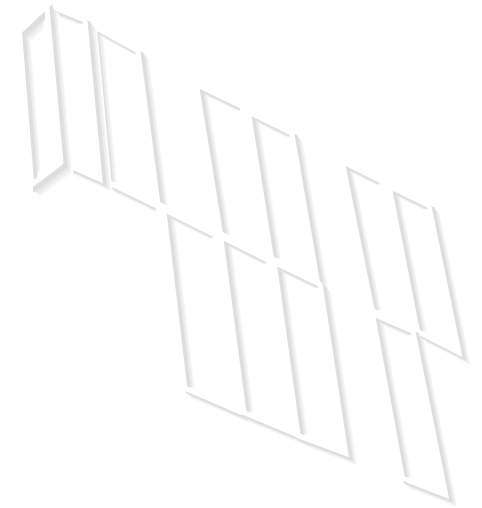




ANNUAL REPORT

2 0 1 4 - 2 0 1 5



THE HEAD

The 2014/2015 financial year was an action-packed and challenging year. Looking back at the various events, I reminisce the long boardroom meetings with my team engaging in robust debates to arrive at amicable solutions to the various challenges. Whilst the challenges were vast, our disciplined strategy ensured good decision making and effective problem solving.

We endeavored to keep electrons flowing continuously throughout the year. However, we did experience outages that needed attention. With an interconnected network peaking at 1 700 MW and spanning beyond the length and breadth of our city, unanticipated faults were bound to surface. Fault teams were rapidly dispatched to rectify faulted elements of the network, while our maintenance teams continued with scheduled repairs, refurbishment and replacements. This made certain that electricity could be readily dispatched to the 724 477 metering points to different categories of our customers. Despite the stagnant economy, compounded by a restricted supply capacity, we continued with our service delivery obligations and generated R 11.2 Billion in electricity sales. Almost 70% of this revenue was paid to Eskom for the provision of bulk electricity, a further 6% was dedicated to network refurbishment, while the balance used to fund other key operational expenses of the Unit.

Bulk electricity costs was subject to an increase of 8.06%, causing the local rates to increase as well. A kWh delivered to a residential home was priced at 6.8% higher than the previous year, whilst businesses paid an average of 7.39% more. Our Free Basic Electricity program continued for the year and brought benefit to approximately 100 000 households per month. In keeping with our accelerated service delivery drive, a further 13 342 new households were introduced to the program. This is a clear example of our commitment to bring electrical services to our communities.

As electricity prices go up, there seems to be greater interest from customers to move to off-grid renewable energy sources. This leads to greater embedded generation within the distribution networks. In small quantities, it is relatively harmless. However, as capacity grows the network will be forced to accept larger amounts of reverse power flow. This will bring about new network challenges and a new regime for electricity distribution.

As I sign off another prosperous year, let me pay tribute to the staff that uphold the values and ethos of our Municipality. It is the dedication and hard work of these teams that contributes to our service delivery success and achievements.

Siyethemba nalonyaka uzoba yimpumelelo kithina sonke !!!





... Smart Innovations

KE Masinga to provide an additional 60 MVA of supply capacity to feed the City Centre; featuring the latest gas insulation switchgear.



VISION

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

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 724 477 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 Kingsburgh, 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).

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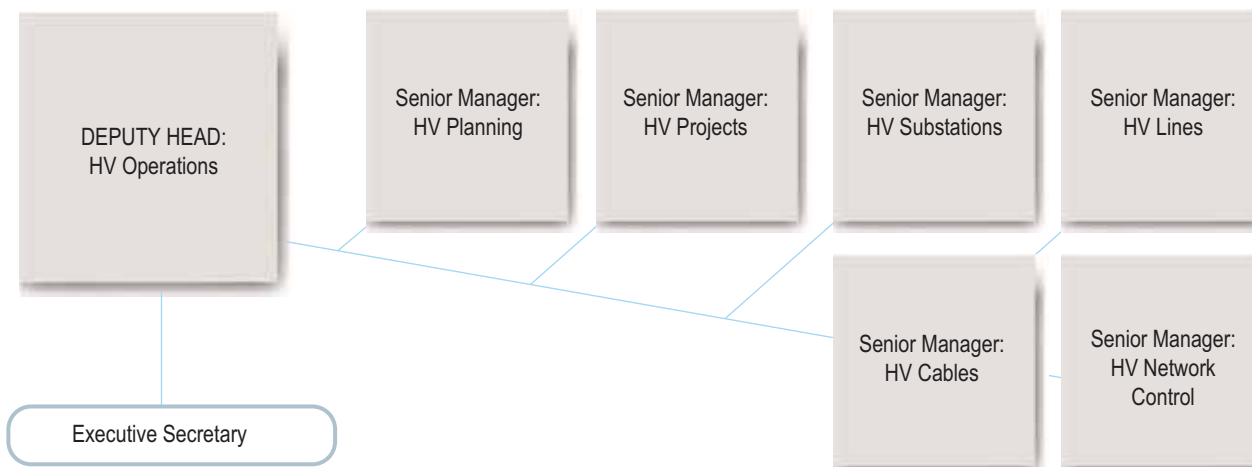
HV OPERATIONS

Planning, construction, operation and maintenance of high voltage lines, cables and substations

The HV Operations Department is responsible for the planning, construction, operation and maintenance of eThekweni 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 HV 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.



HV PLANNING BRANCH

The HV Planning Branch is responsible for planning the Unit's primary network of high voltage cables, lines, switching stations 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 demand of all customers in a sustainable manner. The HV Planning Branch is the custodian of the transmission network master plan which is inclusive of a 20 year capital program that allows for HV network development, reliability requirements and refurbishment requirements. Analysis of the transmission network is carried out using system analysis software for network load flows and voltage stability and fault level analysis. 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 are also completed by the branch.

Highlights

- Handed over the following to HV Projects Branch for execution:
 - Establishment of 132/11 kV Austerville Substation.
 - Establishment of 132/11 kV Kloof Substation.
 - Upgrade of 275/132/11 kV Ottawa Substation.
 - Upgrade 132 kV Klaarwater-Hillcrest overhead line from Westmead Tee to Hillcrest Substation.
 - Completed replacement programme for 11 kV oil circuit breakers.

Progress on existing projects

- | | |
|---|----------------------------|
| ■ 132/11 kV Cornubia 1 Substation | - Preliminary design stage |
| ■ 132/11 kV Inyaninga 1 Substation | - Preliminary design stage |
| ■ 132/11 kV Inyaninga 2 Substation | - Preliminary design stage |
| ■ 132/11 kV Kingsburgh Substation Upgrade | - Preliminary design stage |
| ■ 132/11 kV Moriah Substation | - Preliminary design stage |
| ■ 132/11 kV Phoenix Central Substation | - Design proposal stage |
| ■ 132/11 kV Sibiyi Substation | - Preliminary design stage |
| ■ 132/11 kV Verulam Substation | - Land acquisition stage |
| ■ 132/11 kV Woodlands Substation | - Design proposal stage |
| ■ 132 kV Verulam Switching Station | - Land acquisition stage |
| ■ 275/132 kV Bellair Substation | - Design proposal stage |
| ■ 275 kV Durban North Substation Yard Upgrade | - Preliminary design stage |

Key challenges

- Delays in obtaining clearance for new high voltage infrastructure in the immediate vicinity of King Shaka International Airport from Civil Aviation Authority.

- Expansion of high voltage networks in the northern and western suburbs are dependent on Eskom's strengthening its network to the City which risk delays due to resource constraints at Eskom.

Achievements

- Completed economic forecast study which will serve as input to Geographical Load Forecasting model in preparation for release of updated Transmission Network Master Plan.
- Completed network reliability programme analysis for access to overhead transmission line towers.
- Development of asset replacement programme for fluid filled cables which is 90% complete.
- All HV Planning Engineers have attended the Power System Simulation for Engineering software training.

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 24 major projects in progress during the 2014/2015 year. The status of the projects at the end of the period under review is as follows:

- **Phoenix Industrial 132/11 kV Substation:** Replacement of the ageing and unreliable 11 kV switchgear. Final phase in progress.
- **Klaarwater 275/132 kV Substation:** Upgrade current 250 MVA transformers to 315 MVA due to the increase in load. Procurement for the replacement of the other 4 x 250 MVA 275/132 kV transformers and associated equipment is in progress.
- **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. Commissioned.
- **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. Second phase in progress.
- **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.
- **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.
- **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 energising.
- **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. Transformers relocated. New transformers on order.
- **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 132/11 kV Substation:** Due to load growth the existing substation is required to be upgraded from 30 MVA to 60 MVA. All primary plant has been installed and final testing in progress.
- **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. Civil work 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. Installation of plant and equipment in progress.
- **Sapref 132/33 kV Substation:** The 33kV supply to Sapref refinery replaced with more secure supply from the new Sapref Substation. Commissioned.
- **Durban South 275kV Bus Section:** Required to improve the security of supply at this strategic substation. Installation of plant and equipment in progress.
- **K E Masinga 132/11 kV Substation:** The commercial and residential load demand in the city area has increased and the 11 kV system needs to be reinforced. Civil work and plant procurement in progress.
- **Springpark 132/11 kV Substation:** The commercial and industrial load demand in the Springpark area has increased and the 11 kV system needs to be reinforced. Civil contract has commenced.
- **Bulwer 132/11 kV Substation:** The commercial and residential load demand in the Glenwood area has increased and the 11 kV system needs to be reinforced. Detailed civil design in progress.
- **Underwood 132/11 kV Substation:** The commercial and residential load demand in the Pinetown area has increased and the 11 kV system needs to be reinforced. Civil tender process in progress.
- **La Mercy 132/11 kV Substation Reinforcement:** The commercial and industrial load demand in the area has increased and the firm capacity needs to be upgraded from 30 MVA to 60 MVA.
- **Stockville 132 kV Switching Station:** New switching station proposed to feed the new proposed substation in the Mahogany Ridge and Kloof areas. This switching station will also feed the existing Westmead, Marrianridge, Hillcrest and Waterfall Substations which will eliminate security risks and operational limitations which apply to existing circuits. Detailed civil design in progress.
- **Mahogany Ridge 132/11 kV Substation:** The commercial and residential load demand in the Westmead and Mahogany Ridge areas has increased and the 11 kV system needs to be reinforced with additional 60 MVA firm capacity. Detailed civil design in progress.

