, Isipingo, Umlazi, and Mpumalanga Township. In most of these areas, the illegal connections are adversely affecting the quality of supply to the legal users which often resulted in outages which extended over night. The under-ground mains (UGM) distribution network had to be converted to over-head mains (OHM) and various other modifications are required to reduce the effect on legal customers. During sweep operations, a number of suspects were arrested and prosecuted. An increase on the number of illegal connections has been noted.

In an effort to reduce theft and minimize the inconvenience to legal paying residents, the following is being done:

- Convert some of the service connections for legitimate consumers from underground mains to overhead mains.
- The overhead bare copper low voltage circuits are being replaced with aerial bundled conductor (ABC) as a deterrent to tapping onto the line.
- Installation of anti-climb devices.
- Reconfiguration of circuits to move away from high theft zones.

Primary Measures taken to control illegal connections:-

Our illegal services contractor teams together with our internal security teams are required to patrol identified areas on a regular basis, to identify and remove illegal services in these areas, as instructed by the Senior Manager (Revenue Protection). Some of the perpetrators of these illegal activities are caught and prosecuted. The Appointment of the Investigation Unit and the introduction of the Municipal Courts will deter the illegal uses of electricity. Most of our Electricians and Snr Technicians has been sworn as Law Enforcement Officers and are in a process of being issued with the appointment cards and summons books .

Future Measures to be taken to curb electricity theft

- Rapid response to incidences of illegal connections taking place.
- Conduct forensic investigation to collect or obtain evidence, i.e. collect evidence using surveillance cameras and/or photographic evidence, of an illegal service or un-authorized connection, connecting onto our electricity network
- Lay criminal charges against the illegal perpetrators. This will go a long way in assisting us to ensure that the perpetrators are brought to book.
- We will also be focusing on revenue enhancement projects that will promote the electrification of informal settlements
- CDU Cut Ins, Try and reduce the T Jointed type of UGM Suppliers thus enabling the Branch to effect the disconnections effectively.

METER ENGINEERING BRANCH

The key purpose of the Meter Engineering Branch is to ensure that metering equipment used for billing purposes are appropriately specified, installed and maintained. To ensure these objectives are undertaken efficiently, the Branch is sub divided into four specialist Divisions. These Divisions are Advanced Metering & Projects, Metering Workshop, Whole Current Metering (Construction and Maintenance), and the Bulk Metering Division.

ADVANCED METERING AND PROJECTS DIVISION

This Division is essentially responsible for the specification, acquisition, and commissioning of new metering technologies. During the past year, this Division has been involved in the implementation of automated meter reading projects including the addition of Mini-Bulk customers. These systems make use of cellular wireless technology (GSM) for the transmission of metering data back to the central station for billing purposes. More updated technology GPRS/RF is currently being investigated as a cost effective alternative means of communication. Another important project currently being undertaken by the Division is the implementation of smart metering for both residential and industrial use. The feasibility study for this project has been completed by international consultants utilizing a grant from the United States Trade and Development Agency (USTDA). The Division is also continuously working with ESKOM on multiple load control pilot projects in order to ensure a healthy national grid during times of high demand. The section has also recently been entrusted with the programming of all meters across all tariff applications.

THE BULK METERING DIVISION

The Bulk metering Division is responsible for all new applications and upgrades for the metering of large power users. This involves complex meter installations and maintenance. The Division is directly responsible for the generation of metering data and maintenance of approximately 1000 of our largest customers that bring in around 50% of the revenue generated by the electricity department.

In addition, the Division undertakes planning, forecasting and more importantly execution of load profile requests for tariff analysis purposes for our business customers; who would like to migrate to more favorable tariffs.

The upgrade of multi feeder systems that have been metered with summation current transformers in the past, to the individual electronic metering is being continued. This will allow us to continue improving the accuracy of metering and our revenue collection. The Division also carries out a routine meter replacement which includes replacing all electromechanical and dated electronic Bulk meters with the newer highly accurate electronic meters.

THE WHOLE CURRENT METERING DIVISION

The whole current metering Division is subdivided into maintenance and construction in order to optimized turnaround time due to a significantly larger consumer base. The Division is largely responsible for all new metering applications and upgrades of small businesses, commercial and sectional title residential customers. Rectification of on site faults and queries on all complex metering installations also forms a significant part of the Division's responsibilities.

THE WORKSHOP DIVISION

The primary function of this Division is to repair, calibrate and test all single and three phase meters electromechanical type meters. Prepayment meters are also tested in-house or sent back to the suppliers for specialized repairs. The section has an approximate throughput of 2000 meters credit meters per month and is continuously under pressure to process these meters in order to minimize the capital expenditure. The workshop has been housed in a larger premise and geared to cope with high volumes of meter tests and calibration. There will be significant upgrades to this venue in the near future; with the installation of new and advanced meter testing equipment. Enhanced quality systems have been implemented to improve efficiency.

GENERAL

The filling in of technical posts continues to be a hurdle for the current year and the year to come. A restructure of the Meter Engineering Branch will be considered and priority will given to motivation and training of staff. The focus for the forthcoming year will be the investigation into new technologies such as smart metering for residential customers, a new multi-vendor advance meter reading (AMR) system and specifications for new single phase and three phase Test Benches. The AMI Smart Metering investigation will enable the remote reading, disconnections and reconnections of meters for residential customers and allow multiple meter vendors. Smart metering will also enable the limitation of customers' loads which can be used to mitigate unwanted future load shedding procedures. The future AMI system will allow the Division to expand on its existing supplier base, allowing flexibility in a progressively competitive market. The arrival of a new test bench will allow the workshop to rapidly improve turnaround time and accuracy.

The upgrade will enhance the customer's relationship and trust in the Municipality as queries and calibration will be handled with modern day state of the art technology. The meter engineering Branch is committed to professional service to the public and will continue striving to provide an efficient and effective service to all stakeholders.

CUSTOMER SERVICES BRANCH

This Branch is responsible for the processing of all applications for supply, registration of customers for billing purposes, meter reading service, auditing of meter readings, resolving account queries/disputes, technical advisory service, cashiering facilities at various electricity shops.

It is intended to fill all the permanent posts of meter readers to cope with the 10 and 30 day check meter readings after disconnection in order to ensure that the Revenue Protection disconnection process is not compromised by unlawful reconnections. The restructure of meter reading will provide improved supervision of meter readers and is expected to provide a more efficient service to customers. The position of Senior Supervisor (meters) will be reviewed by grading committee this new financial year before the restructure is put in place. The new Meter Reading Contract will be placed in August 2012. A new pilot project has been initiated and will be managed by IT. This pilot project will investigate the market for new meter reading hand-held's due to the current high costs of maintenance and replacement. A local manufacturer is being sourced.

In view of the high crime rate, Customer Services Centres are always improving security for both their staff and customers. Rotunda Customer Centre at HQ has been burgled three times in the last financial year. It will now have burglar guards installed on the outside and the parking lot will be improved with new boom security and guards in the new financial year. We have requested additional security for Saturday mornings due to the vicinity being very quiet and large sums of money being received.

New premises are needed for Northern and South Western Region. Northern Region is currently occupying Mallacca Road Depot and have been given notice to relocate. Rental premises have been found however it might not be possible to move due to insufficient budget. Might need to only move in 2013/2014 financial year. Besters shop is investigating the addition of a second floor to their building to accommodate all North Western staff. Application will be made to Architecture and Real Estates Departments.

The “RMS System” is still being perfected before launch and senior Customer Services administration staff are still assisting to this when required to ensure that Electricity's concerns are addressed. There have been delays in the RMS project in the 2011/2012 financial year. The Customer Services Branch is bracing itself for final testing and intense training to ensure a smooth transition from Coins to RMS and temporary agency staff has been employed for the short term to assist customers at counters during the training and bedding in of the new system, which should be completed in this new financial year.

Due to delays temporary staff are being employed in permanent positions in other departments and new staff have to be trained. It is still uncertain whether this system will be implemented.

The ongoing provision of “RDP” Housing has seen our administration staff efficiently processing applications to ensure the timeous “switch on” of electricity for these houses. This is only possible with the close co-operation between the Housing Department, Customer Services, Finance Department and the Depots and will be ongoing in this new financial year with new improved methods of communicating with Housing. Regular monthly meetings are being held with Housing to meet the increased demands to meet targets.

The filling of posts is continuing as experienced staff leave for other sections and departments. Additional Principal Clerks, Liason Assistants and Technical staff have been added to the organogram to cope with the additional volumes of queries and processing of applications as the city has grown in the last two decades with a larger customer base.

SMS technology is currently being investigated to capture meter readings by consumers via cellphones. Web Page Design is being investigated to capture on-line applications, account queries, meter reading capture, token purchases and compliance information to be displayed. Rotunda Displays, these large screens will be placed at entrance of Rotunda displaying all necessary information to consumers regarding applications, queries and tariffs. Once this system is optimized, it will be installed in all Customer Service shops.

There is a definite need for this system to be installed in all customer service areas. Currently we are investigating the local market, such as systems at SARS. We have located a French company however they have proven too expensive.

CONTACT CENTRE BRANCH

The Contact Centre provides a fault, breakdown and theft reporting service on 24hour - 7 days a week basis. The Contact Centre is equipped in documenting all faults that are reported at the Contact Centre and alert the Network Control Department who will forward the complaints to the relevant department for corrective action. We also assist with account balances and logging meter reading from customers. In the 11/12 year, the Contact Centre attended to 907869 calls.

The Contact Centre deals with all customer categories that report a wide range of faults. Typical faults include:

- Loss of supply within customer's premises
- Loss of supply in the area
- Street lights failure
- Poor quality of supply
- Meter faults
- Cable theft
- Cable stolen
- Requests for Isolation

We also assist swith account balances, customer service application requirements, meter readings, and other general enquiries. These requests are done via various multimedia services, which are:

Toll free number: 080 131 3111
Fax: 031 311 9641
SMS: 083 700 0819 (standard SMS rates apply)
Email: Custocare@elec.durban.gov.za

In an effort to improve our feedback and follow up information, the Electricity MV/LV Operations department will be introducing an Outage Management System that will assist us in tracking each and every request that is reported through the Contact Centre. We will be able to update our customers promptly with the progress of their fault and current or planned outages in their area.

- **Name:**
  Keith Moulder
- **Designation:**
  Deputy Head: Finance & ICT Services
- **Qualification:**
  FCIS
  Post Graduate Diploma-Business Administration
- **Experience:**

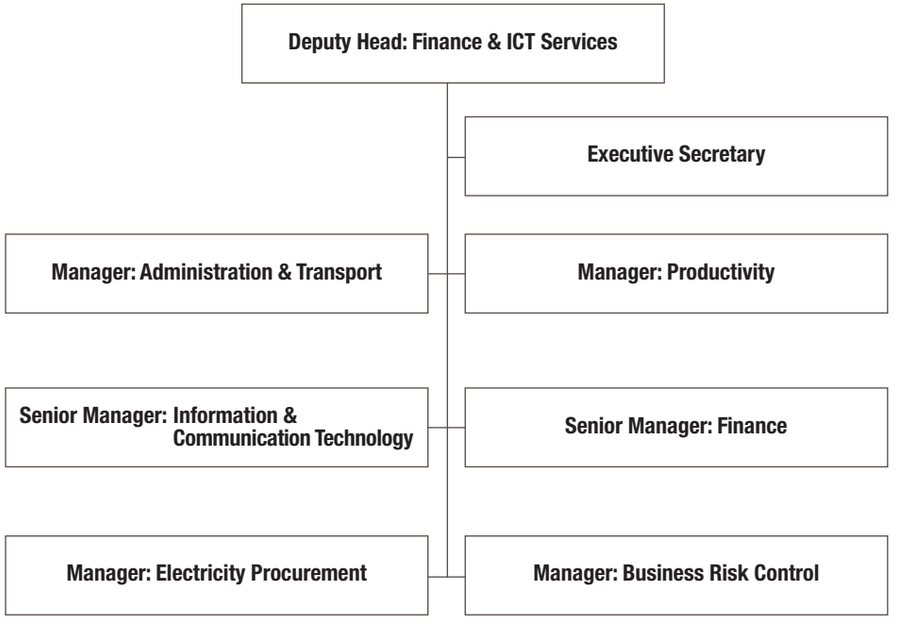
Within eThekwini	21 yrs
Romatex	- Director (10 yrs)
Robinson & Co	- Financial Manager (10 yrs)
Standard Bank	- Management (03 yrs)

COMMERCIAL DEPARTMENT

The Commercial Departments of Finance, Information Communication Technology, Productivity and Business Process Engineering, Supply Chain Management, Business Risk, Administration and Transport play a vital support role to eThekwini Electricity. They also participate in numerous other Council projects/committees. Within the staffing constraints currently experienced they strive to provide effective logistical support to the technical operations. A key feature of these departments is to ensure that throughout, legislative practicies, controls, policies and procedures are complied with.

In addition to the onerous Local Government Legislative and governance controls we also have to comply with, the National Electricity Regulators (NERSA) has stringent requirements pertaining to reporting as a ring-fenced Business Unit. NERSA's Framework for Economic Regulation is complex and is presenting significant compliance challenges going forward.

DEPARTMENT ORGANOGRAM



ADMINISTRATION BRANCH

The Administration Branch covers three key areas of the Department: Administration, Buildings, and Transport.

The Administrative Section is responsible for providing an efficient and effective Document Management System, and operates within the parameters of an approved Governmental Archival System. Various other Administrative functions are, Customer Liaison, Word Processing of letters, reports, contract documents, the micro-filming of electricity application forms and transcripts of meetings, disciplines etc.

The Building Maintenance Section is responsible for the general building maintenance / security and upkeep of the gardens / grounds at the Electricity Springfield Training Centre, Springfield Complex and HQ Complex. Provision of office accommodation has been a major challenge. Three major building works have been planned to address the challenges. Namely, the expansion of the standby accommodation at Springfield to cater for the growing number of staff and the centralisation of the faults section. This project is due to commence in October 2012. Then there is the Control Building upgrade and additional two floors to cater for our Faults and ICT Departments. This is due to commence April 2013. The New Electricity Training Centre Building is currently being designed.

The Transport Section controls and maintains the Service Unit's large fleet of vehicles and plant. This responsibility includes, purchase / disposals of vehicles, servicing, repairs and all statutory requirements. The re-introduction of the Apprentice Training Program, and the expected increase in Electrician in-take, has placed a higher demand on Electrician Vehicle requirement. The introduction of the Electrician's New Crew Cab has proved to be successful in meeting the challenge.

Rapid Staffing turnover is an ongoing challenge which has impacted negatively on the department. However, the current staff are doing an excellent job under challenging times. The staff have to be commended for this.

PRODUCTIVITY BRANCH

The Productivity Branch contributes to the upgrading of productivity and efficiency throughout the Unit by closely monitoring the productivity of both in-house and contractors teams, and ensuring that the undertaking remains cost effective whilst maintaining a high level service standard to management.