HV SUBSTATIONS BRANCH

The HV Substations Branch is responsible for the operation and maintenance of equipment that has voltage ranging from 6,6 kV up to 275 kV. There are five Key Point substations that import energy from Eskom at 275 kV. The 275 kV 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 Substations Branch is responsible for includes, but not limited to, busbars, capacitors, circuit breakers, instrument transformers, isolators, lightning masts, power line carriers, power transformers and surge arresters.

Highlights

- The work order backlog in committed schedules reduced significantly from over 2 500 as at June 2014 to below 1 500 as at June 2015.
- The committed work order scheduled attainment increase significantly from an average of 42,80% in 2013/2014 to 51,65% in 2014/2015.
- In 2014/2015, the tactical maintenance undertaken by the Branch increased by 12%. This is one of the crucial key performance indicators as it is known that tactical maintenance generally results in low probability of equipment failures.
- The number of 'out-of-commission' equipment reduced from 29 as at June 2014 to 19 as at June 2015. More notably was the return to service of the strategic Lotus Park 275/132 kV transformer which had been 'out-of-commission' since 2011.
- Following the completion of power transformer online assessment in 2013/2014, in 2014/2015 the focus shifted to the offline assessment where significant progress was made and the results provided an improved understanding of the condition of each transformer evaluated, thereby allowing for the proper prioritisation of maintenance, as well as obtaining an indication of transformers that are candidates for replacement.
- Significant progress was made in the compilation and implementation of some of the once-off and periodic Network Reliability Programmes (NRPs).
- Two Emergency Response Plans (ERPs) were drafted, these are crucial documents in ensuring the Branch's readiness to respond effectively to identified network emergencies.
- The decommissioning of old 33 kV substations, namely the Umhlanga Rocks and Winkelspruit Substations.

Lowlights

- The incidents of copper theft in HV substations are on the rise and are threatening the functionality of substations.
- The delay in the installation of CCTV cameras in substations to deter the prospective copper thieves.

- The failure of equipment at Klaarwater Substation that resulted to a loss of two critical infeeds from Eskom's Hector Substation to namely Klaarwater-Hector 1 and Klaarwater-Hector 2.
- The increase in the number of 132 kV outdoor circuit breaker failures due to loss of SF6 gas and hydraulic mechanism problems.

Key Challenges

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 number of oil circuit breakers present in 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. There are frequent problems associated with their old age such as shortage of spares, mal-operation and severe failures. 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.

The difficulty in filling a number of vacant crucial positions within the Branch also continues to be a challenge. This is limiting the Branch's capability in undertaking maintenance work effectively and efficiently and thus exposes the equipment to increased risk of failure.

Future Plans

- Significant progress was made in the drafting of Service Level Agreements (SLA's) with the Original Equipment Manufacturers (OEM). In 2015/2016, the Branch intends to have these SLA finalised and signed with the OEMs. This will ensure that specialist skills are provided by the OEMs when required to undertake planned maintenance and to respond timeously to breakdowns.
- Filling of critical vacancies which will enhance the productivity and effectiveness of the HV Substations Branch.
- Securing of additional posts through the proposed organogram changes will allow the HV Substations branch to significantly reduce the maintenance backlog.
- To continue with the compilation and implementation of once-off and periodic Network Reliability Programmes (NRP).
- To compile the strategic spares policy and also identify and fill gaps in spare requirements in order to ensure that the Branch responds timeously to any equipment failure in the network.
- The return to service of five strategic transformers, namely Clermont T2B, Congella T2B, Durban South T2A, Ntuzuma T1A and Westmead T1A will be one the Branch's key focus in 2015/2016.
- Phase one of the transformer fleet assessment revealed that a large number of power transformers have high moisture content. For this reason, the Branch intends outsourcing the online transformer drying services to ensure that transformers are dried out without having to take them out of service, thereby ensuring continued equipment availability.

HV LINES BRANCH

The HV Lines Branch is responsible for the operation and maintenance of the high voltage overhead lines consisting of 141 circuit kilometres of 275 kV, 478 circuit kilometres of 132 kV and 13 circuit kilometres of 33 kV overhead line.

Key Priority Projects

- Refurbishment of the following assets:
 - Ottawa-Parlock 132 kV double circuit line: Painting of structures and re-insulation
 - Durban North-Parkhill 132 kV double circuit line: Painting of structures
 - Tee Sats-Canelands 132 kV double circuit line: Re-insulation
- Illovo-Durban South 275 kV line OPGW installation.
- Avoca-Tee Ottawa 132 kV Line termination at Phoenix North Substation to allow load transfer from Umgeni 132 kV Substation to Ottawa 275 kV Substation during the upgrade of Klaarwater-Umgeni 132 kV Line.
- Klaarwater-Umgeni 132 kV double circuit line upgrade: This was transfer to the year contract as there was no longer sufficient time for the 2014/2015 contract to complete the work.

Key Challenges

- Tower steel members theft is still an ongoing problem in spite of the Branch embarking on increasing patrols on its HV lines and the installing of theft detection devices to facilitate early warning and quick response: Early assessment shows the reduction of theft of steel members due to the implemented mitigation. The Branch will procure and install more theft detection devices so that all high risk structures are monitored 24/7.
- Encroachment of asset servitude and corridors: Servitude and corridors will be demarcated and better policing mechanism will be investigated.
- Increase in maintenance backlog due to shortage of staff.
- Inability to meet employment equity targets has resulted in an increase in vacancies. A program to train and upskill personnel, specifically the target group as per the employment equity plan is being developed and implemented urgently.
- Suitable off-road (4x4) vehicles are becoming quite a challenge as the access roads are becoming more difficult to negotiate with the encroachment of informal settlements and developments within the power line corridors. This will be mitigated by working with the City Fleet Unit to procure suitable vehicles.
- Maintenance of access roads and vegetation: New vegetation management plan will be developed and implemented in the 2015/2016 financial year.

Highlights

- Steel theft has been reduced

Future Plans

- Klarwater-Umgani 132 kV double circuit line upgrade.
- Procure and install more tower steel theft detection devices.
- Focus on access roads maintenance and Vegetation Management plan implementation.
- Continue with asset refurbishment of lines identified.

HV CABLES BRANCH

The HV Cables Branch is responsible for the operation and maintenance of 132 kV, 33 kV, and 11 kV cables which form part of the high voltage network.

Key Challenges

- The maintenance of pressurised gas and fluid-filled cables continue to be a problem. A number of leaks and faults had to be located and repaired on several strategic cables which have now been in service in excess of 30 years. Major projects in hand and in the planning phase will replace several unreliable cable circuits of this type in the near future.
- A number of cables had to be relocated to suit major development projects and, while the cost of this was recovered from the developers, this resulted in an additional burden on the limited resources in this very specialised field. This up-swing in the construction sector also resulted in additional cable damage requiring immediate attention to restore security of supply.
- In addition to the above, two 132/11kV substations Randles and Ridgeview Quarry will alleviate the loads from Sydenham and Huntleys 33/11kV substations in the near future. This will eventually allow the decommissioning of the problematic gas filled cables feeding these substations.

NETWORK CONTROL BRANCH

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

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.

eThekwini's primary transmission network being the supply from 275 kV down to 6.6 kV, is monitored and controlled from this network room using a sophisticated Supervisory Control and Data Acquisition (SCADA) system. The Division is also responsible for the liaison with Eskom control centres and to implement load shedding utilising the SCADA system.

The System Performance Division is responsible for network optimisation, ensuring the HV Network can meet the demand for electricity, network risk analysis, statistical reporting and the quality of supply to the bulk supply points for the distribution system and large industrial customers that are connected directly to the HV Network. The Division is also responsible for the design of the load shedding schedule for the eThekwini area of supply.

Network Management and Control Systems Divisions are responsible for the planning, operation, maintenance and reinforcement as determined necessary of the Unit's primary supply infrastructure. In addition, the Divisions are responsible for installing and maintaining systems that are required for the efficient monitoring and control of the Unit's critical infrastructure.

Highlights

- To improve the quality of supply to customers, the Branch has increased the number of instruments installed on the high voltage network which has been commissioned to the public website for customer viewing.
- The Branch has fast tracked the expansion of its monitoring and control network over the last financial year. This allows for the increased visibility of the network and hence a reduction in fault restoration time.
- SCADA coverage of the high voltage substations as of June 2015 is as follows:
 - 275 kV - 100%
 - 132 kV - 100%
 - 33 kV - ~70% (most of 33 kV network is currently being phased out)

Lowlights

- Load shedding had to be implemented on an ongoing basis for the 2014/2015 year at the request of Eskom to assist the national grid, to prevent a total black out, which has impacted severely on the performance of the network.
- One of eThekwini's major network incidents occurred on Christmas day 2014 due to extreme hot conditions resulting in power transformer failures on both Eskom's and eThekwini's network. A load reduction of 130 MVA had to be implemented to prevent an entire network collapse.

New Technologies

- The Branch is investigating the feasibility of providing real time power quality information to the HV Control centre to improve fault analysis and decision making.
- The Branch has finalised and specified the methodology to incorporate Under Frequency Load Shedding (UFLS) into the Integrated Control and Protection (ICAP) scheme.
- The Branch is investigating an automated system to execute load shedding with additional check methods to assist the HV Control Centre and the load shedding schedule design.
- To curb the rampant theft of equipment at HV substations, the Branch has successfully developed an integrated substation security tender that incorporates access control, CCTV, perimeter intrusion detection systems, an innovative safe zone and state-of-the-art visual software. The Branch will also investigate the use of unmanned aerial vehicles (UAVs) to provide real-time video streams of substations to aid operators at the control centre to make informed security and operational decisions.
- The Branch is investigating a Fault Detection Isolation and Restoration (FDIR) tool to limit/prevent the amount of load lost when a network fault occurs. The reduced risk of loss of supply on the HV network will permit a higher volume of maintenance.

Key Challenges

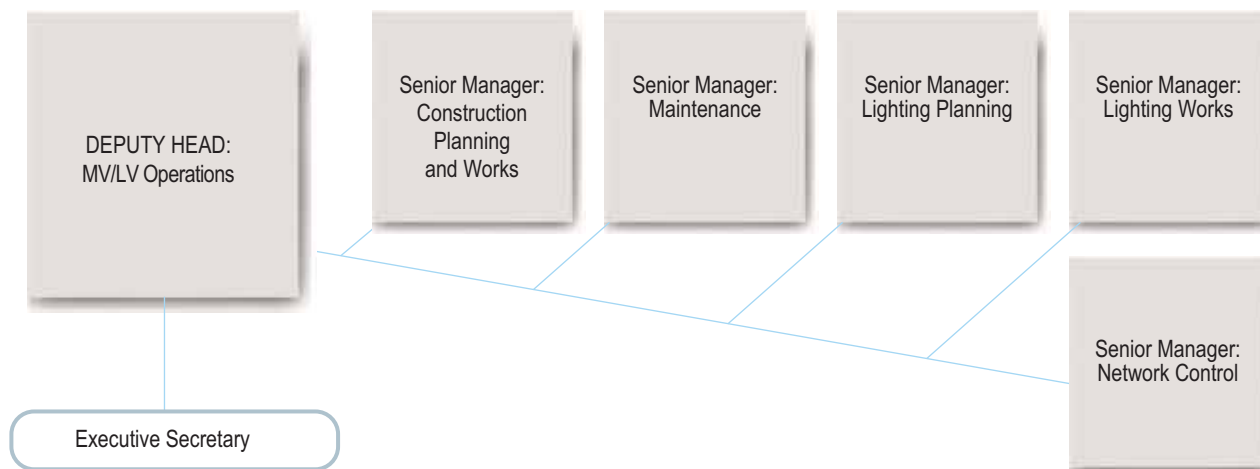
- Staffing of the HV control room continues to be a challenge given that Eskom and other municipalities compete for a very small pool of scarce skilled employees.
- EThekweni Electricity faces the same security challenges as other major electricity distribution organisations in South Africa. Substation theft is a growing concern, therefore the HV Network Control Branch are embarking on the security project detailed above to combat theft.

MV/LV OPERATIONS

Planning, construction, operation and maintenance of medium and low voltage networks

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 optimisation 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.



CONSTRUCTION PLANNING AND WORKS BRANCH

Connections to housing projects, transit facilities, informal settlements and rural areas has reduced the backlog of dwellings without electricity from 29.05% to 27.56%. During the 2014/2015 financial year, 13 342 prepaid and 808 non-prepaid connections were completed at a total cost of R 205m. Approximately 55 000 people can now enjoy a better life with electricity. Department of Energy provided R 15m in grant funding which allowed 1 403 dwellings to be electrified.

Highlights

The Branch spent 88% of its operating budget of R 146m, and overspent the capital budget of R 252m by 14%. Some of the major capital projects and routine activities include:

- Commissioning of 11 kV circuits from Ridgeside Major Substation
- Commissioning of 11 kV circuits from Randles Road Major Substation
- Laying of cables from Ridgeview Quarries Major Substation
- Electrical reticulation to Hammonds Farm Phase 2
- Relocation of services to accommodate the Bus Rapid Transport
- Replacement of ageing medium voltage switchboards
- Electrification of informal settlements

Lowlights

- During the year there were 6 minor injuries and 2 disabling injuries.

Key Challenges

- The Branch still has a large number of technical and supervisory posts vacant.
- The Branch utilises the services of Consultants to process applications for new connections, and manage the installation of service connections.

Achievements

- The Branch achieved an overall 5 star safety rating.
- Contractors have continued to complement our staff in implementing our infrastructure projects and providing services to the community. The efforts of all our staff and agents are greatly appreciated.

MAINTENANCE BRANCH

The Maintenance Planning and Works Branch is responsible for inspection, maintenance planning and maintenance implementation on all medium and low voltage apparatus as well as 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, Specialist Engineer, Engineers, Technicians, Electricians and the various levels of administration and assistant staff.

The Maintenance of eThekweni 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.

Key Challenges

- The growing global need for nonferrous 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 the theft has significantly increased the workload hence 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.

New Technology

The Branch is in the process of researching various new technologies that may assist with the extremely challenging conditions and the immense workload. The Branch has procured 5 partial discharge detection (with TEV and Ultrasonic measurements) and 5 partial discharge locating (Ultra TEV Locator) equipment from EA Technology. The Branch's Technicians and Engineers are currently being trained by the equipment's supplier. The Branch in conjunction with supplier, are planning to send the Branch Engineers abroad to obtain skills on partial discharge measurement techniques and switchgear health index based on partial discharge. The Branch also has plans to procure 2 sophisticated infra red cameras to detect hot spots and SF6 leaks in the distribution network equipment which forms part of condition monitoring. In recent months, the magnitude of copper theft has been increasing and eThekweni Electricity's substations have been the victims of vandalism. The fundamentals of an electric circuit for distribution require a well-defined electrical system with earth reference. The removal of this reference poses significant risk to eThekweni customers for a number of reasons (Health and Safety, Electrostatic and Lightning, Protection).

The Branch has spent R 200 000 on a pilot project to install and evaluate the performance of Copper Clad Steel (CCS) and in particular, discoloured CCS, (Camo), as a suitable replacement for earthing. The Branch Technicians obtained skills during the installation especially on exothermic welding. The Branch has also procured two exothermic welding equipment and recommended the use of CCS through the distribution network.

LIGHTING PLANNING BRANCH

The planning, design, inspection and maintenance planning of the public lighting infrastructure for the eThekweni Municipality is undertaken by the Lighting Planning Branch. This includes the planning and design of new lighting installations, upgrading of existing lighting infrastructure, maintenance and maintenance planning of existing installations. Continuous research and investigation into new lighting technologies, bulk lamp replacements and electrical apparatus is conducted by the Branch.

All of the available technologies are evaluated to assess for the ideal solutions for the city's needs. Various monitoring and telemanagement systems are also being considered for greater visibility and control of the public lighting systems. Planning and design of capital projects forms a major part of the Branch's responsibility. The annual capital budget for the financial year under review was R 12.9m and projects were planned for upgrades from conventional technologies to LED street lighting, major route improvements, new major routes, lighting of parks and sundry lighting.

Many of the projects undertaken by the Branch involves liaison and interaction with other units within the municipality and external entities such as Roads Provision, Architectural Department, Parks, Leisure & Cemeteries, Roads and Stormwater, Strategic Projects, Tongaat Hulett's and a host of developers and external electrical consultants. The Branch plans and designs conventional and special lighting projects for these entities, and takes into account any specific requirements for each of them. The annual operating budget of the Branch is approximately R 75m, which includes a provision of R 50m for street light consumption costs within the municipal area. The remaining R 25m is allocated to salaries, allowances, general expenses, repairs and maintenance. Repairs and maintenance accounts for 80 percent of the general operating budget and this is further broken down into planned lighting maintenance, bulk lamp replacement and pole painting. There are currently approximately 200 000 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.