We were unable to complete the new Incentive Bonus computer programme due to staff shortages within ICT and the urgency of other projects, but hopefully this project will be completed within the next two years. With the ever increasing number of contractors working for Unit the monitoring an verification of worked claimed is essential in ensuring that a high standard of efficiency and productivity is maintained and that any fraudulent booking of work is brought to the immediate notice of management.

With the formation of a Business Process Section within the Productivity Branch we will have the ability to introduce a new dimension to the overall increase of efficiency and productivity by ensuring the most appropriate solutions are used to meet the business needs. This will be achieved by creating a documented overview of all business processes within the Unit, to identify improvement priorities and to ensure that business processes meet both the user and business requirements, and that the best business practices are effectively managed.

There were two recent retirements and these vacant posts will need to be filled as soon as possible to ensure the sections outputs are maintained at the highest level. A further challenge for the forthcoming year will be the creation of the Business Process Section, the appropriate changes to the existing organogram and the creation of new posts together with the relevant duty schedules and the filling of these positions.

INFORMATION TECHNOLOGY BRANCH

It has been another busy and productive year for the I.C.T department with a number of new initiatives and systems in various stages of the Project Lifecycle. Key internal focus area's for the department in this period however, was to capacitate the department with new resources and skills, and improve on our processes and procedures. There has been good progress in the recruitment plan in that a number of Support Officer and System Administrator posts have been filled whilst numerous key posts in ICT are in an advanced stage of recruitment. The non-appointments in the outstanding posts, can largely be attributed to unavailability of suitably qualified and experienced applicants, resulting in the re-advertising of these posts repeatedly.

Facilities

As our Information Systems are being implemented and updated on an ongoing basis, the infrastructure on which these systems rely, require constant upgrade or complete metamorphosis. The imminent upgrade of eThekwini Electricity's Enterprise Asset Management System (Ellipse) at eThekwini Electricity, with its new system architecture, will require significant investment in new hardware and software. In addition, the exponential growth and demand for mobile solutions to extend business system functionality and services to mobile users has necessitated the implementation of new hardware and software to securely manage and support these systems. Mobility is a key business enabler but requires significant investment in hardware, software and human capital to convert the potential that mobility offers tangible business benefits. We have recognized the need for a clear ICT Strategy and comprehensive Systems Architecture and as such an initiative is underway to engage a service provider that specializes in the facilitation and development of Enterprise ICT Strategies to address this.

The Facilities Branch still suffers from human resource constraints as the Manager post and a number of key posts remain vacant. Whilst we are in the process of recruitment, it remains a debilitating factor for the Branch, and places the burden on already thinly stretched staff in other Divisions of ICT.

Continued improvements in the governance of ICT at Electricity have been achieved with improvements being made in Change Control Processes and the monitoring and management of system changes. The implementation of Sentinel has resulted in compliance with the Auditor Generals recommendations from the previous year. In accordance with the Auditor Generals Recommendations, ICT have embarked on the development of a temporary Disaster Recovery Site at Springfield Depot. This project is necessary to address the ongoing power related issues at Springfield Depot that have been responsible for regular downtime and service disruption. The new DR site will eliminate the need for the current “out-sourced” hosted DR from HP, which is expensive and proving to be impractical.

Development

The development section in ICT has had another very productive year with key projects such as the Ellipse upgrade, Meter Management Improvement Project, RMS and the Prepayment system requiring significant effort. In addition to the numerous projects the development team are involved in, ad-hoc requests for system enhancements, reports and new systems integration have been ongoing.

Support

Excellent progress has been made in the recruitment of ICT Support Officer's which has seen significant improvements in the quality of service to the end user. All but one Support Officer post remains vacant. The continued use of utilities such as Zen Works Remote Control and the standardization of the Desktop client has also improved the level of service by reducing the resolution time for most categories of support incidents. The limitations of the PBX have been largely overcome by the implementation of Q-Metrics Call Centre Solution in ICT that enables call monitoring and management, and includes features that will improve the end users service experience. Whilst the technology constraints have been largely addressed, the filling of the three vacant ICT Service Desk Operator posts is still in progress and once filled, will improve the ICT Helpdesk Service enormously.

Improvements in the end user hardware and software procurement process, ensured adherence to GRAP17 and all end user requirements submitted were achieved. ICT has installed over 400 Desktop Machines, 60 Work Group Printers, 40 Notebooks and numerous other end user hardware and software.

Project Office

As the hub of ICT, the Project Office has had another incredibly busy year in Project Managing new and existing projects. The increase in the use of Vibe as a collaboration Tool and Project Management & Document Management Tool by the business, has kept the Project Office Resources busy with End User Training of Vibe and the ongoing administration of the Vibe System and Workspaces.

New workflows for Change Control and IDM have been implemented and further workflows for various ICT Processes have been initiated. The project Office has also been moved to new premises at Springfield Depot as ICT has outgrown the current offices at HQ.

Network

ICT has made significant improvements in the data networks at Electricity. The upgrade of all edge switches and core switches is nearing completion. This has improved the management, availability, security and performance of the network and supports future business requirements such as Virtual Conferencing and Voice over IP. The introduction of both Vodacom and MTN APN's (Access Point Name) as an enterprise Mobile Communications Medium has been completed. This is one of the key infrastructure investments that will support the current Mobile services such as E-Mail and Remote Desktop Access for authorized users, as well as solutions currently envisaged for eThekwini Electricity as part of the Ellipse Mobility Module ie: Inspections and Defects, Dispatch and Asset Inventory Survey. As security risks have increased exponentially with mobile devices attaching to the network, ICT have installed and configured security appliances to monitor and manage any potential security threat.

Prepayment

Ethekwini Electricity has approximately 286 000 prepaid customers, currently supported by our on-line pre-payment vending system. Sales Revenue, of approximately R765m per annum is generated from 120 Credit Dispensing Units throughout the eThekwini Electricity area of supply. Most of these (CDU's) are installed at private vending Agents, that sell tokens on our behalf, and a few are installed at Electricity Customer Service Centers. Since the introduction of our first Third Party “Super” Vendor, Cigicell (Pty) Ltd, Ethekwini Electricity has been able to increase the number of Points of Sale (POS)by almost 500. The increased footprint significantly improves the accessibility of the Prepayment Vending Pointe of Sale and hence making it more convenient for our customer.

Over and above the regular slip type vouchers that are available, Ethekwini Electricity customers are now able to recharge their Prepaid Electricity online, from the comfort of their own homes, by simply paying with their debit/credit cards or EFT (Electronic funds transfer). Customers are also able to purchase electricity via the web, certain mobile applications or SMS and customers using Mobile applications are now able to view electricity saving tips, statistics of their consumption and receive SMS alerts when their electricity level is low, at no additional cost.

In summary, ICT has had an incredibly busy and productive year, despite the severe lack of internal human resources.

FINANCE BRANCH

The Finance Branch is responsible for the financial control over all activities of the Electricity Department. This includes, inter alia, the management, monitoring and control of revenue, operating expenditure, capital expenditure, insurance claims, financial systems, procedures and the provision of advice and guidance on matters related to finance to all personnel. The Department's annual and medium term budgets, annual financial statements and monthly management reports are prepared by the Finance Branch. The Branch also monitors compliance with statutory and internal regulations. In addition, the annual financial statements for the 2011/2012 year and the multiyear budgets for the 2012/2013 year onwards were prepared and approved within stipulated deadlines.

During the year under review, the Finance Branch continued to participate and contribute to several projects in the Department, namely, the Outage Management System (OMS), the Revenue Management System (RMS) and the Asset Management System (AMS).

Phase Two of the AMS implementation, which relates to MV/LV, is now at the advanced stage and is expected to be completed in the last quarter of the 2012/13 financial year. Finance is also playing an active role in the implementation and rollout of Ellipse 8 system implementation which is expected to go live by the end of the following financial year.

The Regulatory Reporting Manuals (RRM) project required by the National Energy Regulator of South Africa (NERSA) is 90% complete. Final review or adjustments are awaited from the Regulator, with the project expected to be finalised by October end 2012.

With the audit and successful completion of the 2011/2012 Annual Financial Statements compilation, Management would like to recognise the dedication and enthusiasm displayed by the staff.

PROCUREMENT BRANCH

The Purchasing Section of Electricity provides a service for all Stock, Service Orders Non Stock and Emergency Orders for the whole of Electricity and their depots. One of the Policies which is adopted by the Purchasing Department is ensuring that the strategy and value Delivery are Continually kept under Review in line with changes in Technology and Supply Markets. Springfield Complex Buying Office Provides a hand on Procurement Service to the Mechanicial workshop, Electric Workshops, Transmission Cables, Substation, Central Depot

The Challenge for the Forthcoming Year is keeping in line with the Pure Eco Environment, by recycling and re-use to initiate cost saving by viewing the total life cycle of products which should benefit, cost plus have an environment friendly impact.

Purchase order stats for July 2011 to June 2012

Price Category	Order Type	No. of Orders	Total Order Value (R)
ESKOM Electricity Purchase	Service Orders	9	5 500 000 000.00
*** Orders with no Price Code ***	Stock Orders	4	7 994.80
*** Orders with no Price Code ***	Service Orders	176	54 860 354.18
*** Orders with no Price Code ***	Non Stock Orders	6	228 367.67
Contracts	Stock Orders	1	390.00
Contracts	Service Orders	3,599	420 543 834.28
Contracts	Non Stock Orders	10	1 314 366.44
Contracts	Field Release Orders	43	25 775 762.88
Council Authority	Service Orders	39	43 398 634.82
Council Authority	Non Stock Orders	11	35 236 970.83
Escalation Orders	Service Orders	56	5 269 428.12
Escalation Orders	Field Release Orders	1	138.51
FPA Agreement	Stock Orders	2,195	351 349 477.30
FPA Agreement	Service Orders	568	111 262 893.51
FPA Agreement	Non Stock Orders	113	8 443 960.41
Normal Purchases	Stock Orders	1,897	30 460 449.84
Normal Purchases	Service Orders	1,382	44 030 037.25
Normal Purchases	Non Stock Orders	2,137	25 093 039.28
Quasi-Government/ Inter-Departmental	Stock Orders	28	983 672.03
Quasi-Government/ Inter-Departmental	Service Orders	2,282	27 058 834.92
Quasi-Government/ Inter-Departmental	Non Stock Orders	288	524 686.48
Total Count and Values are for the last Financial Year (July 2011 to June 2012)			

Bid Administration Report

The Bid Administration Section currently administers 83 contracts for the supply of goods and services of which 60 are for the supply of goods and services and 23 are labour based contracts. To address the problem of theft, vandalism and sabotage, eThekwini Electricity implemented a contract for the installation and monitoring of alarm and pepper gas systems in substations to combat these problems. The 65 alarm and pepper spray units installed in substations are highly effective with a ninety five percent success in terms of functionality and zero percent theft rate. However various other substations have become vulnerable to theft in recent weeks.

The theft of conductors from within these substations has resulted in substantial damages to customers' appliances and consequently undue financial burden. The eThekwini Council has been subjected to harsh criticism from members of the public and media in what they believe is our inability to combat this scourge. Fifteen appeals were received from the Appeals Committee and were successfully dealt with. As of the 7 December 2011, The Municipal council adopted the revised Preferential Procurement Regulations which have been aligned with the aims of the Broad-based Black Economic Empowerment Act and its associated Codes of Good Practice.

Stores

Stores is a Division within the Finance & Administration Branch of Electricity service unit that forms part of the Materials/Buying Division.

We operate 22 Stores located throughout the distribution area and stock 3500 items. In addition to the warehousing and issuing of stock items, the Stores are responsible for receiving of all direct (outside) purchases.

Highlights / Low lights for the year:

Highlights - We have filled most of our vacancies at Stores this year, which will definitely improve customer service, and boost staff morale in general.

Low lights - High Staff turnover has begun to negate the benefits to customer service. Too many employees have either been transferred or found employment elsewhere in a short period of time.

Short description of new and exciting technologies employed within the Branch to enhance productivity:

- Scanning systems were introduced at Meter Stores to capture individual meter details, thereby enabling easier tracking of meters & providing more quality information to energy control.
- The installation of new computers systems on each floor of Main warehouse stores. This has improved service delivery and stock control, where storekeepers on each floor can now review stock levels and perform random stock counts.

Challenges for the forthcoming year 2013

- To improve on our Stock turn rates on previous years.
- To improve on customer services & service levels at Stores.
- To train & empower more staff members in order to improve productivity.
- To acquire more reliable vehicles / equipment example, a new forklift for stores to improve service delivery.

Stores statistics from July 2011 to June 2012

Total YTD Stock Usage	R 379 038 138
Total YTD Stock value	R 716 359 237
Average Stock Value	R 59 696 603
Stock Turns (Excluding Strategic)	7.27

BUSINESS RISK BRANCH

The Business Risk Control Branch comprises of the Risk Management, Investigations and Network Theft Sections. The Risk Management Section is responsible for the identification, assessment and mitigation of risks within eThekwini Electricity. The Investigation Section is responsible for the investigation of incidents relating to maladministration within the Unit whilst the Network Theft Section is responsible for the identification, investigation and mitigation of infrastructure theft on eThekwini Electricity's reticulation network.

During the year, the specialized task teams focused on combating infrastructure theft. They successfully arrested a number of syndicates and individuals that have been responsible for network theft. The promulgation and enforcement of the New Second Hand Goods Act 6 of 2009 has provided greater assistance in clamping down on illegal activities and establishments relating to second hand goods including copper. There have been a number of arrests that led to convictions resulting in prison terms, hefty fines and suspended sentences. The period July 2011 to June 2012 revealed that a total of 111 arrests that have been made.

A series of risk workshops was conducted during the year where the Unit's strategic and operational risks were identified and assessed. Together with the relevant stakeholders, risk mitigation strategies were designed. The workshop also led to the development of the Unit's risk register which is considered a fundamental tool in the effective management of the business. Regular monitoring of progress on the various tasks allocated to task owners has been conducted and it is envisaged that completion of the various tasks would meet their desired target dates and consequently support the mitigation strategies.

During the financial year 2011/2012 several investigations into maladministration within the organization was conducted resulting in civil and criminal proceedings being instituted against the alleged perpetrators.

In the ensuing year, the Branch intends to explore new technologies that are available on the market in an effort to enable us to adequately manage incidents of network theft. We hope to be one of the drivers in convincing law makers into adopting a more serious approach to incidents of copper theft.