Various grant funding options are being evaluated for the installation of LED streetlights to replace the 80W mercury vapour luminaires in residential areas, 150W high pressure sodium (HPS) luminaires on secondary roads and 250W high pressure sodium luminaires on main arterial roads. These funding options include EEDSM, Department of Energy, Swiss and German donor funding.

Highlights

- Major projects for the current and future financial years include;
 - Bridge City to Pinetown on the Integrated Rapid Public Transport Network (IRPTN) route,
 - Illovu Road (Kwamashu),
 - Umgeni Road/N2 Interchange, completion of MR 577 (Kwadebeka),
 - School Road (Verulam), M4 Ruth First Northern Freeway,
 - Inanda Road (Waterfall) and floodlighting for ablution facilities in informal settlements.
 - Lighting for all High Voltage (HV) substations is currently being audited and upgraded in a phased approach from HPS (orange light) to Metal Halide (white light) to cater for the requirements of CCTV cameras.
- Other significant projects include;
 - Plane Street
 - Coedmore Avenue
 - Mount Edgecombe Interchange
 - Belladonna Road (Cornubia)
 - Minerva Road
 - Ras Deshan Street
 - Hillview Drive
 - Desai Street
 - Chiltern Road
 - Sbu Magwanyane Drive
 - Glebelands Hostel
 - Enkanyisweni Road
 - Sarnia Road
 - Radhakrishnan Road
 - Anderson Road
 - Inanda Road
 - Kwamashu Children's Clinic
- The first phase of 25 sites for solar powered LED lights for ablution facilities in informal settlements have also been completed.

Achievements

- The Branch has filled 95% of posts within its structure and continues to work on building their skills and experience. The long-term goal of the Branch are to implement modern, energy efficient and effective public lighting systems that are vandal proof and systems that could be easily monitored and controlled.

LIGHTING WORKS BRANCH

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

Highlights

- The Branch welcomed a second female electrician and deemed four electricians competent. On training, the Branch has seen two electricians pass their OHM training and one electrician pass his switching assessment. The Branch achieved an overall 5 star NOSA rating. The set target of 5 to 10 working days turnaround time on complaints received and attended to is still a priority which benchmarks the sum total of complaints repaired over the financial period to be over the 70% mark. On the budget for Lighting Works the Branch managed to work within the allocated funds without compromising the service delivery to the municipality. Management would like to acknowledge staff in the Branch for their efforts and dedication in keeping the lights burning during the trying and challenging times.

NETWORK CONTROL BRANCH

The Network Control Branch operates on a twenty four (24) hour basis to ensure the security, stability and continuity of supply to eThekweni Municipality's area of supply in the event of emergencies and unplanned system disruptions.

Highlights

- Network Control also provides dedicated teams of standby staff at special events such as Elections, Conventions, Festivals and Sport Tournaments. Our staff works behind the scenes to ensure a stable power supply and backup power in the event of a power disruption.
- Our world is ever evolving and has digital and computerised equipment and technology that depend on efficient transmission of electricity. We are working towards a Smart Grid by incorporating technologies and equipment in incremental stages with the Advanced Distribution management System (ADMS) and the Distribution Automation projects. This will bring much needed transformation to the electric grid. Distribution operations will become proactive instead of reactive, identifying and repairing equipment before failure occurs, remotely manage assets, and perform detailed load prediction.
- The Advanced Distribution management System (ADMS) solution will improve customer communication regarding electricity outages, reduce outage restoration times through predictive reasoning,

and facilitate coordination of the staff more efficiently to support outage restoration activities. The implementation of this project has proved to be long and complex with many hurdles however we are forging ahead and currently testing the system, attempting to resolve issues of various severities and categories before the solution is fully implemented.

- Our Distribution Automation project provides the much needed remote visibility and control to maintain the electrical network. This in turn assists in restoring outages, fault finding and load flow analysis using intelligent medium voltage devices, remote terminal units (RTU) and wireless modems. The introduction of SCADA intelligence allows a fully connected network model to be realised and managed in real time.

Lowlights

- In recent months South Africa's primary electricity supplier, Eskom, has faced the challenge of a constrained power system and in order to prevent a total power system blackout, has implemented load shedding and load curtailment. Our consumer's expectations of reliability of the overburdened grid have been negatively impacted due to load shedding coupled with unexpected power outages. We have dedicated teams of Field Work Crews, Control Room staff and external Contractors who work in unison. They strive to promptly facilitate the co-ordination of the system and customer load restoration, as it directly impacts on the quality of life to our citizens.
- There are certain factors which have an adverse effect on the reliability of the electrical network and present us with substantial risks to the continuity of supply. Damage to equipment, from inclement weather conditions and the theft of infrastructure on the electrical network are just some of these factors. This past year we have seen that the high rate of illegal connections has resulted in tragic consequences with the loss of human life, and has cost the municipality millions of rands, which in turn negatively impacts our economic growth.

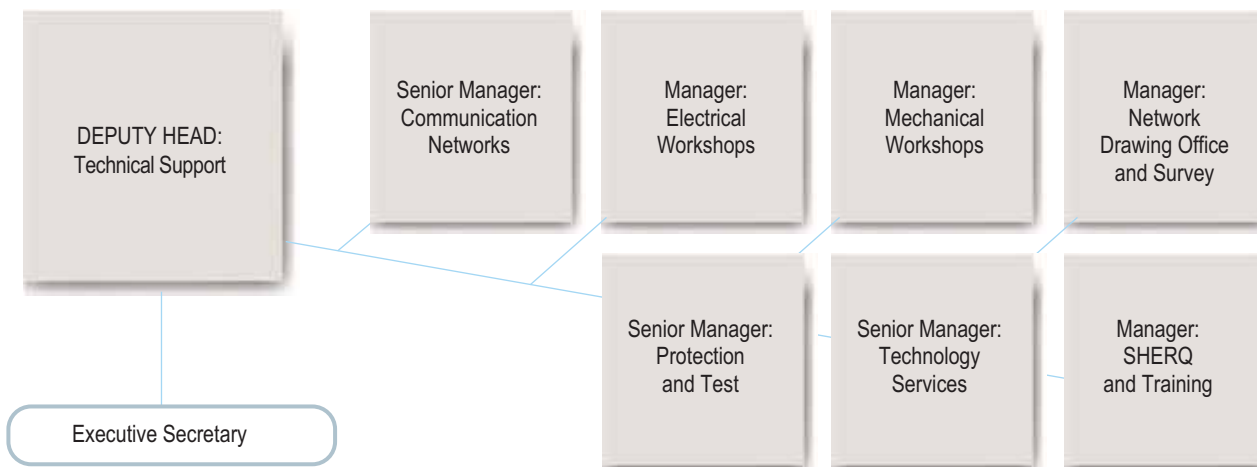
Future Plans

- In the year ahead we will seek ways to improve safety, business processes and procedures which must be changed to adapt to the technological systems in place. As always we shall strive to meet the standards of NRS 048 - Quality of Supply Standard and NRS 047 - Quality of Service Standard. We will embrace a shared vision as a Unit to provide a better service to our fellow citizens.

TECHNICAL SUPPORT

Provides a diverse range of technical services to support the Unit

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, namely, Communication Networks Branch, Electrical Workshops Branch, Mechanical Workshops Branch, Network Drawing Office Branch, Protection and Test Branch, SHERQ and Training Branch and Technology Services Branch. Collectively, these Branches ensure that all resources are effectively and efficiently utilised so that value is added to approximately 724 477 customers that the Electricity Unit currently supplies.



COMMUNICATION NETWORKS BRANCH

The Communication Networks Branch is responsible to provide and maintain secure and reliable communication links for all technical systems that monitor, control and protect all electrical plant and equipment in the HV transmission and MV distribution networks from which all customers are supplied. In addition the Branch provides communication channels for other support services required to operate an electrical utility such as Information Technology (IT) wide area network (WAN) links, closed circuit television (CCTV) and access control, as well as support municipal communication requirements where possible.

This is achieved by researching, designing, planning, procuring, operating and maintaining 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 systems.

Routine Activities

- Planning, acquisition, installation and commissioning of fibre optic, data, wireless and copper pilot communication network links, customised dust proof equipment/termination panels, ruggedised carrier class DWDM and SDH access multiplexers, optical switches/routers/media converters, GPRS cellular radio modems, wireless communication equipment and protocol converters 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.
- Maintenance and repair of all communication links and system equipment to ensure continuous reliable operation of critical user systems.

Highlights

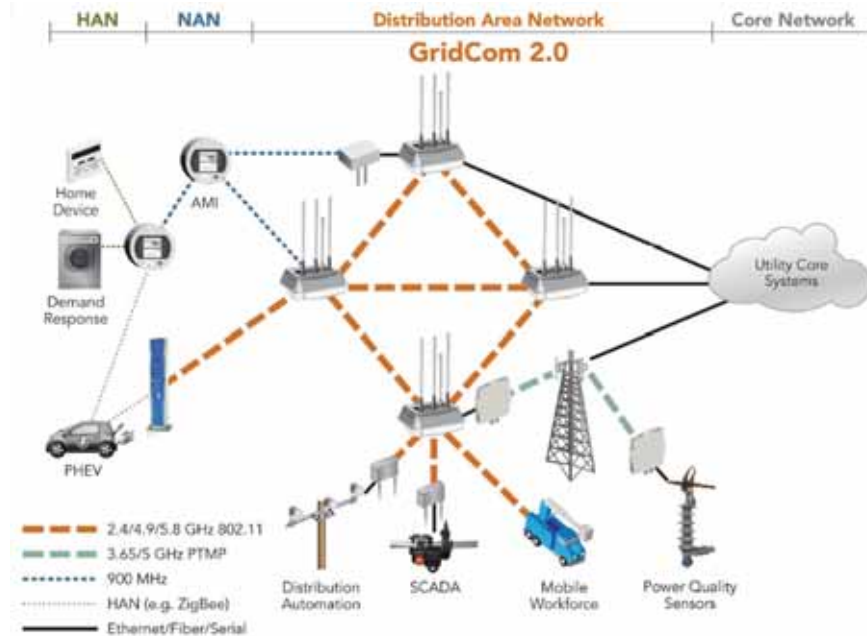
- Four staff were successful in their professional registrations with ECSA which improved the expertise within the Branch.
- Communication Networks successfully participated at the AUTC summit. This included participating in a panel session discussing frequency spectrum allocation issues in South Africa.
- Overall progress has been made in the streamlining the rollout of a tier 2 communication network. This included developing written procedures for installation, introducing new stock items via tenders, research into improving competency levels of staff & contractors and implementing small scale deployments.

New and exciting projects undertaken

- **Design, installation and commissioning of a technical utility grade wireless communication network**

This project entails the design, installation and commissioning of an advanced wireless Technical Distribution Area Network (TDAN) in the New Germany supply area that integrates with the existing Technical Communication System that links all major substations to the Control Centre. The aim of this project was to provide reliable, mission-critical wireless communications through a network capable of supporting thousands of endpoints, such as distributor substations, mini-substations, advanced metering infrastructure, field users and other automated electrical network monitoring equipment.

The network architecture has the flexibility and security to enable eThekweni Electricity to retain a variety of options for its future network development, in terms of services, capacity and geographical reach. Services targeted are MV distribution automation, substation automation, SCADA, advanced metering and electrical outage detection/restoration and management. Figure below illustrates the TDAN system architecture showing how the various services are supported via redundant paths to the core fibre network.



TDAN system architecture

The New Germany supply region targeted for this deployment spans 5 major substations, approximately 77 distributor substations (DSS) and approximately 380 mini substations. 47 distributor substations that currently have Internet Protocol (IP) RTU's were selected as the target sites.

Primary coverage of the wireless network was designed around these sites with the option of extending the network to the remainder of the sites as and when they are upgraded to IP. Design of the network had to accommodate for high bandwidth capacity to handle multiple concurrent applications (minimum 2 Mbps at every endpoint), highly secure (NERC-CIP and NIST FIPS 140-2 compliant), scalable, high availability (99.99%), fault tolerant, redundant, interference resilient and low latency (maximum 20 ms per hop).

Gateway mesh radios were installed at major substations and point-to-multi-point sites, these provide backhaul connectivity to other mesh radios in its cluster. Client station mesh radios were installed at the targeted DSS sites and Infrastructure mesh radios were installed on the streetlight poles identified during the site survey. A point-to-point and point-to-multi-point system was installed on a lattice tower at the Mount Moriah high site. This extends the backhaul capacity of Umgeni substation to the outlying areas not covered by the fibre network.

Installation of the radios, brackets, poles and communication equipment panels were carried out according to the codes of practice developed. A total of 72 mesh radio installations were completed including infrastructure nodes on streetlight poles, figure below illustrates some of the installation scenarios on substation buildings, consumer premises and streetlight poles.



Installation photos

All mesh radios were configured and added onto the management system and the performance of the wireless links are continuously monitored and reported on. Several key performance indicators are configured to report on metrics ranging from basic connectivity measures down to Receive Signal Strength (RSSI) measurements per device per hour. These Key Performance indicators are selected to accurately report performance statistics which are used for optimisation of the network.

ELECTRICAL WORKSHOPS BRANCH

This Branch was established to ensure that all equipment received, from the manufacturers, is 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 utilised 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

- Acceptance testing on all new equipment purchased, ie. Mini substations, transformers, ring main panels, autoreclosers, sectionaliser and motors in the workshop or site, prior to it being handed over to stores.
- Repairs and overhauls to transformers, mini substations circuit breaker in the workshop or on site.
- Provide a breakdown service to attend to faulted transformers, mini substations, circuit breakers, autoreclosers 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.
- Reclamation 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 1 metre lengths to prevent being utilised unlawfully.

Highlights

- Research and development into equipment maintenance has required in-depth knowledge of electrical stresses found within electrical apparatus. In-order to better understand these stresses, a thermography camera was procured and is employed to allow for the detection of hot spot within the equipment. This improved quality of fault finding
- In-order to mitigate the risk of Oil theft, new Insulating Oil management procedure was adopted.
- Three Pre-competent Electricians have obtained their first competence.
- One candidate completed the Asset care programme successfully

New and exciting projects undertaken

- Research has begun for a phased approach to reducing energy consumption at the Workshop. Project to be undertaken in stages. Purchasing of pneumatic tools and extending air supply points to all work bays. Future plans to change existing lighting systems to LED type.
- Audio visual equipment installed to ensure higher quality of training is disseminated to staff.

Key Challenges

- Improving layout and ergonomics of the workshop so specialised services can be expanded.
- Creating mobile facilities for on-site intrusive maintenance of electrical equipment.

MECHANICAL WORKSHOPS BRANCH

Mechanical Workshops Branch provides a specialist mechanical support service to the Electricity Unit. 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, in line with our function of being the mechanical support function to our electricity distribution network.

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.
- Maintenance of ISO 9001 accreditation by ensuring successful audits.
- Practical training of Mechanical Apprentices.

New and exciting projects undertaken

- Developed Code Of Practice for workshop activities
- Training staff on the rigging HV equipment
- Support the electrification of informal settlements my manufacturing 30 000 pre-payment brackets

Achievements

- Re-accredited with ISO 9001

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, provide an efficient GIS to support the many other enterprise systems and provide a Survey service, within the Electricity Unit.

Routine Activities

- The Administration Division provides an administrative service to the six internal Divisions and, a printing and scanning service, to the Electricity Unit and some external Service Providers that are contracted to the Unit.
- The Special Projects Division updates and maintains the Low Voltage Circuit Diagram database and makes these diagrams available via a web browser to employees of the Unit. This Division 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 and provides a Depot Draughtsperson at the Units Construction and Maintenance Depots, to assist the technical staff by providing reticulation information form the GIS.
- The GIS Division is the custodian of the GIS enterprise database. Its primary function is to ensure data integrity in the database and makes this data available via the ArcGIS Server web browser to all employees in the Unit. This Division also provides GIS support services to all staff in the Unit and provides specific GIS software applications to assist other Branches in some business processes.
- The Utility Plans Division attends to all way leaves, provides network information to visitors and responds to all written correspondence received by the Branch.

Highlights

- The Survey Division achieved their goal by providing detailed surveys for Electrification of Informal Settlements and Transit Camps, to assist the MV/LV Planning Division to produce proposed Distribution Layout plans.
- The Network Records Division developed a user manual for Draughting staff to fully understand the methodology involved of the design of the assets in the revised GIS data model and the standards and procedures required for user editing in the database.
- The GIS Division appended the Northern and Central asset data to the Southern connected dataset to ensure that all the assets from the Asset Management Field Capture project is modelled in the GIS.
- The Network Drawing Office Branch is aligning its technology to support the Unit's Smart Grid Strategy.
- The Branch has embarked on the development of a Telecommunications data model for the Unit. This model will allow for the capture of the spatial location and attribute data, of all Communications assets.

- Development of a GIS roadmap to feed into the Units Strategy of integrating to the other enterprise systems.
- Implementation of Workflow Manager to automate the GIS 'post and reconcile' process will ensure that the latest GIS data is published regularly.

Future Plans

- Survey of Informal Settlements and Transit Camps to achieve electrification of 40 000 new connections the in 2015/2016 financial year.
- Investigate and capture all missing underground assets in the GIS, model 140 High Voltage sites and model all outstanding Medium Voltage sites.
- Development and deployment of new web browser to serve out the fully connected GIS dataset.
- Ensure that the Network Drawing Offices provides detail drawings to assist the Technology Services Branch to develop an Overhead Mains Code of Practice Manual.

PROTECTION AND TEST BRANCH

The Protection and Test Branch comprises of four technical Divisions, namely Protection Engineering, Test, Protection Maintenance and DC Systems. These Divisions are collectively responsible for the forward planning, analysis, design, updating, testing, commissioning, auditing, maintenance and repair of all protection and DC systems in the electrical network. The Branch is also responsible for the investigation of all protection or DC related maloperation. In addition, the Branch provides other crucial services like cable fault location as well as various equipment testing, commissioning and repair services to the entire Electricity Unit.