- **Name:**
  Vincent Mthembu
- **Designation:**
  Senior Manager - Human Resources
- **Qualification:**
  B.Tech - HR
  National Diploma - HR
- **Experience:**
  Within eThekwini (10 yrs)
  Rennies Stevedores (13 yrs)
  Toyota SA Manufacturing (07 yrs)

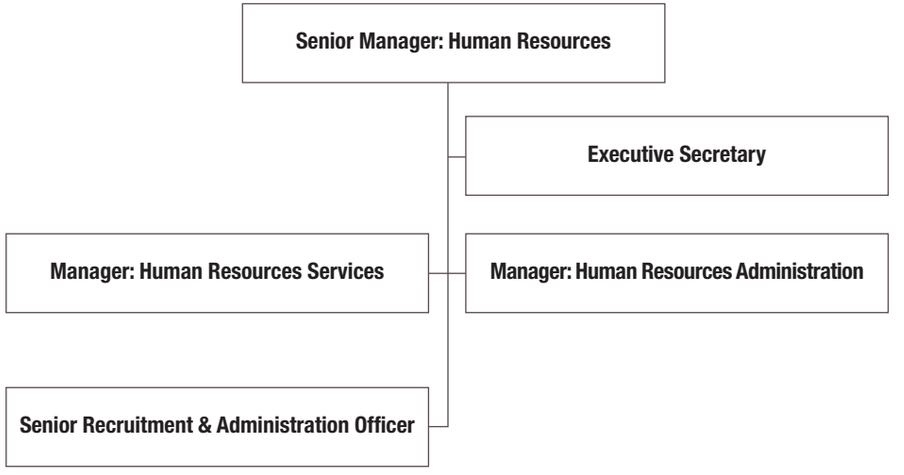
HUMAN RESOURCES DEPARTMENT

The Human Resource Division is responsible for providing guidance and support to the employees of eThekwini Electricity Unit. HR Staff are involved in addressing issues which impact Human Resource management for the unit as a whole, through coordination of policy issues and involvement in labor relations activities.

Functions of the Human Resource Division include:

- Provision of general personnel services to all staff
- Coordination and administration of information related to personnel data collection
- Recruitment and participation in labor relations activities with respect to contract administration and negotiation,
- Staff training and facilitating the grievance process
- Administration of medical tests and benefits;
- Implementation of Health and Safety programs, including employee wellness education

DEPARTMENT ORGANOGRAM



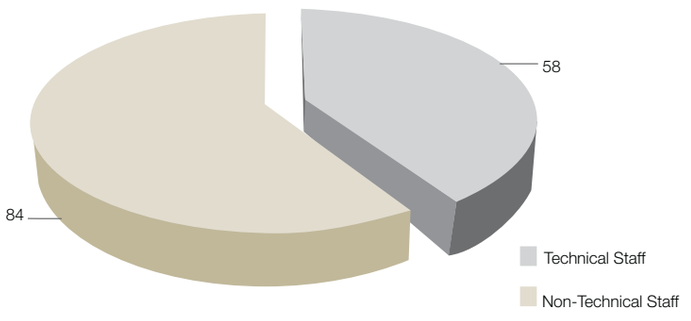
HUMAN RESOURCES SERVICES BRANCH

This Branch provides services to the staff of the eThekwini Electricity Department in the fields of recruitment and selection, industrial relations, staff welfare, manpower planning and special projects.

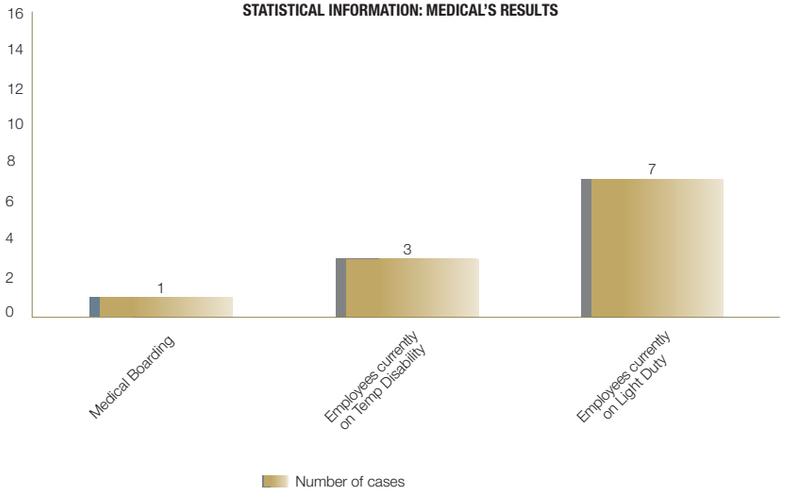
The Skills Recruitment Campaign has successful with majority of Technical vacancies filled. As at July 2012 we have 14 bursary students, 4 in the first year of study, second of study we have 1,6 in third year and 3 in the fourth year. The 3 who successfully completed their Engineering degrees, have been appointed as Candidate Engineers. The performance management system was successfully rolled out for all Task Levels above Task 7. Employees were rewarded accordingly.This performance management system is in the process of being implemented from a manual to an electronic system. A successful womens day programme was held that dealt with progressive financial planning for women, leadership and health matters. The Sick leave Management Strategy implemented by HR has seen a marked improvement in past financial year in employee attendance. The Unit now has a dedicated Clinic at the Springfield complex with a full time Occupational nurse.

HR together in partnership with a financial institution successfully rolled out workshops for all staff interested in personal financial planning and to help those who are in debt. We have completed phase 1 of Talent Management and we will be proceeding to implement phase 2.

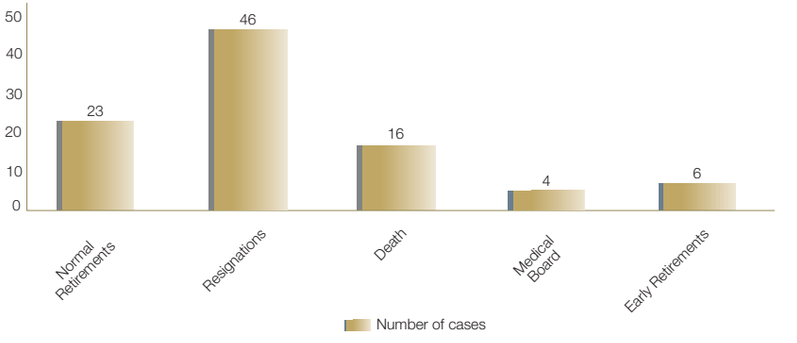
STATISTICAL INFORMATION: NUMBER OF POST FILLED DURING THE YEAR



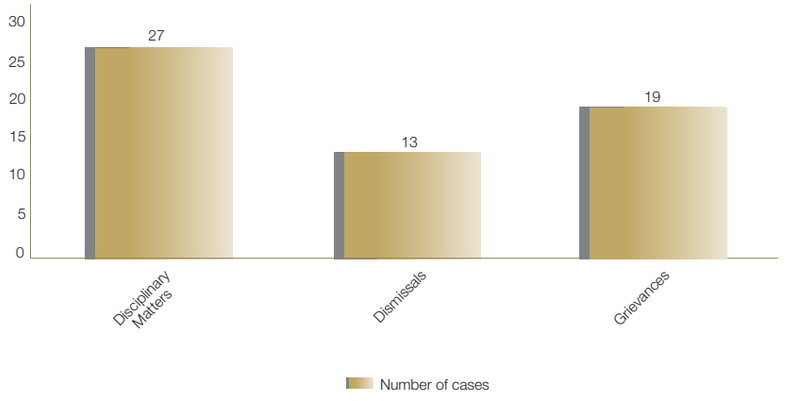
STATISTICAL INFORMATION: MEDICAL'S RESULTS



STATISTICAL INFORMATION: LABOUR TURNOVER



STATISTICAL INFORMATION: INDUSTRIAL RELATIONS



HUMAN RESOURCES ADMINISTRATION BRANCH

The Human Resources Administration Branch is responsible for providing an effective administrative support. We process adverts for vacant posts, weekly staff decision circulars, access and identification cards, etc… Employees of the unit on the council' locomotion scheme are assisted by our Branch in an advisory and administrative capacity. We are also responsible for safekeeping of employees personal files and the updating of their personal information.

One of our core functions is the maintaining of the changes of the Unit's organisational structure. We update all employee staff movement (new engagements, promotions, transfers, terminations), and organisational structure changes on both the HR System and Ellipse System.

We remain actively involved in all projects that relate to Human Resources Administration.

Plans for the future:-

- Maintain all employee information on the Document Management System (E Filing).
- Looking forward to online Recruitment (E Recruitment).
- Launching of Ellipse 8 - HR Module.

STATISTICAL INFORMATION: TERMINATIONS

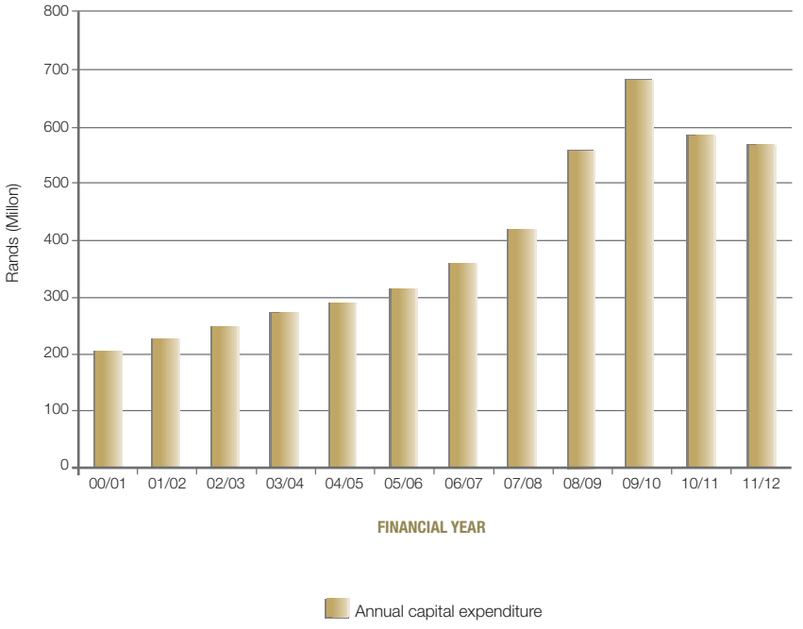
TRAINING/SKILLS DEVELOPMENT BRANCH

The Skills Development Branch is responsible for ensuring that the Unit meets the requirements of the 'Skills Development Act'. We focus on non-technical training which includes ABET, Computer Training, Assisted Education, In Service Training, In-House Courses and External Courses by service providers. We assist the unit in developing and implementing the Workplace Skills Plan. We also source potential in-service trainees from the tertiary institutions for practical training in the Unit. Overall, our Branch strives to meet the learning needs of the unit and identify learning solutions and innovations.

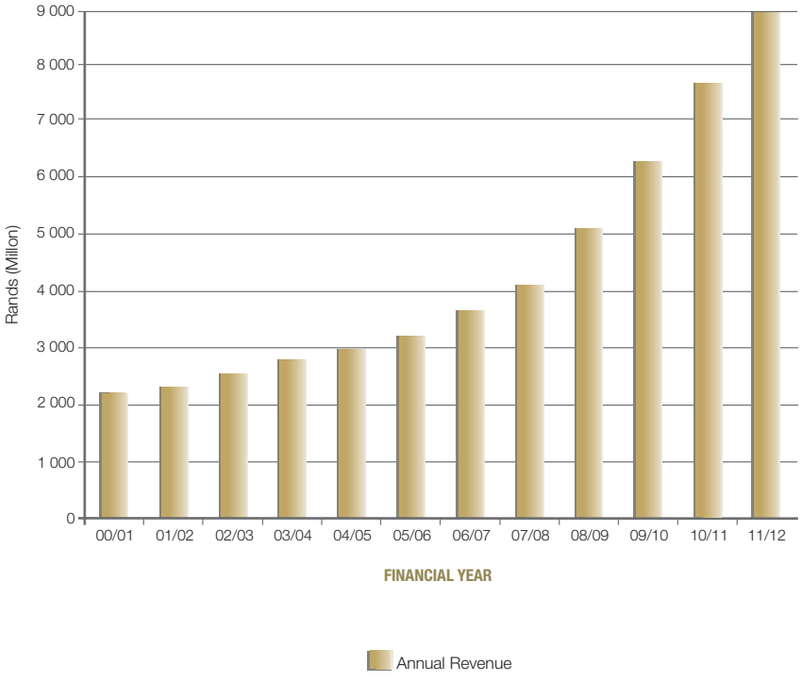
The main innovation that the Branch implemented was to improve customer focus and effectiveness through taking part in the Unit's Departmental Management meetings and with individual managers and their senior staff. We hope this will improve the impact that the Branch will have on the implementation of skills development of staff.