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.
- The updating, maintenance and control of protection drawings and relevant databases to ensure accurate records and statistics.
- The investigation of protection and DC mal-operations.
- The planning, maintenance and repair of all protection and DC equipment according to stipulated maintenance guidelines.
- The 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

- The battery banks at twelve Transmission substations, and the batteries and chargers at twenty Distributor substations were replaced during the year as part of the Branch's upgrade programme to replace aged and failure prone DC equipment.
- The DC systems at 36 transmission stations were audited during the year to ensure that all the DC loads were correctly wired and labelled to facilitate troubleshooting and the safe isolation of control equipment.
- The protection settings at 18 Transmission substations was also audited by the branch to ensure that the settings and relay configuration at the substations is optimised to provide proper discrimination as well as fast and accurate fault determination and fault clearance.
- A number of preconfigured portable protection schemes that can be installed and commissioned on site with minimal effort in the case of relay failures were designed and developed by the Branch.
- New test procedures and test templates have been developed for eThekweni's ICAP (Integrated Control and Protection) substations
- A number of new Transmission substations were successfully commissioned during the year, including the new Mondri and Sapref Substations, and a temporary switchboard at Prospecton Substation.
- Refurbishment and upgrade projects were undertaken at Pinetown, Newlands, Westmead, Sukuma and Durban South Substations.

Lowlights

- Fault locations for a total of 1 404 HV/MV cable faults, 1 187 LV cable faults and 1 252 House service cable faults were provided during the year.
- Relay failures again plagued the branch causing outages to customers and leaving the Branch committing resources as well as large amounts of time and effort in conjunction with the relevant relay manufacturers to investigate the source of the failures.

Future Plans

- Addressing the numerous new relay failures that have occurred and identifying solutions with the relevant manufacturers to ensure that these modes of failure are eliminated.

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 eThekweni Electricity staff and contractors.

The Branch has continued its active participation in NRS Workgroups and SANS Workgroups in conjunction with other municipalities, Eskom, mines and major suppliers, specifications and guidelines. This participation has been to promote uniform requirements for equipment and design methods for use in distribution systems.

Highlights

- The revision of the Overhead Mains Code of Practice (OHM CoP) has been 60% complete. The plan is to complete this CoP by the end of the 2015/16 financial year. This CoP is the last in the three part series (the others are the Substation and Underground Mains CoPs) originally planned for revision.
- Lunchtime viewing of informative DVD's at the Library e.g. with the subject on Customer focus in order to fulfil the key component of the democratic developmental state which is disciplined, people - centred and professional public service.
- EThekweni Electricity has experienced high theft of steel trench covers (chequer plate) from substations, which poses a safety hazard. Technology Services therefore investigated the use of alternative materials. Resin concrete proved to be suitable for the application. It is light weight (lighter than steel chequer plate) and meets the required specifications in terms of durability and strength. The key advantage of this material is that it has no scrap value, which will greatly assist in reducing theft from substations. A contract is in place for the replacement in high risk areas.
- To further improve safety of staff, arc rated overalls (conti-suits) and arc rated chino pants and shirts were introduced. This was rolled out to specific staff who could possibly be exposed to hazards of an arc flash.

Future Plans

- Improving quality control of goods received at stores and ensuring corrective action is taken against defaulting suppliers.
- The Department of Trade and Industry has designated certain electrical items be procured from local manufacturers. The verification of local content is done per tender by the SABS and could result in delays in awards as there is no clear guideline on how the costs for verification will be recovered.

SHERQ AND 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. The Branch fulfils a critical role in the training and development of staff, as well as the training of apprentices, technicians and electricians.

Routine Activities

- 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.
- The Branch assists +/- 50 Line Managers to comply with Town Clerk Chapter 25, Construction Regulations, comply with Codes of Practice, undertake accident investigation (Root cause analysis) and support GMR 2.1's at safety investigations.
- Safety Officers 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.
- On the training side System Operations Senior Training Officers, Technical Training Officers and ICT Trainers ensures that the staff across the Unit is competent, committed and suitably qualified staff to operate and maintain the electrical assets on the network.
- Systems Operations Training provides artisans with knowledge to operate electrical equipment safely, thus eliminating damage to equipment, injury to staff or fatalities.
- 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.
- ICT Training equips eThekweni Electricity staff and contractors on the units IT systems.

Highlights

- Initiation of architectural project to expand the existing training facility by 2016
- Accreditation of eThekweni Electricity Training Centre by QCTO as a Skills Development Provider and recognised Trade Test Provider.

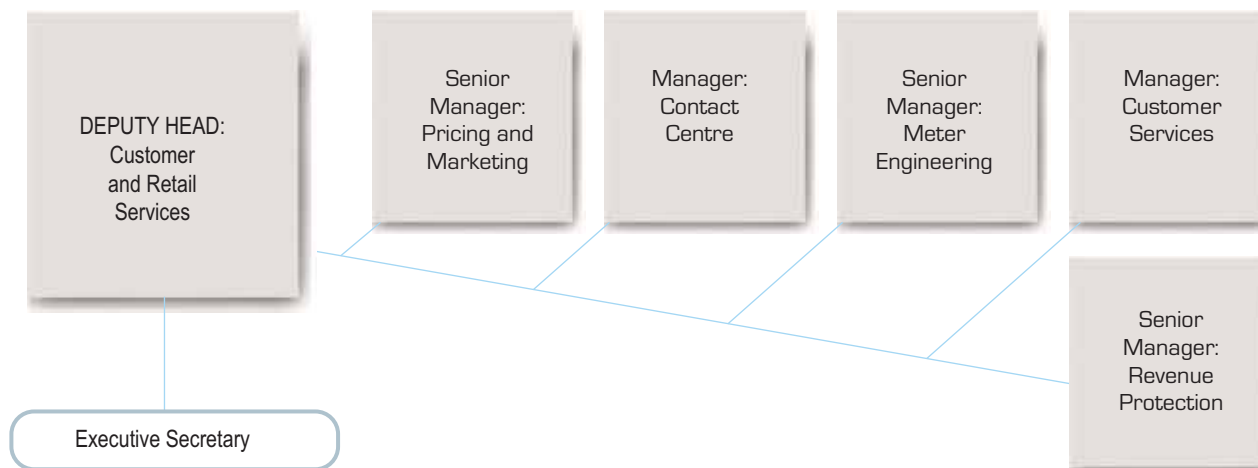
Future Plans

- Establish a new training centre with state of the art facilities for skills development and training of technical personnel.
- Taking part in various career symposiums in order to promote the engineering profession to school kids and university students.

CUSTOMER AND RETAIL SERVICES

Provides a customer contact retail services function for the Unit

The Customer and Retail Services Department provides a customer contact and retail services function for the Electricity Unit. The Department consists of more than 400 employees and performs a diverse range of functions for the Electricity Unit.



PRICING AND MARKETING BRANCH

The Electricity Pricing and Marketing Branch has several primary functions namely:

- To raise awareness about key issues involving electricity
- To provide a technical and administration service to our key customers
- To design cost-effective and accurate electricity tariffs
- To maintain a statistical database for electricity purchases and sales and other important information

Energy conservation and management have become key concerns in the industry due to the repercussions of the recent energy crisis. Technical and non-technical loss management still remains one of the top agendas for the branch.

MARKETING DIVISION

The Marketing division is continuously holding interactive events to raise awareness and promote the ideals of the department. The reduction of reducing energy consumption through behaviour and technology is being promoted by the marketing staff, and starts at primary and secondary school-levels.

The activities of the Marketing Division create 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
- Electrical safety and electricity hazards

Highlights / Lowlights

The Marketing Division has also been working closely with communities and the internal planning staff in order to assess 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 Bulk users. Tariffs are designed to be cost-effective whilst ensuring accurate cost recovery and reflectivity. The overall average tariff increase as approved by NERSA for the 2014/15 financial year was 7.39%, however individual customer categories were increased as follows:

Tariff increase by sector comparison				
	Bus. & General	Residential	Industrial	FBE
2012/13	12.00	9.80	12.00	5.41
2013/14	6.00	4.95	6.00	3.50
2014/15	7.70	6.80	7.98	5.80

Tariff-design is proving to be a major challenge in the midst of the huge increases from ESKOM 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 determined in line with NERSA's guideline methodology.

Table below compares the Average Percentage Increase of the electricity tariff in 2014/15 for several Municipalities.

City	Average Percentage Increase
Cape Town	7.63 %
eThekweni	7.39 %
Johannesburg	7.05 %
Tswane	8.00 %

Energy consumption by Sector

Although the total number of our customers increased by 884 the total energy consumption reduced by 363 GWh, as compared to the previous financial year. The sector-wise energy consumption for the year 2014/15 was, 4 642 GWh (46%) for the bulk customer, followed by residential customers 2 506 GWh (25%), Business & General 2 042 GWh (20%), with the lowest being Other by (1%).

Highlights

- The Pricing Division was once again able to hold back the introduction of IBT tariffs. In eThekweni implementation of IBT would negatively impact Poor and Low income Households as in the majority of situations more than one family lives on a property.
- The Pricing Division was able to increase the Free Basic Electricity tariff as per NERSA's recommended guidelines.