GRAPHS

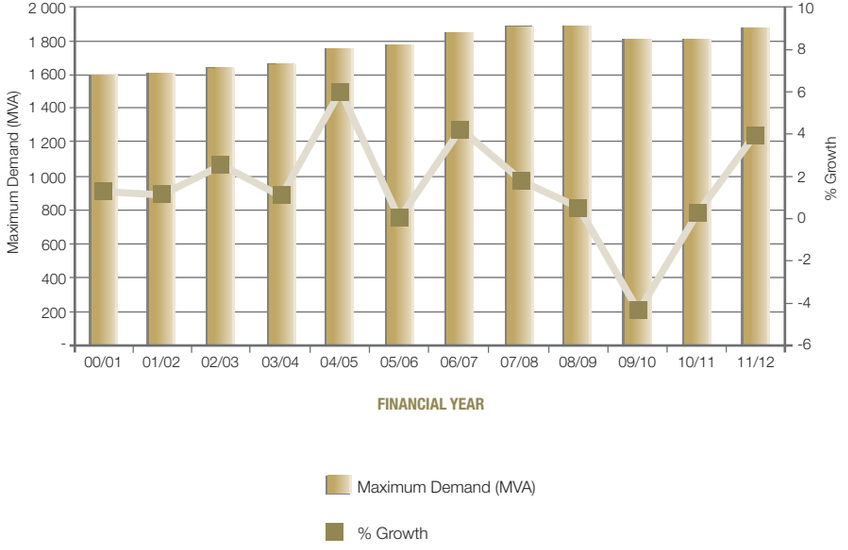
ANNUAL CAPITAL EXPENDITURE



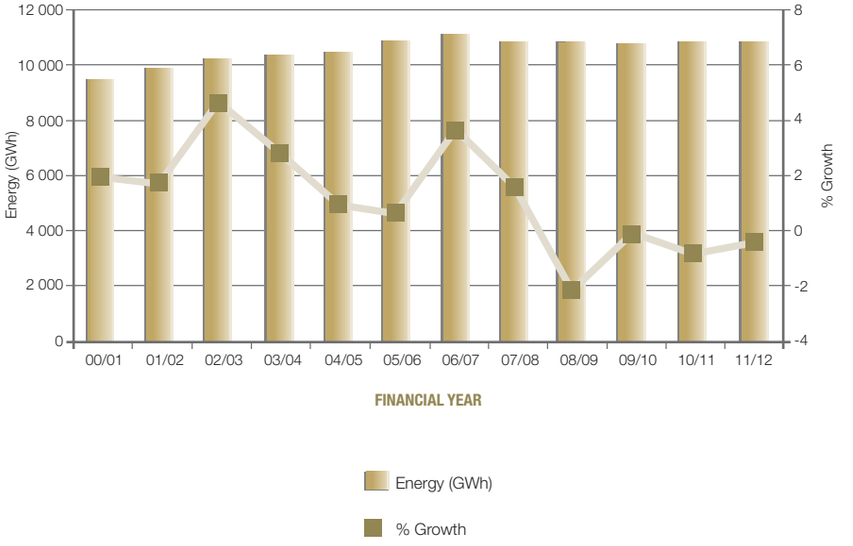
ANNUAL REVENUE



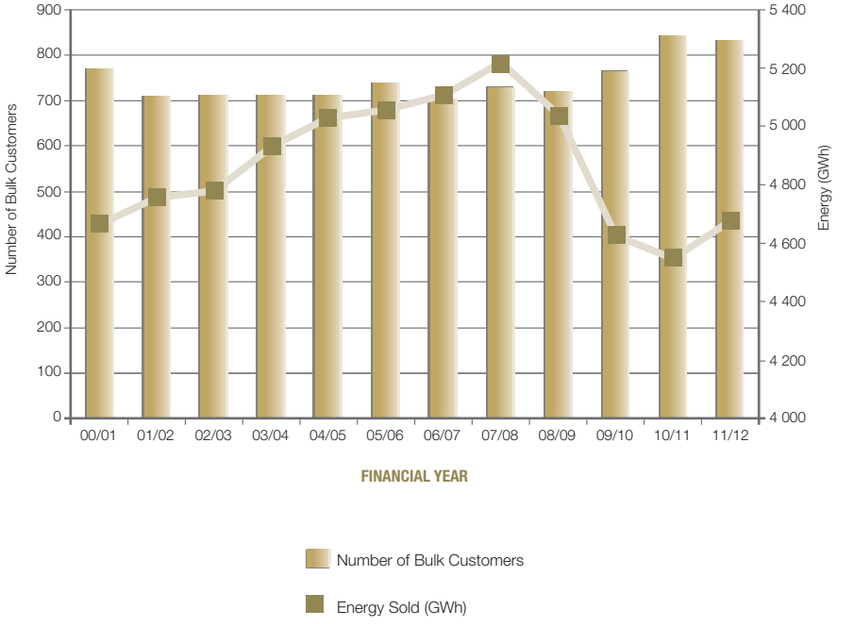
SYSTEM MAXIMUM DEMAND



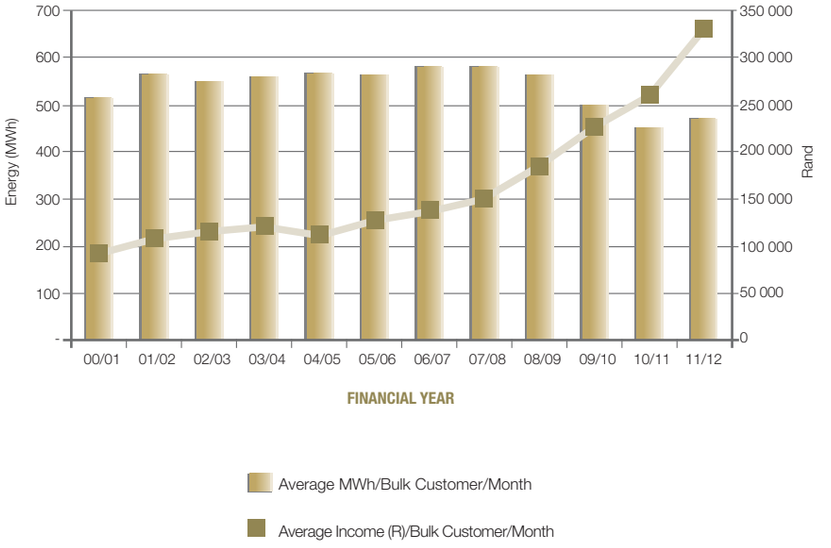
ENERGY SALES PER ANNUM



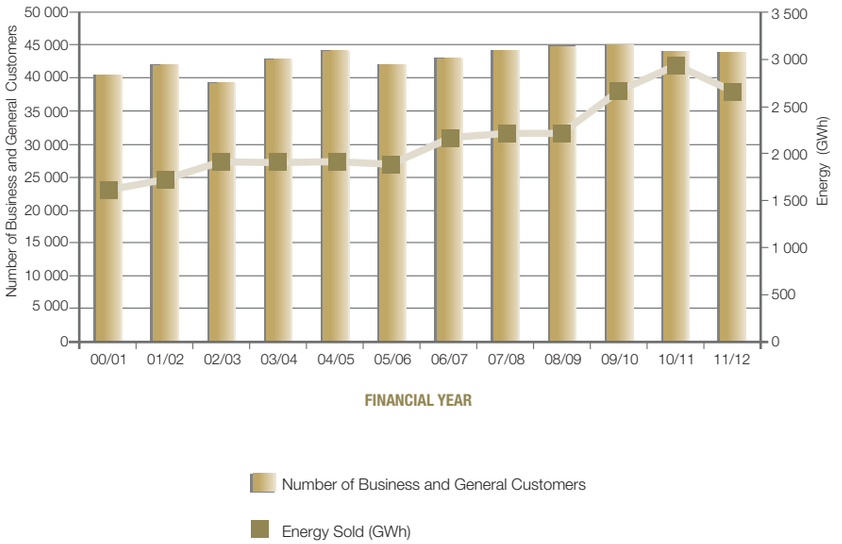
GROWTH OF BULK CUSTOMERS



AVERAGE MWh PER BULK CUSTOMER/MONTH

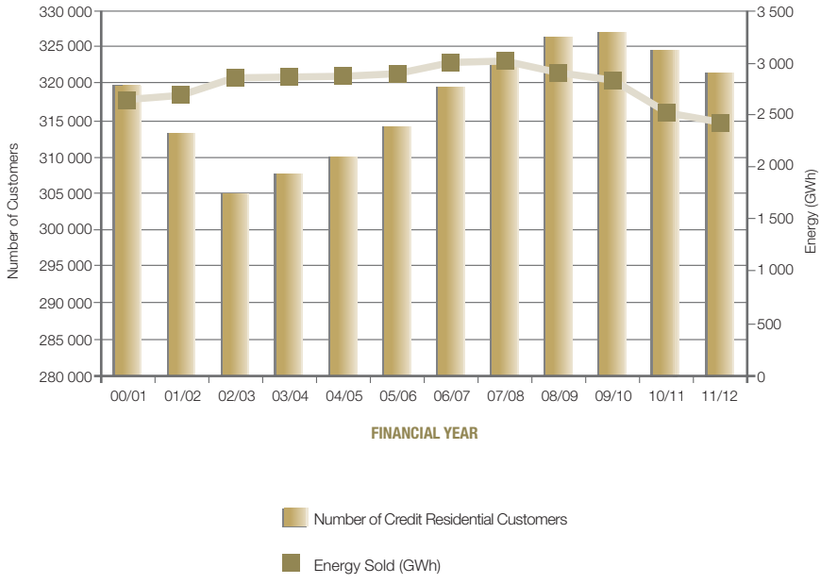


GROWTH OF BUSINESS AND GENERAL CUSTOMERS

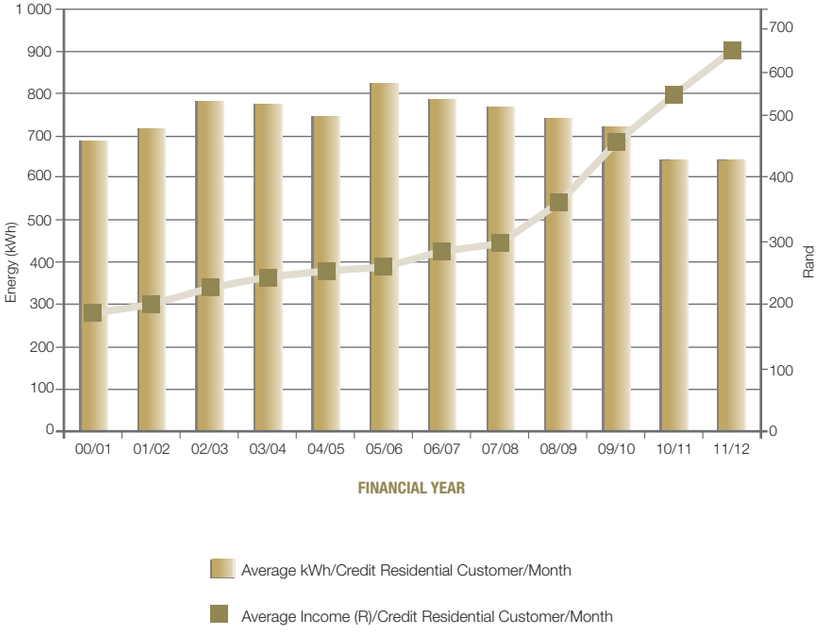


AVERAGE KWh PER BUSINESS AND GENERAL CUSTOMER/MONTH

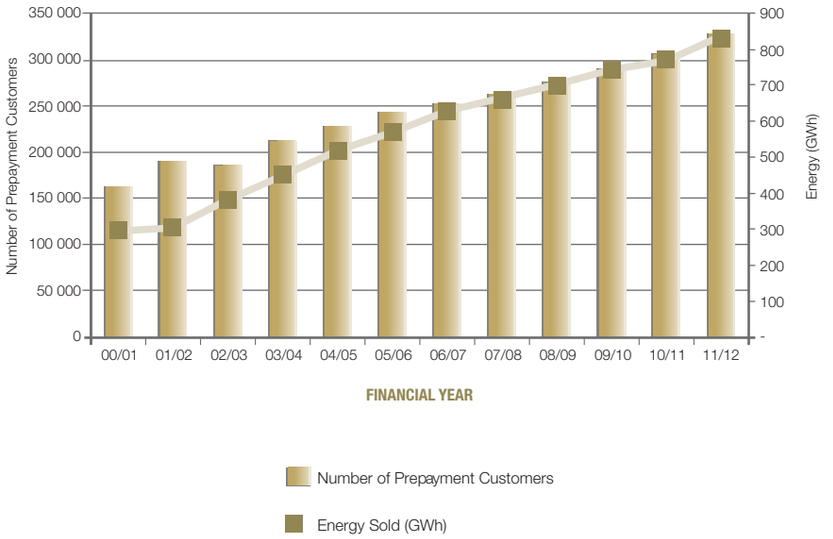
GROWTH OF CREDIT RESIDENTIAL CUSTOMERS



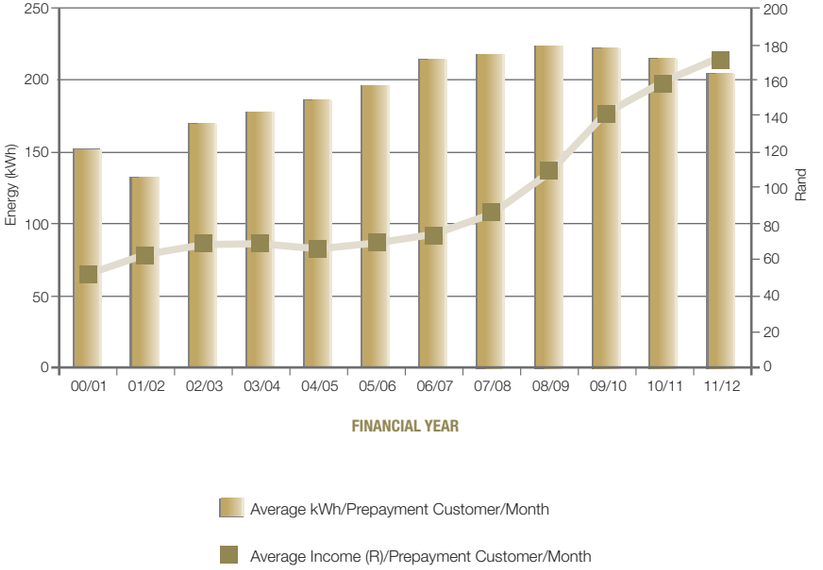
AVERAGE KWh PER CREDIT RESIDENTIAL CUSTOMER/MONTH



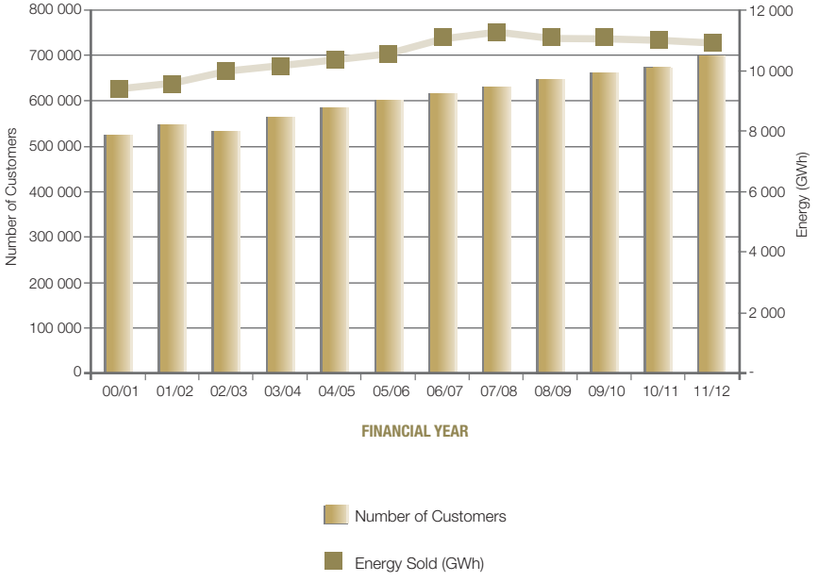
GROWTH OF PREPAYMENT CUSTOMERS



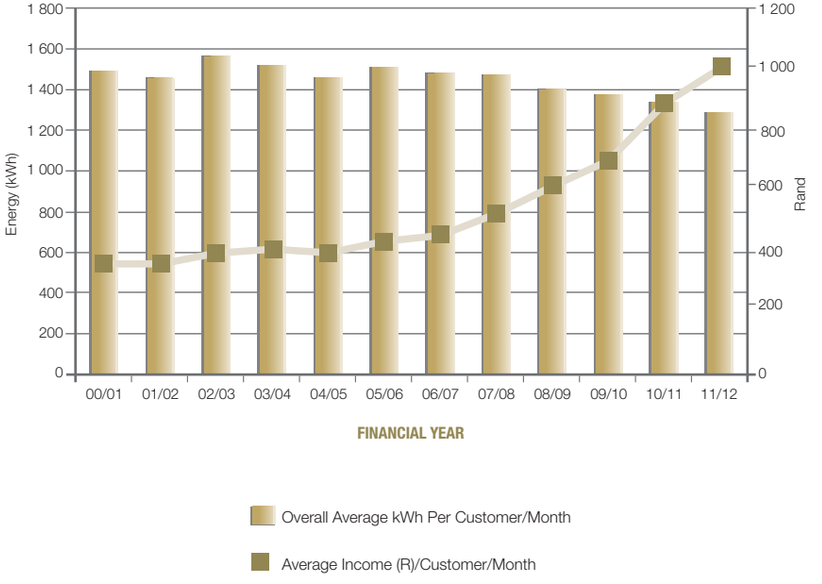
AVERAGE KWh PER PREPAYMENT CUSTOMER/MONTH



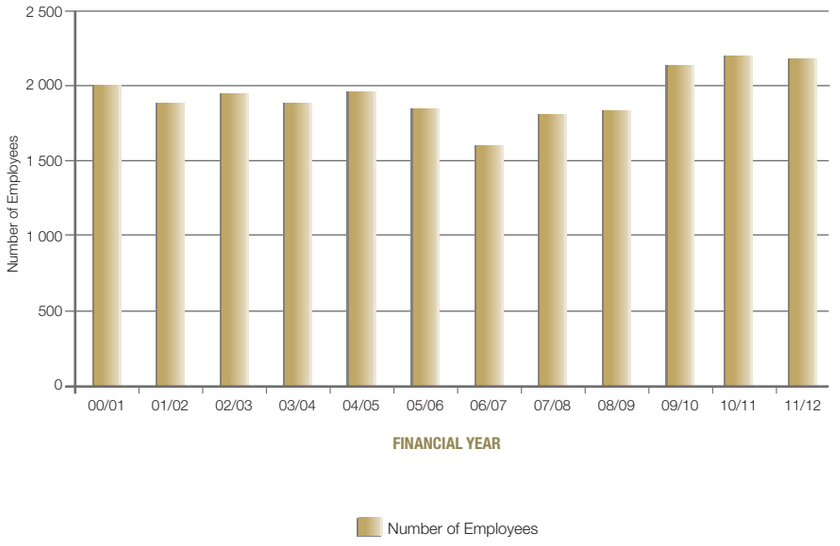
OVERALL GROWTH OF CUSTOMERS



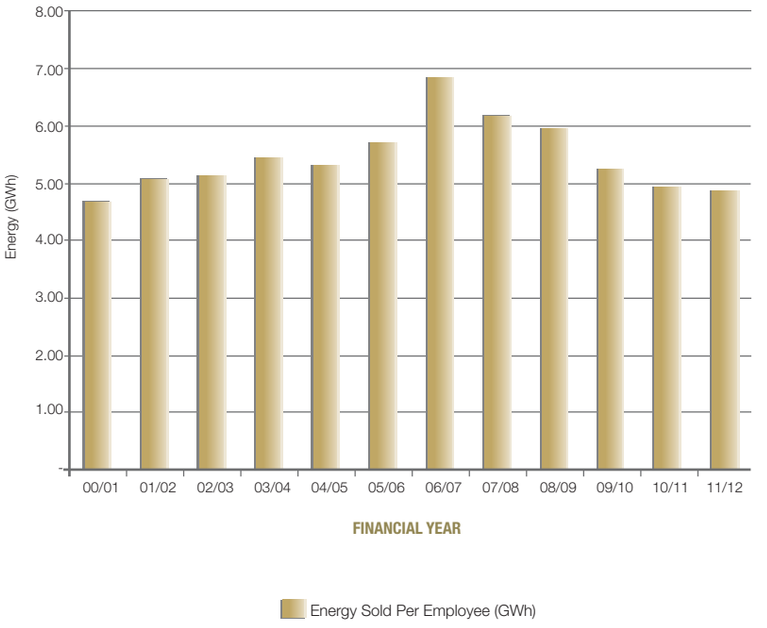
OVERALL AVERAGE kWh PER CUSTOMER/MONTH



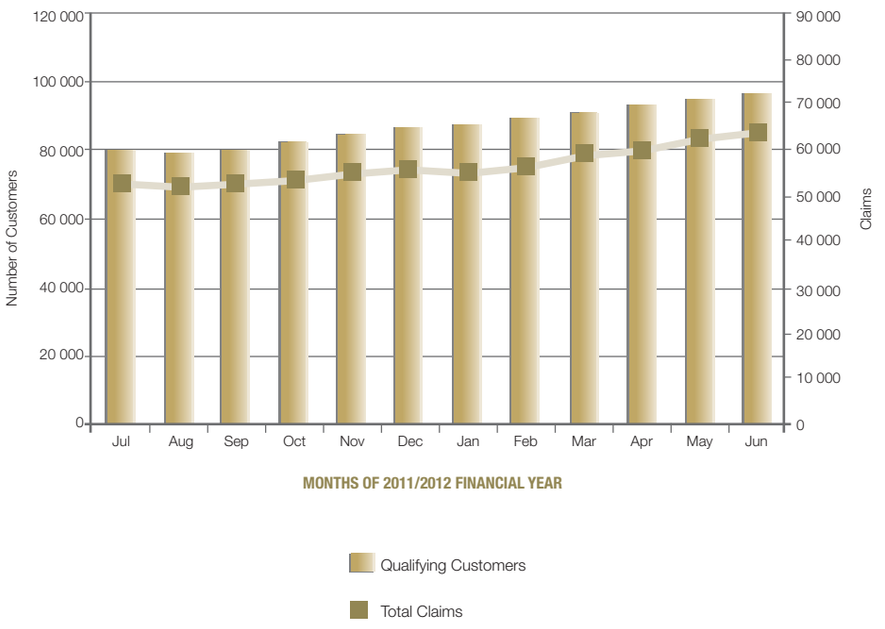
NUMBER OF EMPLOYEES



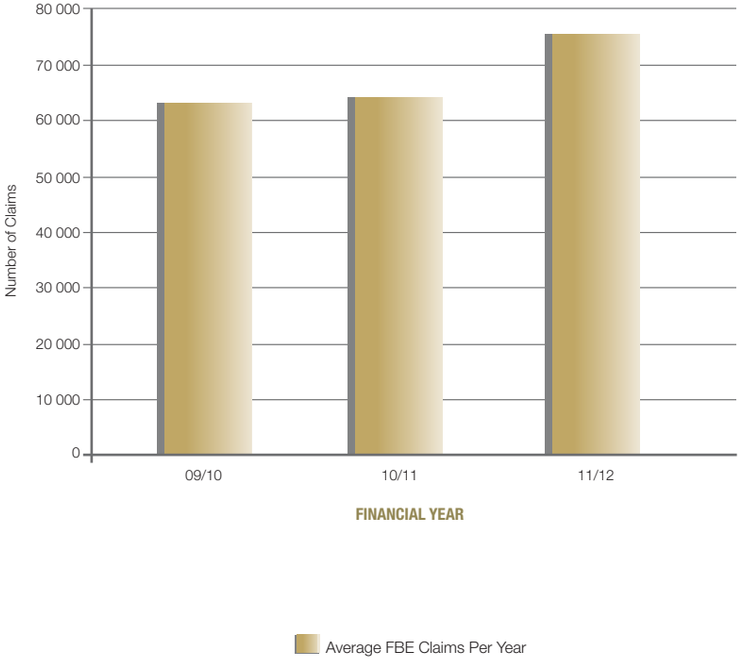
ENERGY SOLD PER EMPLOYEE



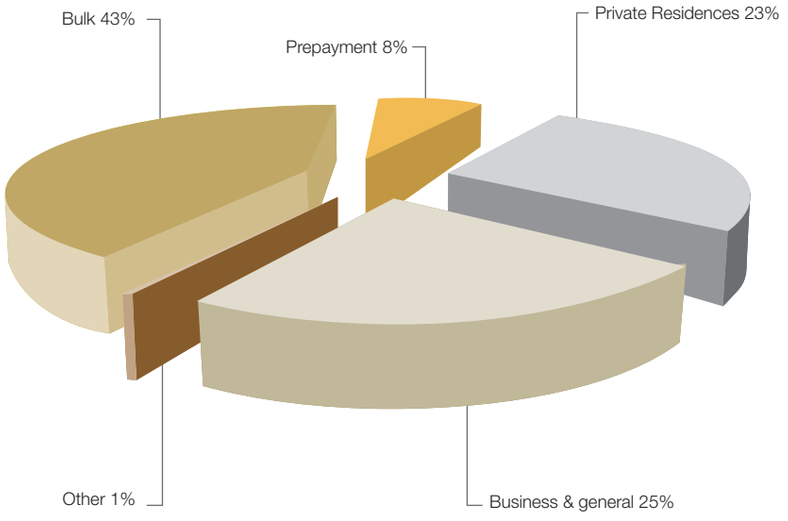
FREE BASIC ELECTRICITY CLAIMS PER MONTH



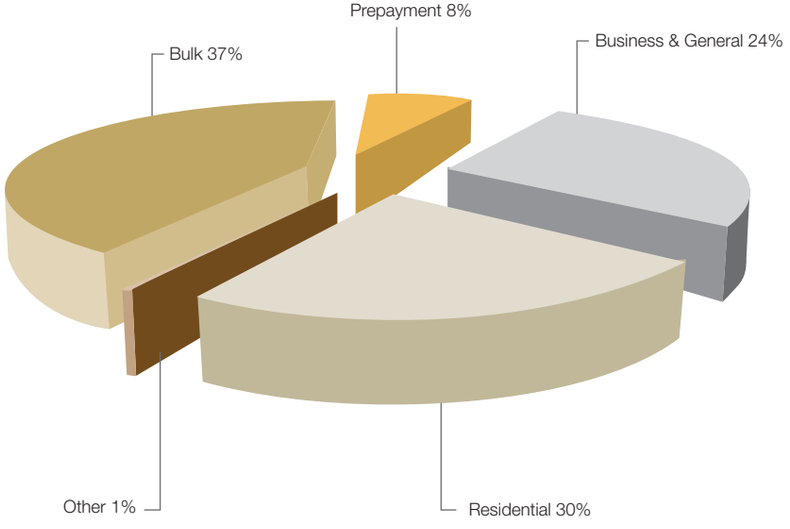
AVERAGE FREE BASIC ELECTRICITY CLAIMS PER YEAR



DISTRIBUTION OF ENERGY SALES 2011/2012

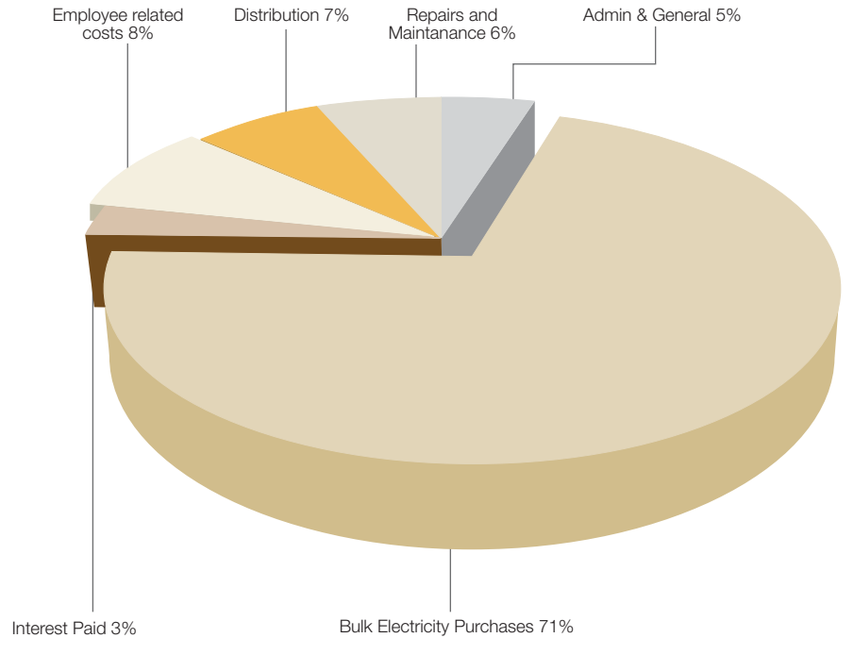


DISTRIBUTION OF REVENUE FROM SALES 2011/2012

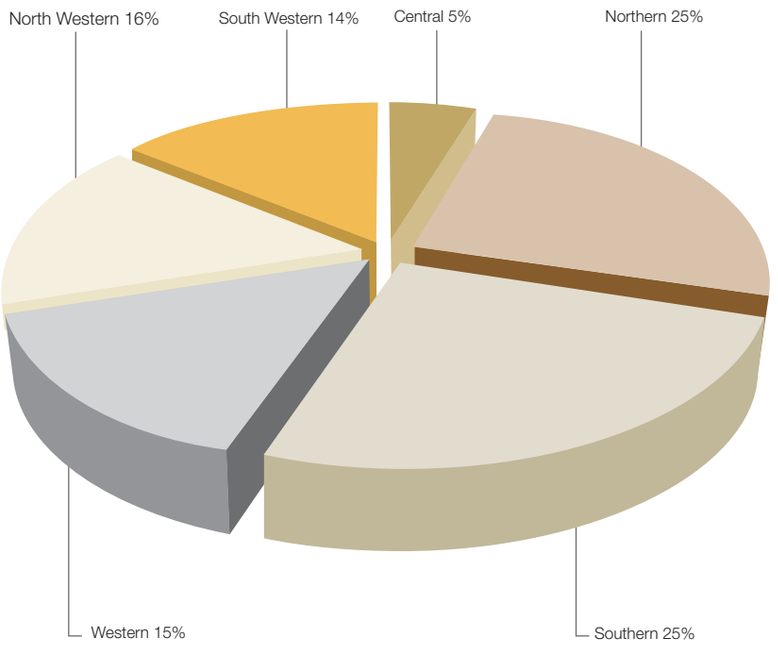


OTHER: Streetlighting, Traffic signals & Public lighting

DISTRIBUTION OF EXPENDITURE 2011/2012



NEW CONNECTIONS PER REGION 2011/2012



ANNUAL FINANCIAL STATEMENTS

STATEMENT OF FINANCIAL POSITION AT 30 JUNE 2012

	NOTE	2012 R	2011 R
NET ASSETS AND LIABILITIES			
Net Assets		**4 194 087 131**	**3 483 343 522**
Capital replacement reserve		1 540 958 083	1 106 250 668
Capitalisation reserve		0	0
Government grant reserve		713 932 034	634 043 565
Donations and public contribution reserves		124 754 665	106 581 022
Self-insurance reserve		0	0
COID reserve		0	0
Revaluation reserve		0	0
Accumulated Surplus/(Deficit)		1 814 442 349	1 636 468 267
LIABILITIES			
Non-current liabilities		**2 156 914 911**	**1 999 342 660**
Long-term liabilities	1	2 156 914 911	1 999 342 660
Non-current provisions		0	0
Current liabilities		**1 927 894 376**	**1 722 213 296**
Consumer deposits	2	827 103 307	730 391 282
Provisions		0	0
Creditors	3	1 073 055 980	990 886 495
Unspent conditional grants and receipts		20 443 806	935 519
VAT	4	7 291 283	0
Bank overdraft		0	0
Total Net Assets and Liabilities		**8 278 896 418**	**7 204 899 478**