Future Plans:

- Lack of knowledge about FBE is of great concern in the department and new key strategies will be implemented in an attempt to increase our FBE customer base for the 15/16 financial year.
- Eskom changed their Time of Use Periods for winter which would have to be implemented in the 2015/16 financial year.
- Due to the drive for "Green" Electricity, the need is arising for the Division to implement Embedded Generation tariffs for residential customers.

CONTACT CENTRE BRANCH

The Contact Centre provides a one-stop faults reporting service, theft reporting, meter reading capturing, load-shedding queries and gives assistance in the use of prepaid meters, vouchers and other administration enquiries supporting eThekweni Electricity with service delivery. Feedback to customer queries is provided on an on-going basis.

Highlights

We launched our new telephony system in November 2014. This has improved the performance of all our call operations. We are able to provide detailed statistics of all voice call interactions. It also houses call recordings which enable us to do call quality monitoring and assessments. It provides statistics of all agent activities, thus assisting in managing agent behavior and improving service delivery. This system has also minimised our telephony downtime.

- Our footprint of email/SMS and other electronic media has grown dramatically in the past year, indicating that the introduction of these communication platforms was indeed an excellent idea. This has done so well that in June 2015 we have officially added other Contact Centre service onto the website.
- All Contact Centre staff members were taken for an educational field trip. The idea was to get the team to the street to “touch and feel” various electricity equipment as part of training so they can be better equipped to assist our customers. This proved to be very successful and as a result we experienced a significantly reduced number of proven customer complaints. We have also been receiving compliments from customers, which is evidence of good performance.

New technologies

We are still in phase two of launching our Contact Centre solutions. Outbound and correspondence functions to be deployed soon.

Challenges

- The big challenge we foresee is continuing to operate without a full complement of staff which we are addressing at present.
- We have also seen a more positive relationship between the Contact Centre, Customers and our other internal departments, such as the Depots and the Network Control.

Achievements

- We received verbal compliments from members of our executive and other sections, citing that they have been very impressed with our service as our response times were noted to have dropped significantly, consumer complaint escalated to Senior Management and the Heads of the departments have also been significantly lower in the 2014/15 financial year.

METER ENGINEERING BRANCH

The Meter Engineering branch is responsible for metering the bulk supply customers, which accounts for about 38 % of revenue. In addition to maintaining the metering of these large power users, the Meter Engineering branch is also responsible for clustered metering installations.

The branch is further responsible for the acquisition of meters and metering systems equipment, to cope with the demands of new technology and revenue protection challenges. All meter upgrades, and new installations, in the industrial and commercial sectors, are undertaken by the branch.

The Meter Engineering Workshop is responsible for the repairs, testing and calibration of conventional and prepayment meters. Batch sample testing is done for new meters that are purchased.

The aim and strategy of the Meter Engineering branch is to provide an efficient metering service to our internal and external customers by implementing new technologies and ensuring that there is compliance with recognised metering standards.

Highlights

- The implementation of Advanced Metering Infrastructure (AMI) has already commenced and, currently, we are deploying phase one: Prepayment Vending System module which will be fully- functional by December 2015. The second phase will consist of a Multi Vending Management System (MVMS) and Automated Meter Reading (AMR) module for bulk metering. The third and fourth phases are the integration of the Meter Data Management System (MDMS) to current relevant systems. The entire AMI system is scheduled to be fully functional before July 2017.
- The process of upgrading the Metering Workshop Equipment (meter test benches) has already commenced and the setup of high technology test benches for the testing of conventional and electronic meters will be fully functional before July 2016.

Future Plans

- We will develop a closer working relationship with stakeholders and review all work processes. Our focus will be on creating and reinforcing effective policies and procedures to provide an improved service level. We will finalise the documentation and formalisation of all the installation and commissioning procedures that have been implemented in recent years.
- We will commence with a full scale audit of the top ten industrial customers to verify that they are being correctly billed. This exercise will provide skills transfer to our junior technical staff and equip them with the necessary skills to conduct such audits. The overall goal is to complete the auditing of at least the top-ten bulk metering installations that the branch is responsible for.

CUSTOMER SERVICES BRANCH

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

Highlights / Lowlights

RMS (REVENUE MANAGEMENT SYSTEM)

The "RMS System" is being tested before launch and senior Customer Services administration staff are assisting when required to ensure that Electricity's concerns are addressed. There have been delays in the RMS project and staff are working extra hours to cover up the lost time. The Customer Services Branch is bracing itself for final testing and intense training to ensure a smooth transition from Coins to RMS.

NEW APPLICATIONS

The ongoing provision of "RDP" Housing as well as the electrification of Informal Settlements 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 Customer Services and Finance Departments and the Depots, and will be ongoing in this new financial year with new improved methods of communicating with Housing.

METER READING

We investigated the market for new meter reading hand-held units due to the current high costs of maintenance and replacement of the present units. A cheaper local manufacturer was sourced. These are currently being utilised by the Electricity and Water Departments.

IMPROVING SECURITY

In view of the high crime rate, Customer Services Centres are always improving security for both their staff and customers. New cameras are being rolled out to all centres.

New and exciting technologies employed within the branch to enhance productivity, ACCOMMODATION

A new Customer Service Centre was opened at 15 Twilight Avenue, Umhlanga Ridge. The Customer Services Branch has identified the above property to be suitable for the relocation of the Northern Customer Service Division to the North of Durban for the convenience of customers, due to the expansion of the region. Presently we service approximately 50 000 residential and 8 000 businesses customers in this area.

All customers from the Umgeni River area, up to and including the Westbrook/Tongaat areas were inconvenienced having to travel approximately 60 kms to central Durban for all enquiries pertaining to

electricity. Approximately 13 000 customers from the Cornubia proposed development, will have easy excess to the new proposed centre.

SMS technology

This has been introduced to capture meter readings by our customers via cellphones. These reading are then captured on the system by staff at the Contact Centre.

Web Page Design

This is being investigated to capture on-line applications, account queries, meter reading capture, token purchases and compliance information is to be displayed. The project is being led by the Treasury Unit.

Rotunda Displays

These large screens will be placed at entrance of the Rotunda displaying all necessary information to our customers regarding applications, queries and tariffs. Once this system is optimized, it will be installed at all our Customer Service Centres.

REVENUE PROTECTION BRANCH

Our Revenue Protection Strategy is a systematic ongoing process, and not a once-off operation, which requires the utility to proactively identify and target customers that actively contribute to revenue losses and to take the necessary action to minimize these losses. The three pillars of successful revenue protection are People, Processes and Technology, which need to be integrated into a Revenue Protection Strategy. The following projects or technologies are implemented by eThekweni Municipality to enhance Revenue Protection.

- Installation of Prepayment Meters (Split)
- Meter Management and Operation System
- Installation of Protective Structures for meters
- Audit of Business Customers.

These projects contributed to the success of eThekweni Electricity and, as a result, we have managed to keep our total electrical losses to 7.7% which is amongst lowest amongst the Metros.

Installation of Prepayment Meters

The installation of a prepayment metering system, and the principle of debt collection via a prepaid meter played a crucial role in affording the poorest of the poor access to basic services, in the process partly alleviating the problem of non-payment of services. It is critical that one devises strategies that complement each other to ensure sustainability. We strategically targeted poor customers, who are struggling to pay

for their services, to install prepayment meters. The majority of them are exempt from paying rates and their water consumption is low, as a result, they pay very little for water or they do not pay at all, due to the 6klrs free that they qualify for. It thus, makes sense, to encourage these customers to install prepayment meters. The following are the advantages of a prepayment metering system: - Can budget for the cost of the usage of electricity; can purchase electricity for as little as R 5; there are no shocking bills at the end of the month; you use only what you can afford, and pay for it in advance, your meter indicates which appliances use a lot of electricity, your meter indicates the credit you have left in your meter; when your electricity runs out, your meter switches off automatically. Thus, you will not incur any debt by using electricity for which you may have no money for, as with the credit meters. Also there will not be any reconnection fees, penalties and interest charges, as there will not be any arrears.

Split Prepayment Meters that use Power Line Carrier (PLC) Technology

The split prepayment meter that uses power line carrier (PLC) technology is the electricity prepayment system that totally eliminates the need to install a dedicated communications cable. Instead, communication between the externally fitted Remote Energy Dispenser (RED) and internally installed Customer Interface Units (CIU) is achieved via existing mains cables.

This means that when you need to replace conventional meters that were installed using cables without a dedicated communications cable, there is no need to retrofit house service mains with communications cable. These meters communicate using advanced Power Line Carrier technology, which is widely used throughout the world as a method of communication for home automation systems. The ability to use standard household wiring makes this an extremely attractive and cost-effective technology, ideally suited to the retrofitting or replacement of conventional meters. We decided to install split prepayment meter that uses power line carrier (PLC) technology as our standards.