ASSETS			
Non-current assets		**4 523 000 316**	**4 178 385 213**
Property, plant and equipment	5	4 433 486 984	4 082 365 060
Intangible Assets	18	68 627 352	75 134 173
Investments	6	20 885 980	20 885 980
Current assets		**3 755 896 102**	**3 026 514 265**
Inventory	7	83 176 170	72 039 280
Consumer debtors	8	912 625 666	733 160 566
Other debtors	9	127 749 509	127 862 904
VAT	19	0	11 089 835
Bank balances and cash	20	2 632 344 757	2 082 361 680
Total Assets		**8 278 896 418**	**7 204 899 478**

STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 30 JUNE 2012

	Note	ACTUALS 2012 R	ADJUSTED BUDGET 2012 R	ACTUALS 2011 R
REVENUE				
Service Charges	11	8 494 012 989	8 484 471 550	7 151 149 780
Rental of Facilities and Equipment		529 516	472 720	425 684
Interest Earned		79 492 695	75 012 280	52 749 133
Interest Earned - Outstanding Debtors		20 971 825	20 680 870	19 531 068
Other Income	12	144 673 208	119 536 640	154 012 224
Government Grants and Subsidies	13	114 531 193	115 726 450	88 759 866
Public Contributions and Donations		13 163 587	30 000 000	9 875 808
Gains on disposal of Prop; Plant; Equip		6 187 234	5 000 000	14 554 623
Internal Income		192 970 500	183 289 450	175 721 592
Total Revenue		**9 066 532 746**	**9 034 189 960**	**7 666 779 778**
EXPENDITURE				
Employee Related Costs	14	656 861 046	717 826 710	604 867 547
Contribution to Provision for Bad Debts		23 086 710	23 708 370	19 775 710
Depreciation		222 347 892	223 165 170	196 694 196
Repairs and Maintenance		508 323 496	557 733 600	425 397 307
Interest Paid	15	213 076 263	256 514 660	211 132 352
Bulk Purchases	16	5 510 491 957	5 751 145 500	4 414 590 446
Contracted Services		167 334 421	205 587 890	111 499 114
General Expenses		134 118 659	162 729 700	116 396 472
Loss on disposal of Prop; Plant; Equip		394 891	312 000	79 993
Internal Charges		371 677 757	413 415 110	346 859 184
Total Expenditure		**7 807 713 093**	**8 312 138 710**	**6 447 292 321**
Operating Surplus		**1 258 819 654**	**722 051 250**	**1 219 487 458**
Cross Subsidisation		-548 076 046	-557 693 170	-498 760 834
Other		-710 743 608	-164 358 080	-720 726 624
SURPLUS FOR THE YEAR		**-0**	**0**	**-0**

STATEMENT OF CHANGES IN NET ASSETS FOR THE YEAR ENDED 30 JUNE 2012

ELECTRICITY	Housing Development Fund	Capital Replacement Reserve	Capitalisation Reserve	Government Grant Reserve	Donations and Public Contributions Reserve	Self-Insurance Reserve	C.O.I.D. Reserve	Revaluation Reserve	Accumulated Surplus / (Deficit)	TOTAL
	R	R	R	R	R	R	R	R	R	R
Opening Balance 01 July 2010	**0**	**504 353 954**	**0**	**573 225 662**	**100 468 692**	**0**	**0**	**0**	**1 591 589 989**	**2 769 638 297**
Adjustments - Asset Life Ext. (Note 21)	0	0	0	0	0	0	0	0	-7 021 404	0
Opening Balance 01 July 2010 as restated	**0**	**504 353 954**	**0**	**573 225 662**	**100 468 692**	**0**	**0**	**0**	**1 584 568 585**	**2 762 616 893**
Surplus / (Deficit) for the year	0	0	0	0	0	0	0	0	720 726 624	720 726 624
Transfer to Capital Replacement Reserve	0	725 655 068	0	0	0	0	0	0	-725 655 068	0
PPE purchased	0	-123 758 354	0	0	0	0	0	0	123 758 354	0
Capital Grants used to purchase PPE	0	0	0	88 759 866	0	0	0	0	-88 759 866	0
Donated / contributed PPE	0	0	0	0	9 869 708	0	0	0	-9 869 708	0
Contribution to Insurance Reserve	0	0	0	0	0	0	0	0	0	0
Insurance claims processed	0	0	0	0	0	0	0	0	0	0
Transfer to Housing Development Fund	0	0	0	0	0	0	0	0	0	0
Offsetting of Depreciation	0	0	0	-27 941 963	-3 757 378	0	0	0	31 699 341	0
Closing Balance at 30 June 2011 as restated	**0**	**1 106 250 668**	**0**	**634 043 565**	**106 581 022**	**0**	**0**	**0**	**1 636 468 267**	**3 483 343 522**
2012										
Adjustments - Asset Life Ext. (Note 21)										0
Change in accounting policy										0
Re-stated Balance	**0**	**1 106 250 668**	**0**	**634 043 565**	**106 581 022**	**0**	**0**	**0**	**1 636 468 267**	**3 483 343 522**
Surplus / (Deficit) for the year	0	0	0	0	0	0	0	0	710 743 608	710 743 608
Transfer to Capital Replacement Reserve	0	612 681 497	0	0	0	0	0	0	-612 681 497	-0
PPE purchased	0	-177 974 082	0	0	0	0	0	0	177 974 082	0
Capital Grants used to purchase PPE	0	0	0	114 531 194	0	0	0	0	-114 531 194	0
Donated / contributed PPE	0	0	0	0	22 481 465	0	0	0	-22 481 465	0
Contribution to Insurance Reserve	0	0	0	0	0	0	0	0	0	0
Insurance claims processed	0	0	0	0	0	0	0	0	0	0
Transfer to Housing Development Fund	0	0	0	0	0	0	0	0	0	0
Offsetting of Depreciation / Asset Disposals	0	0	0	-34 642 725	-4 307 822	0	0	0	38 950 547	0
Balance at 30 June 2012	**0**	**1 540 958 083**	**0**	**713 932 034**	**124 754 665**	**0**	**0**	**0**	**1 814 442 349**	**4 194 087 130**

Reconciliation of Surplus for the year 2012	
Surplus for the year	550 481 339
Capital Replacement Reserve	62 200 158
PPE Purchased:	
Capital Grants used to purchase PPE	114 531 194
Donations and Public Contributions	22 481 465
Offsetting of Depreciation	-38 950 547
Total Received for the Year	**710 743 608**

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2012

	2012 R	2011 R
1. LONG-TERM LIABILITIES		
External Financing Fund		
Development Bank of South Africa	1 393 114 926	1 393 392 117
European Investment Bank	108 877 520	107 824 774
Internal Loans - ESF (FRB)	112 969 861	124 671 523
Nedbank Loans	74 682 118	80 023 448
ABSA Loan	267 218 259	293 430 797
RMB Loan	200 052 227	0
Total External Loans	**2 156 914 911**	**1 999 342 660**
2. CONSUMER DEPOSITS		
Electricity Deposits	780 028 327	686 868 079
Guarantees in Lieu of Deposits	700 000	770 000
Interest on Consumer Deposits	46 374 980	42 753 203
Total Consumer Deposits	**827 103 307**	**730 391 282**

Included in deposits is an accrual of interest at an effective rate of 3.00% p.a (2011: 3.00% p.a) which is paid to consumers when deposits are refunded.

Guarantees iro prepayment vendors	**700 000**	**770 000**
Interest paid on consumer deposits	**8 786 903**	**7 934 442**

3. CREDITORS		
Trade Creditors	933 696 798	853 737 421
Payments Received in Advance	18 405 516	16 263 239
Retentions	24 698 805	24 021 345
Staff Leave	35 026 749	31 944 973
Other Creditors	61 228 112	64 919 516
	1 073 055 980	**990 886 495**
4. VAT		
Vat Payable	**7 291 283**	**0**

VAT is payable on the receipts basis. Only once payment is received from debtors is VAT paid over to SARS

5. PROPERTY, PLANT AND EQUIPMENT Reconciliation of Carrying Value at 30 June 2012	Land R	Buildings R	Infrastructure R	Plant & Equip. R	Total R
Carrying Values at 1 July 2011	**123 652 175**	**75 977 127**	**3 665 619 079**	**217 116 685**	**4 082 365 060**
Cost	123 652 175	102 282 530	5 343 035 519	421 666 564	5 990 636 788
Valuation	0	0	0	0	0
Accumulated depreciation	0	-26 305 403	-1 677 416 440	-204 549 879	-1 908 271 722
- Cost	0	-26 940 458	-1 688 538 421	-233 661 091	-1 949 139 970
- Revaluation	0	635 055	11 121 981	29 111 212	40 868 248
Acquisitions	3 496 376	1 780 243	897 685 180	79 313 838	982 275 637
Capital under construction	0	2 591 836	-408 236 602	-12 142 105	-417 786 871
Increases/decreases in revaluation	-	-	-	-	-
Transfers - Cost	0	0	0	0	0
Transfers - Depreciation	0	0	0	0	0
Depreciation	0	-2 274 816	-161 047 356	-49 625 751	-212 947 923
- based on cost	0	-2 274 816	-161 047 356	-49 625 751	-212 947 923
- based on revaluation	0	0	0	0	0
Carrying value of disposals	0	0	0	-418 917	-418 917
Cost/revaluation	0	0	0	-3 771 039	-3 771 039
Accumulated depreciation	0	0	0	3 352 122	3 352 122
Impairment losses	-	-	0	-	-
Other movements - Intangible Assets - Cost	-	-	0	0	0
Other movements - Intangible Assets - Accumulated Depreciation	-	-	0	0	0
Carrying values at 30 June 2012	**127 148 551**	**78 074 390**	**3 994 020 301**	**234 243 750**	**4 433 486 984**
Cost	127 148 551	106 654 609	5 832 484 097	485 067 258	6 551 354 515
Revaluation	0	0	0	0	0
Accumulated depreciation	0	-28 580 219	-1 838 463 796	-250 823 508	-2 117 867 523
- Cost	0	-29 215 274	-1 849 585 777	-279 934 720	-2 158 735 771
- Revaluation	0	635 055	11 121 981	29 111 212	40 868 248

Reconciliation of Carrying Value at 30 June 2011	Land R	Buildings R	Infrastructure R	Plant & Equip. R	Total R
Carrying Values at 1 July 2010	**73 580 118**	**75 494 668**	**3 315 434 477**	**189 691 518**	**3 654 200 775**
Cost	73 580 118	100 303 920	4 864 594 595	395 188 219	5 433 666 852
Valuation	0	0	0	0	0
Accumulated depreciation	0	-24 809 252	-1 549 160 118	-205 496 701	-1 779 466 071
- Cost	0	-24 809 252	-1 549 160 118	-205 496 701	-1 779 466 071
- Revaluation	0	0	0	0	0
Acquisitions	50 072 057	1 978 610	321 953 399	32 722 535	406 726 601
Capital under construction	0	0	159 100 558	10 004 269	169 104 827
Increases/decreases in revaluation	-	-	-	-	-
Transfers - Cost	0	0	0	0	0
Transfers - Depreciation	0	0	0	0	0
Depreciation	0	-1 496 151	-130 429 614	-15 066 055	-146 991 820
- based on cost	0	-2 131 206	-141 551 595	-44 177 267	-187 860 068
- based on revaluation	0	635 055	11 121 981	29 111 212	40 868 248
Carrying value of disposals	0	0	-439 741	-235 582	-675 323
Cost/revaluation	0	0	-2 613 033	-16 248 459	-18 861 492
Accumulated depreciation	0	0	2 173 292	16 012 877	18 186 169
Impairment losses	-	-	0	-	-
Other movements - Intangible Assets - Cost	-	-	0	0	0
Other movements - Intangible Assets - Accumulated Depreciation	-	-	0	0	0
Carrying values at 30 June 2011	**123 652 175**	**75 977 127**	**3 665 619 079**	**217 116 685**	**4 082 365 060**
Cost	123 652 175	102 282 530	5 343 035 519	421 666 564	5 990 636 788
Revaluation	0	0	0	0	0
Accumulated depreciation	0	-26 305 403	-1 677 416 440	-204 549 879	-1 908 271 722
- Cost	0	-26 940 458	-1 688 538 421	-233 661 091	-1 949 139 970
- Revaluation	0	635 055	11 121 981	29 111 212	40 868 248

6. INVESTMENTS

	2012 R	2011 R
C.I.F. Investment	20 885 980	20 885 980

Investments held in the Consolidated Investment Fund are invested in accordance with Municipal Investment Regulations which forms part of the Municipal Finance Management Act, No. 56 of 2003.

Moneys were invested in fixed deposits and call deposits with the Banks, earning an average interest rate of 5.775% (2012) and 5.449% (2011)

7. INVENTORY

	2012 R	2011 R
Stock on hand	83 176 170	72 039 280

8. CONSUMER DEBTORS

	GROSS BALANCES	PROVISION FOR BAD DEBTS	NET BALANCES
As at 30 June 2012			
Service Debtors	1 084 635 862	-172 010 196	912 625 666
Total	**1 084 635 862**	**-172 010 196**	**912 625 666**
As at 30 June 2011			
Service Debtors	937 727 657	-204 567 091	733 160 566
	937 727 657	**-204 567 091**	**733 160 566**

	2012 R	2011 R
Electricity: Ageing		
Current (0 - 30 days)	738 359 704	716 955 879
31 - 60 Days	125 313 358	9 616 529
61 - 90 Days	46 737 256	25 938 484
91 - 120 Days	13 612 141	165 388 505
121 - 365 Days	160 613 402	19 828 261
+365 Days	0	0
Total	**1 084 635 862**	**937 727 657**

Summary of Debtors by Customer Classification	Consumers	Industrial/ Commercial
	R	R
30 JUNE 2012		
Current (0 - 30 days)	369 129 444	369 230 261
31 - 60 Days	52 884 304	72 429 053
61 - 90 Days	18 538 936	28 198 320
91 - 120 Days	11 846 810	1 765 331
121 - 365 Days	159 934 519	678 883
+365 Days	0	0
Sub-total	612 334 014	472 301 849
Less: Provision for bad debts	-159 889 962	-12 120 235
Total debtors by customer classification	**452 444 052**	**460 181 614**

Summary of Debtors by Customer Classification		
30 JUNE 2011		
Current (0 - 30 days)	403 700 518	313 255 361
31 - 60 Days	7 707 569	1 908 960
61 - 90 Days	11 642 757	14 295 727
91 - 120 Days	104 696 897	60 691 608
121 - 365 Days	19 828 261	0
+365 Days	0	0
Sub-total	547 576 002	390 151 656
Less: Provision for bad debts	-143 875 484	-60 691 608
Total debtors by customer classification	**403 700 518**	**329 460 048**

	2012	2011
	R	R
Reconcilliation of bad debts provision		
Balance at beginning of the year	204 567 091	190 050 014
Contributions to Provision	24 000 000	20 000 000
Bad debts Written off against provision	-56 556 895	-5 482 923
	172 010 196	**204 567 091**

	2012 R	2011 R
9. OTHER DEBTORS		
Insurance Recoverables	98 815 787	106 600 770
Private Jobs - Cost of Work done	5 759 264	3 230 571
Prepayment Meter Token Sales	7 895 317	4 822 739
Sundry Debtors - General	12 474 064	8 954 539
Metro Water	126 181	54 423
Mechanical Workshops	64 711	65 018
Debtors Capital	1 418 663	1 307 415
Insurance Sundry Accounts	1 189 464	2 229 797
Apprentice Tools Cost/Recovery	6 057	86 415
CL A/C - Refuse Disposal	0	66 876
Corporate Services	0	444 340
	127 749 509	**127 862 904**
10. BANK, CASH & OVERDRAFT BALANCES		
Ethekwini Electricity has the following bank accounts:		
Electricity Expenditure Account		
First National Bank - Umhlanga - Account Number 62085722348		
Cash book balance at beginning of year	0	667 250 616
Cash book balance at end of year	0	653 962 086
Bank statement balance at beginning of year	0	7 255 589
Bank statement balance at end of year	**0**	**0**
Electricity EFT Account		
First National Bank - Umhlanga - Account Number 62085722463		
Cash book balance at beginning of year	0	16 949 116 852
Cash book balance at end of year	0	19 082 372 456
Bank statement balance at beginning of year	0	362 592 778
Bank statement balance at end of year	**0**	**0**

	2012 R	2011 R
Electricity Expenditure Account		
Standard Bank - Kingsmead		
Account Number 050134701		
Cash book balance at beginning of year	42 896 234	0
Cash book balance at end of year	78 474 625	42 896 234
Bank statement balance at beginning of year	615 651	0
Bank statement balance at end of year	**3 195 785**	**615 651**
Electricity EFT Account		
Standard Bank - Kingsmead		
Account Number 050133608		
Cash book balance at beginning of year	3 983 306 336	0
Cash book balance at end of year	11 548 550 022	3 983 306 336
Bank statement balance at beginning of year	530 421 070	0
Bank statement balance at end of year	**611 960 369**	**530 421 070**
Electricity Foreign Exchange Account		
Standard Bank - Kingsmead		
Account Number 050134698		
Cash book balance at beginning of year	0	0
Cash book balance at end of year	5 389 985	0
Bank statement balance at beginning of year	0	0
Bank statement balance at end of year	**5 390 177**	**0**

	ACTUALS 2012	ADJUSTED BUDGET 2012	ACTUALS 2011
11. SERVICE CHARGES			
00101 - Bulk Supply	3 207 748 156	3 259 786 730	2 658 783 136
00102 - Business Cooking - Scale 5	33 644 004	38 355 360	31 104 855
00103 - Business and General Scale 1	1 622 113 270	1 656 279 800	1 388 179 643
00106 - Industrial Water Heating & Pumping	9 878 305	11 508 730	7 975 826
00107 - Prepayment Meters - FBE	49 814 554	40 790 290	36 891 476
00108 - Prepayment Meters	645 568 424	664 212 250	548 002 641
00109 - Residential Scale 3 and 4	2 534 662 071	2 631 826 270	2 153 301 353
00111 - Sundry Income - Private Lights	1 285 469	954 170	953 731
00112 - Two Rate - Scale 2	398 643 382	387 441 720	334 059 316
00120 - Poverty Relief/Indigent/EBBST	55 157 795	55 189 320	38 741 442
00122 - Income Foregone - Load Shedding	0	-197 285 750	0
20300 - Electricity	-9 344 646	-9 398 020	-8 102 197
20385 - Free Basic Electricity - Municipality	-55 157 795	-55 189 320	-38 741 442
Total Service Charges	**8 494 012 989**	**8 484 471 550**	**7 151 149 780**
12. OTHER INCOME			
00119 - Traffic Signals	5 704 852	5 857 750	4 747 929
00201 - Surcharge Business Levy	27 671	0	152 460
00202 - EB Steam - Wheeling Charges	14 714 927	22 789 210	25 630 135
00204 - Lotus Park - Wheeling Charges	130 740	55 580	62 008
00205 - Wheeling Incentive	116 427	189 280	0
00405 - Admin Charge - PAFC & Insurance	7 435 355	2 989 390	9 646 783
00408 - Meter Reconnection and Test Fees	20 049 427	16 982 890	16 038 058
00412 - Sundry Income - Taxable	1 278 132	1 191 020	1 098 020
00413 - Sundry Sales	582 742	1 192 580	974 946
00416 - Settlement Discount	1 773 991	2 650 000	2 628 063
00417 - Tender Document Fees	249 400	260 000	222 400
00418 - Sweep Recconection Fees	447 127	368 830	332 256
00425 - Training - Local Government	181 404	66 140	40 610
00426 - Training - Contractors	215 439	220 480	31 009
00427 - Training - Outside Organisations	761 216	606 180	354 877
00431 - Meter Test Fees	70 999	76 130	66 624
00434 - Promotional Items	7 790	1 060	1 003
00435 - Proceeds from Insurance - Operating	24 954 248	25 500 000	27 512 276
00455 - Rural Electrification Project	640 519	540 120	1 564 481
00506 - Prepayment Connection Fess	15 186 151	3 000 000	8 545 459
00507 - Conventional Connection Fees	40 826 773	25 000 000	42 878 795
00508 - Proceeds from Insurance - Capital	9 317 878	10 000 000	11 484 032
Total Other Income	**144 673 208**	**119 536 640**	**154 012 224**

	ACTUALS 2012	ADJUSTED BUDGET 2012	ACTUALS 2011
13. GOVERNMENT GRANTS AND SUBSIDIES			
00121 - Municipal Infrastructure Grant	0	0	0
00123 - Equitable Share	0	0	0
00500 - Capital Grant - MIG	24 953 542	5 000 000	5 000 000
00501 - Capital Grant - Demand side Management	3 851 194	25 000 000	0
00502 - Capital Grant - Equit Share	55 226 457	55 226 450	43 214 749
00503 - Capital Grant - Electr. Prog	30 500 000	30 500 000	35 000 000
00509 - Capital Grant - DANIDA Project	0	0	5 545 117
Total Government Grants and Subsidies	**114 531 193**	**115 726 450**	**88 759 866**
13.1 M.I.G. Grant			
Balance unspent at beginning of year	0	0	
Current years receipts	24 500 000	5 000 000	
Conditions met - transferred to revenue	-24 500 000	-5 000 000	
Conditions still to be met - transferred to liabilities	0	0	
13.2 Electrification Programme - D.M.E			
Balance unspent at beginning of year	0	0	
Current years receipts	30 500 000	35 000 000	
Conditions met - transferred to revenue	-30 500 000	-35 000 000	
Conditions still to be met - transferred to liabilities	0	0	
13.3 Equitable Share			
Balance unspent at beginning of year	0	0	
Current years receipts	55 226 457	43 214 749	
Conditions met - transferred to revenue	-55 226 457	-43 214 749	
Conditions still to be met - transferred to liabilities	0	0	
13.4 SANEDI Grant			
Balance unspent at beginning of year	0	0	
Current years receipts	453 542	0	
Conditions met - transferred to revenue	-453 542	0	
Conditions still to be met - transferred to liabilities	0	0	
13.5 Demand Management Grant			
Balance unspent at beginning of year	0	0	
Current years receipts	24 000 000	0	
Conditions met - transferred to revenue	-3 851 194	0	
Conditions still to be met - transferred to liabilities	20 148 806	0	
13.6 DANIDA Grant			
Balance unspent at beginning of year	935 519	0	
Current years receipts	0	935 519	
Conditions met - transferred to revenue	-640 519	0	
Conditions still to be met - transferred to liabilities	295 000	935 519	

	ACTUALS 2012	ADJUSTED BUDGET 2012	ACTUALS 2011
14. EMPLOYEE RELATED COSTS			
10100 - Staff Salaries	364 789 782	380 692 610	339 507 541
10101 - Staff Overtime	75 719 074	76 896 000	71 934 484
10103 - Leave Commutation	0	0	0
10104 - Pensioners Medical Aid	8 056 776	8 056 780	7 324 340
10105 - Council Pensions	5 205 864	5 205 870	4 732 600
10106 - Housing Subsidy	2 430 796	4 637 090	2 390 117
10107 - Durban Pension Fund	64 124 654	68 812 580	59 095 859
10110 - Medical Aid	30 074 014	30 076 430	25 220 294
10112 - Long Service Allowances	0	0	0
10116 - Holiday Bonus	28 265 953	31 560 200	25 287 755
10119 - Backpay - Category 8	0	0	437 462
10120 - Market/Scarce Skills Allowance	32 000 030	32 000 100	29 583 025
10198 - Task Implementation	0	2 000 000	0
10199 - Contingency Staff Vacancy	0	25 000 000	0
10220 - Cell Phone Allowances	2 389 200	2 500 000	923 300
10300 - Executive Packages	9 480 790	10 463 400	10 469 313
10400 - Locomotion Allowances	30 195 515	31 328 060	25 715 565
10401 - Travelling Allowances	794	75 250	11 504
10402 - Telephone Allowances	3 220	6 810	5 062
10403 - Travel and Subsistence	109 567	196 200	82 928
10500 - Temporary Staff	3 549 780	4 546 520	4 167 369
10501 - Uniforms	1 538 046	1 871 280	1 427 802
10502 - Education Fees	812 039	898 700	761 672
10503 - Travel & Removal Costs	219 896	220 000	84 984
10506 - Unemployment Insurance Fund	2 944 172	3 032 790	2 822 570
10507 - Employment Services	3 344 362	5 872 400	4 461 487
10508 - Leave Comm - Trf Ex Provision	9 942 916	10 600 000	6 689 494
10510 - Employ - Cost Capitalised Offset	-18 336 194	-18 722 360	-18 268 980
Total Employee Related Costs	**656 861 046**	**717 826 710**	**604 867 547**

	ACTUALS 2012	ADJUSTED BUDGET 2012	ACTUALS 2011
15. INTEREST PAID			
29560 - Interest	204 289 360	248 814 660	203 197 910
29563 - Interest - Consumer Deposits	8 786 903	7 700 000	7 934 442
Total of Interest Paid	**213 076 263**	**256 514 660**	**211 132 352**
16. BULK PURCHASES			
00901 - Eskom - Maximum Demand Charge	321 432 792	332 582 980	405 010 527
00902 - Eskom - Unit Charge	4 144 308	8 098 740	3 990 605 372
00905 - Service Fees	798 116	822 680	543 348
00908 - Elect - Landfill Site - Marianhill	2 224 070	3 135 440	1 667 251
00911 - Elect - Landfill Site - Bissar Road	18 286 396	23 483 800	16 763 948
00912 - Energy Charge (Peak)	1 630 196 391	1 690 476 090	0
00913 - Energy Charge (Std)	1 644 342 148	1 722 739 060	0
00914 - Energy Charge (Off)	1 047 753 392	1 103 838 810	0
00915 - Rate Rebalancing Levy	469 134 604	484 768 430	0
00916 - Environmental Levy	228 382 890	230 644 400	0
00917 - Eskom - Admin. Charge	144 757	175 680	0
00918 - Transmission Network Charge	142 479 639	149 246 400	0
00919 - Residual Connection Charge	501 552	657 600	0
00920 - KVARH Surcharge	8 598	124 890	0
00929 - Co-Generation Energy	662 303	350 500	0
Total Bulk Purchases	**5 510 491 957**	**5 751 145 500**	**4 414 590 446**
17. CAPITAL COMMITMENTS			
Commitments in respect of Capital Expenditure:			
Approved and contracted for - Electricity	99 916 915	176 128 690	
Approved but not yet contracted for - Electricity	439 583 085	436 608 830	
Total	**539 500 000**	**612 737 520**	
This expenditure will be financed from:			
Government Grants	81 423 140	0	
Own Resources	458 526 860	612 737 520	

	2012 R	2011 R
18. INTANGIBLE ASSETS		
Servitudes		
Opening Balance	47 882 860	47 634 602
Acquisitions	307 218	248 258
Disposals - Cost	0	0
	48 190 078	**47 882 860**
Computer Software		
Opening Balance	27 251 313	23 046 468
Accumulated Depreciation	0	3 810 246
	27 251 313	26 856 714
Acquisitions	978 155	9 228 726
Work in Progress	1 607 775	0
Depreciation for the year	-9 399 969	-8 834 127
Transfers - Cost	0	0
Transfer - Depreciation	0	0
Disposals - Cost	0	0
Disposals - Depreciation	0	0
	20 437 274	**27 251 313**
19. VAT		
Vat Receivable	0	11 089 835
20. BANK AND CASH BALANCES	**2 632 344 757**	**2 082 361 680**

21. CHANGE IN ACCOUNTING POLICY

Adjustments were made to amounts previously reported in the annual financial statements arising from the full compliance of GRAP 17 standards as per Government Gazette no. 30013

Property, Plant and Equipment

During the year the municipality changed its accounting policy for property, plant and equipment so as to comply more fully with GRAP 17 standards. The useful lives of fully depreciated assets were reviewed and resulted in changes of certain categories of assets.

STATISTICAL DATA: CUSTOMER BASE STATISTICS

* Adjusted to registered meters on database

	00 / 01	01 / 02	02 / 03*	03 / 04*	04 / 05*	05 / 06*	06 / 07*	07 / 08*	08 / 09*	09/10*	10/11*	11/12*
NUMBER OF CUSTOMERS												
Business & General	40 576	42 199	39 374	42 952	44 143	42 010	42 980	44 261	44 832	45 007	44 213	43 897
Private Residences	319 763	313 244	304 831	307 608	310 955	314 975	319 516	323 389	326 386	327 002	324 044	321 904
Other	1 619	1 537	1 563	1 449	1 398	1 173	4	4	4	4	4	4
Bulk	754	702	725	734	739	748	730	746	744	769	821	819
Prepayment	162 839	191 020	187 044	211 784	227 895	243 549	254 017	263 712	275 670	289 946	305 977	333 434
Total	**525 551**	**548 702**	**533 537**	**564 527**	**585 130**	**602 455**	**617 247**	**632 112**	**647 636**	**662 728**	**675 059**	**700 040**
UNITS (kWh)												
Business & General	1 604 265 450	1 733 881 698	1 906 430 575	1 912 939 115	1 900 283 815	1 887 628 514	2 161 999 56	2 203 077 556	2 205 258 603	2 662 458 083	2 921 756 030	2 723 355 860
Private Residences	2 640 769 302	2 691 882 060	2 860 048 650	2 862 123 618	2 873 337 222	2 900 907 487	3 006 373 582	3 013 288 241	2 900 914 449	2 826 464 091	2 500 569 276	2 495 936 487
Other	197 188 369	102 439 716	86 911 187	132 286 050	140 222 213	123 385 815	36 693 199	37 605 719	37 677 922	39 678 620	41 785 554	86 221 641
Bulk	4 668 286 749	4 758 234 877	4 780 752 550	4 931 845 221	5 029 924 160	5 056 990 152	5 105 603 247	5 221 414 480	5 037 894 890	4 621 341 025	4 582 863 945	4 666 663 006
Prepayment	296 930 339	302 677 501	380 972 540	451 783 592	514 181 235	587881511	652 855 481	687 805 495	738 475 562	774 714 890	789 573 652	826 397 419
Total	**9 407 440 209**	**9 589 115 852**	**10 015 115 502**	**10 290 977 596**	**10 457 948 645**	**10 556 793 479**	**10 963 525 073**	**11 163 191 492**	**10 920 221 425**	**10 924 656 709**	**10 836 548 456**	**10 798 574 412**
UNITS GROWTH												
Business & General	9.10%	8.08%	9.95%	0.34%	0.34%	-6.91%	14.54%	1.90%	0.10%	20.73%	10%	-6.79%
Private Residences	-1.79%	1.94%	6.25%	0.07%	0.07%	0.96%	3.64%	0.23%	-3.73%	-2.57%	-12%	-0.19%
Other	7.77%	-48.05%	-15.16%	52.21%	52.21%	-12.01%	-70.26%	2.49%	0.19%	5.31%	5%	106.34%
Bulk	2.08%	1.93%	0.47%	3.16%	3.16%	3.15%	0.96%	2.27%	-3.51%	-8.27%	-1%	1.83%
Prepayment	5.87%	1.94%	25.87%	18.59%	18.59%	14.33%	11.05%	5.35%	7.37%	4.91%	2%	4.66%
Total	**2.30%**	**1.93%**	**4.44%**	**2.75%**	**1.62%**	**0.95%**	**3.85%**	**1.82%**	**-2.18%**	**0.04%**	**-1%**	**-0.35%**
INCOME IN RANDS												
Business & General	445 179 115	547 072 134	591 530 415	619 394 717	672 858 784	687 641 951	779 362 349	844 191 522	1 075 040 391	1 391 466 489	1 767 021 296	2 064 278 962
Private Residences	722 925 897	753 137 505	824 037 901	894 861 179	941 481 632	981 363 145	1 090 027 087	1 150 908 334	1 416 756 093	1 783 179 755	2 153 301 353	2 534 662 071
Other	35 205 659	13 405 297	15 775 113	18 036 972	22 214 691	20 181 773	13 433 024	15 189 096	19 709 806	25 294 174	36 500 000	51 154 591
Bulk	847 835 582	883 707 491	965 030 032	1 079 243 856	1 062 055 560	1 153 442 450	1 231 234 899	1 353 175 863	1 711 042 139	2 091 798 008	2 658 783 133	3 207 748 156
Prepayment	96 138 266	123 766 823	134 997 906	154 263 532	168 477 331	204 733 254	241 183 183	275 381 501	377 042 920	494 949 284	584 894 116	695 382 979
Total	**2 147 284 519**	**2 321 089 250**	**2 531 371 367**	**2 765 800 256**	**2 867 087 998**	**3 047 362 573**	**3 355 240 542**	**3 638 846 315**	**4 599 591 348**	**5 786 687 710**	**7 200 499 898**	**8 553 226 758**
CENTS/UNIT												
Business & General	27.75	31.6	31.03	32.38	35.41	36.43	36.05	38.32	48.75	52.26	60.48	75.80
Private Residences	27.38	28.0	28.81	31.27	32.77	33.83	36.26	38.19	48.84	63.09	86.11	101.55
Other	17.85	13.1	18.15	13.63	15.84	16.36	36.61	40.39	52.31	63.75	87.35	59.33
Bulk	18.16	18.6	20.19	21.88	21.11	22.81	24.12	25.92	33.96	45.26	58.02	68.74
Prepayment	32.38	40.9	35.44	34.15	32.77	34.83	36.94	40.04	51.06	63.89	74.08	84.15
Total	**22.83**	**24.21**	**25.28**	**26.88**	**27.42**	**28.87**	**30.60**	**32.60**	**42.12**	**52.97**	**66.45**	**79.21**
Ave Units/Mnth/Cust												
Business & General	3 295	3 424	4 035	3 711	3 542	4 087	4 192	4 148	4 099	4 930	5 507	5 172
Private Residences	688	716	782	775	747	825	784	776	741	720	643	646
Other	10 150	5 554	4 634	7 608	8 359	8 766	764 442	783 452	784 957	826 638	870 532	1 796 284
Bulk	515 947	564 843	549 512	559 928	567 199	563 390	582 831	583 268	564 280	500 796	465 171	474 833
Prepayment	152	132	170	178	186	196	214	217	223	223	215	207
Total	**1 492**	**1 456**	**1 564**	**1 519**	**1 459**	**1 509**	**1 480**	**1 472**	**1 405**	**1 374**	**1 338**	**1 285**
Ave Rands/Month/Cust												
Business & General	914	1 080	1 252	1 202	1 254	1 489	1 511	1 589	1 998	2 576	3 331	3 920
Private Residences	188	200	225	242	252	260	284	297	362	454	554	656
Other	1 812	727	841	1 037	1 324	1 434	279 855	316 440	410 621	526 962	760 417	1 065 721
Bulk	93 704	104 904	110 923	122 530	119 763	128 503	140 552	151 159	191 649	226 697	269 872	326 389
Prepayment	49	54	60	61	62	70	79	87	114	142	159	174
Total	**340**	**353**	**395**	**408**	**408**	**422**	**453**	**480**	**592**	**728**	**889**	**1 018**

STATISTICAL DATA: MAXIMUM DEMAND AND ENERGY SALES PER ANNUM

Year	MaximumkVA	Percent growth	Energy (kWh) sold	Percent growth	Energy (kWh) purchased	Percent growth	Percent loss	Power factor at system peak	Average monthly load factor	Number of customers
83/84	1 060 522	0.83%	5 435 381 442	8.74%	5 680 986 500	9.21%	4.32%	92.00%	71.10%	214 095
84/85	1 078 638	1.71%	5 859 883 622	7.81%	6 145 270 000	8.17%	4.64%	93.00%	71.89%	223 420
85/86	1 084 951	0.59%	6 105 393 784	4.19%	6 464 060 277	5.19%	5.55%	94.00%	73.37%	228 193
86/87	1 126 872	3.86%	6 373 238 576	4.39%	6 689 247 137	3.48%	4.72%	99.60%	71.21%	237 857
87/88	1 151 613	2.20%	6 590 701 115	3.41%	6 889 777 935	3.00%	4.34%	97.20%	70.47%	245 831
88/89	1 196 636	3.91%	6 986 105 898	6.00%	7 337 830 336	6.50%	4.79%	98.40%	72.73%	252 518
89/90	1 232 618	3.01%	7 201 068 113	3.08%	7 634 669 960	4.05%	5.68%	100.00%	72.92%	284 661
90/91	1 268 538	2.91%	7 426 490 766	3.13%	7 697 377 076	0.82%	3.52%	100.00%	73.87%	290 070
91/92	1 286 335	1.40%	7 548 660 345	1.65%	7 928 532 199	3.00%	4.79%	97.50%	72.90%	299 948
92/93	1 313 385	2.10%	7 688 164 852	1.85%	8 145 319 531	2.73%	5.61%	100.00%	70.80%	329 969
93/94	1 383 431	5.33%	8 047 317 773	4.67%	8 494 913 446	4.29%	5.27%	99.90%	72.80%	359 516
94/95	1 426 277	3.10%	8 202 460 186	1.93%	8 738 907 153	2.87%	6.14%	99.90%	72.90%	386 361
95/96	1 469 256	3.01%	8 419 518 677	2.65%	9 021 770 028	3.24%	6.68%	99.90%	73.46%	428 035
96/97	1 585 122	7.89%	8 941 330 717	6.20%	9 571 358 173	6.09%	6.58%	99.90%	74.37%	451 751
97/98 #	1 585 060	0.00%	9 183 151 356	2.70%	9 813 695 486	2.53%	6.43%	99.90%	76.26%	477 416
98/99 #	1 601 635	1.05%	9 073 412 900	-1.19%	9 851 495 987	0.39%	7.90%	99.90%	76.55%	505 501
99/00 #	1 572 339	-1.83%	9 195 922 772	1.35%	9 956 607 592	1.07%	7.64%	98.60%	77.37%	523 176
00/01 #	1 592 211	1.26%	9 407 440 209	2.30%	10 105 748 000	1.50%	6.91%	98.60%	78.52%	525 551
01/02 #	1 610 173	1.13%	9 589 115 852	1.93%	10 224 641 034	1.18%	6.22%	98.10%	79.45%	548 702
02/03 #	1 650 089	2.48%	10 015 115 502	4.44%	10 552 641 000	3.21%	5.09%	98.00%	78.49%	533 527
03/04 #	1 667 942	1.08%	10 290 977 595	2.75%	10 803 947 948	2.38%	4.75%	99.90%	74.15%	564 527
04/05 #	1 765 855	5.87%	10 457 948 645	1.62%	11 053 953 456	2.31%	5.39%	99.80%	76.53%	585 130
05/06 #	1 783 038	0.97%	10 556 793 479	0.95%	11 186 048 110	1.19%	5.63%	99.90%	72.75%	602 455
06/07 #	1 857 178	4.16%	10 963 525 073	3.85%	11 580 771 534	3.53%	5.33%	98.13%	73.98%	617 247
07/08 #	1 890 043	1.77%	11 163 191 492	1.82%	11 751 787 312	1.48%	5.01%	97.27%	75.90%	632 112
08 / 09 #	1 897 005	0.37%	10 920 221 425	-2.18%	11 504 658 024	-2.10%	5.08%	95.65%	74.42%	647 636
09 / 10 #	1 812 881	-4.43%	10 924 565 709	0.04%	11 495 870 884	-0.08%	5.00%	95.57%	74.24%	662 727
10 / 11 #	1 817 870	0.28%	10 836 548 456	-0.81%	11 467 431 990	-0.25%	5.50%	95.46%	75.00%	675 059
11 / 12 #	1 893 125	4.14%	10 798 574 412	-0.35%	11 463 371 189	-0.04%	5.80%	99.18%	74.42%	700 040

Figures now include sales and purchases for Tongaat, Mpumalanga and Magabeni.

STATISTICAL DATA: EXPENDITURE PER ANNUM

NOTE: Ratios of Admin and General Distribution have varied as a result of restructuring

ITEM OF EXPENDITURE DISTRIBUTION and Admin	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12
Admin and general	309 775 667	340 287 001	384 858 119	424 125 981	468 674 230	624 140 246	766 654 479	844 540 463	1 068 195 348	1 172 269 797	1 272 836 749	1 575 821 377
Distribution	178 709 812	203 666 642	217 681 180	231 773 520	237 287 044	248 674 868	258 564 682	351 321 008	391 069 539	536 667 113	548 069 997	508 323 496
Sub Total	488 485 479	543 953 643	602 539 299	655 899 501	705 961 274	872 815 114	1 025 219 161	1 195 861 471	1 459 264 887	1 708 936 910	1 820 906 746	2 084 144 873
% increase	7%	11%	11%	9%	8%	24%	18%	17%	22%	17%	7%	15%
% of total expenditure	22%	24%	24%	24%	24%	27%	28%	29%	29%	27%	24%	23%
FUNDS												
Capital Development	0	0	0	0	0	0	0	0	0	0	0	0
Rates and Genaral	127 863 067	136 554 095	147 832 718	157 905 047	169 912 469	189 162 190	357 509 683	477 063 733	395 876 280	448 205 520	498 760 834	548 076 046
Working Capital	51 263 120	11 688 488	99 076 208	121 334 894	149 687 274	90 000 000	258 235 673	290 856 887	413 521 565	247 377 149	721 389 400	711 410 151
Durban Metro	0	0	0	0	0	181 914 287	0	0	0	0	0	0
Sub-Total	179 126 187	148 242 583	246 908 926	279 239 941	319 599 743	461 076 477	615 745 356	767 920 620	809 397 845	875 582 669	1 220 150 234	1 259 486 197
increase	24%	-17%	67%	13%	14%	44%	34%	25%	5%	8%	39%	3%
% of total expenditure	8%	6%	10%	10%	11%	14%	17%	19%	16%	14%	16%	14%
LOAN CHARGES												
Sub-Total	325 115 264	320 336 624	273 858 000	315 325 905	316 056 450	0*	0	0	0	0	0	0
% increase	2%	-1%	-15%	15%	0%	0%	-22%	-9%	17%	12%	3%	1%
% of total expenditure	15%	14%	11%	11%	11%	0%	5%	4%	4%	3%	3%	2%
Interest Paid	0	0	0	0	0	218 808 794	171 542 017	156 036 300	182 419 882	204 605 993	211 132 352	213 076 263
ELECTRICITY PURCHASED												
Energy	1 011 443 391	1 093 769 108	1 234 592 321	1 328 370 998	1 348 184 097	1 376 760 971	1 531 383 275	1 637 026 628	2 196 144 780	3 175 088 591	4 009 579 919	5 189 059 165
Demand	184 242 277	196 929 985	173 807 591	201 826 269	256 148 581	268 764 753	296 218 910	324 328 379	444 662 350	291 658 828	405 010 527	321 432 792
Sub-Total	1 195 685 668	1 290 699 093	1 408 399 912	1 530 197 267	1 604 332 678	1 645 525 724	1 827 602 185	1 961 355 007	2 640 807 130	3 466 747 419	4 414 590 446	5 510 491 957
% increase	4%	8%	9%	9%	5%	3%	11%	7%	35%	31%	27%	25%
% of total expenditure	55%	56%	56%	55%	55%	52%	50%	48%	52%	55%	58%	61%
TOTAL												
Total Amount	2 188 412 598	2 303 231 943	2 531 706 137	2 780 662 614	2 945 950 145	3 198 226 109	3 640 108 719	4 081 173 398	5 091 889 744	6 255 872 991	7 666 779 778	9 067 199 290
% increase	6%	5%	10%	10%	6%	9%	14%	12%	25%	23%	23%	18%

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