Remote Access Solution - Split Prepayment Metering

Benefits:

- Fraud notifications (e.g. tamper condition)
- Auditing the prepayment meter remotely
- Interrogate individual meter registers
- Graphical display of consumption patterns
- Power-failure notifications from the mini-sub
- Check-metering to determine non-technical losses
- Reports on low consumption
- Two-way communication with the prepayment meter - send maintenance tokens to the meter

The Remote Access Terminal (RAT)

- The RAT is a three - phase PLC Data concentrator

- Is able to monitor the PLC meter communications between the meter and its Customer Interface Unit
- Real Time Clock (RTC) functionality
 - Date and time stamped (Meter and RAT) events
 - Storage of 30 minute profile data
 - Implementing scheduled actions (such as data upload)
- Configured events are uploaded as they occur
- Meter data is uploaded according to time table
- Enables two-way communications with certain prepayment meters

The Solution - Meter Management and Operation System

EThekweni invested in a structured Revenue Protection branch with three regional offices and field teams reporting to each office. They focus on reducing losses over our entire supply area. Prepayment metering has many challenges, which we have addressed and addressing as follows:

- One Central Master System that reconciled all records
- A structured field audit with the aim of updating all pre-payment, as well as residential credit meter records
- An integrated Work Order system to manage all follow-up field operations and record updates
- Data Reporting and Data mining to plan and execute a pro-active Revenue Protection program

With more than 300 000 pre-payment meters under our management, field operations and data management could quickly become a daunting task. A high level of data validation and seamless system integration would be required.

The field operations consisted of two separate, but integrated actions. The first action was the physical meter audits. The primary aim of the audit was to update the meter records and to identify each meter position with an accurate GPS coordinate. The audit teams would first complete the work in a small designated area before the second action was initiated. This follow - up action was to address all required remedial field work identified by the initial audit. These operations are executed by a separate, specialised, normalization team. The advantages of this approach include:

- The audit team could focus on the data acquisition and their productivity is optimised.
- There is a negative impact, with limited access, when tamper disconnections are started. By first completing the audit sweep the access rate was much higher.
- Fraud was limited, since there are no incentives to bribe the audit team not to report anomalies.
- The audit team has no direct contact with the normalisation team.
- The normalisation team's skill set was selected towards the remedial tasks to be performed. An electrician's time was not wasted by being held back by the overhead of a full data audit.

We embarked on a program to normalise our pre-payment data set, and in parallel, launched a paperless works order system to follow up on all remedial tasks identified through this project. We are now in the position to run an intelligent revenue protection program based on back office analysis and targeted inspections. The positive results are already evident and the future returns should be even greater. The success of the operation can be measured by having the correct building blocks in place comprising:

- People - A project can only be effective with committed and dedicated resources
- Processes - The correct processes and procedures established at the start of the project are essential
- Technology - This is the last element, but it is only effective once the first two pillars are in place. Investing in technology on its own will not ensure success.

Protective Structures

In some instances Meter Room doors (Steel) are vandalised. As a result, customers were continuously tampering with electricity meters and illegally, or dangerously, connecting cables onto our electricity supply network.

In areas where vandalism is rife, we decided to install Vandal-Proof Meter Room Doors, or Protective Structures, with an electronic locking system. These Structures are designed with external hinges and an internal locking system. The design is such that with the hinges removed the door cannot be opened. Benefits:

- Asset Protection to ensure minimal energy losses (non-technical)
- To prevent unauthorized access and damage.
- Enclosure has high security features.
- It can be monitored and controlled remotely.

Audit of Business Customers (CT-Driven Installations)

The annual financial losses to energy suppliers caused by connection errors in meter installations are not to be neglected. There are many possibilities in making incorrect connections during installation. In many cases, installation faults are rarely discovered at the time of billing and, sometimes, not recognised for many years. This results in considerable losses to energy suppliers.

In the energy market the meaning of correct energy billing becomes even more important, especially because more parties are involved in this process.

It is imperative that utilities provide the necessary training to the Revenue Protection and Meter Engineering staff, set out procedures for the re-commissioning and verification of measurement and metering equipment, and to provide the standard tools and test equipment required by technicians to perform their tasks, to ensure that the required safety and/or quality standards are practiced.

The policy that defines the criteria regarding planned maintenance on electricity metering and measurement equipment needs to be adopted to ensure that utilities comply with NRS 057 and the Electricity Metering Code of Practice.

The Revenue Protection branch conducts annual audits to verify measurement and metering equipment and analyses the circuit faults found during the verification process.

Strategy

The strategy adopted is to ensure that the Revenue Protection & Meter Engineering branches work hand-in-hand and have the resources, equipment, skills and ability, to carry out re-commissioning and verification of measurement and metering equipment and to maintain a high level of equipment security by sealing the metering equipment with appropriate seals, in accordance with the Code of Practice of eThekweni Electricity on the sealing of metering equipment.

Circuit-Faults in Meter Installations

The “Circuit faults “ means that there is a fault that affects the correct functioning of the meters, but does not affect the supply to the customer (i.e. wrong connections, open circuits & short circuits). For this project, the audit inspectors go beyond just identifying “Circuit faults”, but they also identify any tampering that might have taken place in the metering and measuring equipment. They also do an office audit on each installation’s documentation to verify the following:

- Correct meter number captured.
- Correct CT ratio programmed on meter.
- All CT currents are present.
- Correct VT ratio programmed on meter.
- All voltage phases present.
- Correct tariff used.
- Good condition of metering panel.

A shortage of resources remains a challenge in the industry but despite these challenges, correct meter reading are vital for utilities to avoid a loss in revenue. EThekweni Electricity uses experience and qualified staff or consultants to perform all the necessary audit inspections to ensure that meter errors do not go undetected.

HUMAN RESOURCES

Provides guidance and human resource support to employees and the Unit

The Human Resource Department is responsible for providing guidance and support to the employees of eThekweni 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.



HUMAN RESOURCES SERVICES BRANCH

This Branch provides a service to the staff of the eThekweni Electricity Department in the field of Talent Management and Acquisition, Industrial Relations, Employee Welfare and Pay Administration.

Highlights

- HIV and AIDS campaign was held in December 2014 at all depots to create awareness and provide wellness interventions for Electricity employees.
- The implementation of e-performance was successful in some departments.
- The Pay Administration Branch and Recruitment Branch were relocated to the ground floor of the HQ building in order to be more accessible to staff.
- The table below represents the demographics which eThekweni Electricity achieved by the end of the 2014/15 financial year.

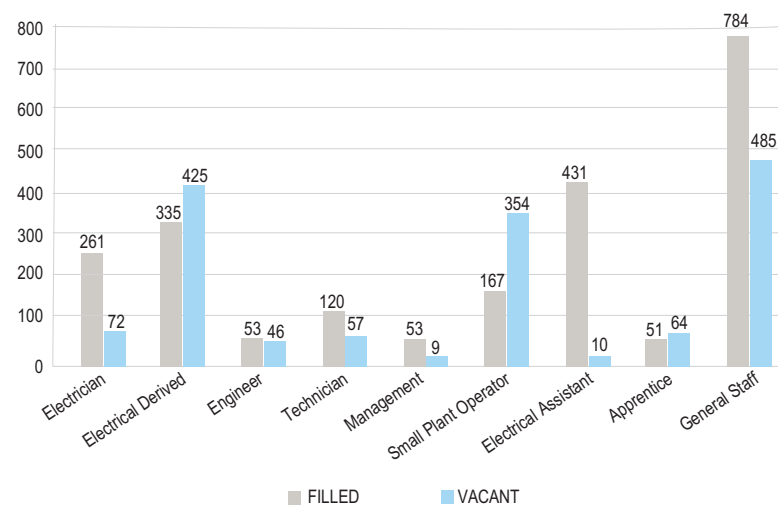
The HR Business strategy going forward will be to revive talent management in terms of succession planning, continue implementing the other modules of the HR Systems such as the online leave application module.

Occupational Levels	Task Grades	Strength	Whites				Indians				Coloureds				Africans			
			No.	%	M	F	No.	%	M	F	No.	%	M	F	No.	%	M	F
Top Management	29 - 25	5	12	0%	1	0	3	60%	3	0	0	0%	0	0	1	20%	1	0
Senior Management	16 - 18	39	4	10%	4	0	27	69%	25	2	1	3%	1	0	7	18%	6	1
Professional Qualified / Experienced Specialists	14 - 15	65	7	11%	7	0	26	41%	20	6	2	3%	2	0	29	45%	24	5
Technical / Specialist	9 - 13	877	87	10%	83	4	294	34%	275	19	55	6%	48	7	430	50%	342	88
General Skills	4 - 8	1255	24	2%	11	13	201	16%	131	70	45	4%	27	18	978	78%	616	362
Basic Skills	1 - 3	6	0	0%	0	0	0	0%	0	0	1	6%	48	7	430	50%	342	88
TOTAL PERMANENT		2247	123	6%	106	17	551	25%	454	97	104	5%	79	25	1450	65%	991	459
TOTAL NON PERMANENT		17	14	82%	14	0	1	6%	0	1	0	0%	0	0	2	12%	1	1
TOTAL		2264	137	6%	120	17	552	25%	454	98	104	5%	79	25	1452	65%	992	460

Challenges

- The implementation of the Employment Equity Plan that was effected in September 2014 focused on the recruitment of females and people with disabilities impacted on recruitment progress. Females in technical posts are a scarce skill that requires talent management initiatives.
- The introduction of the new LRA in terms of temporary recruitment impacted on several department where temporary employment services were limited.
- While eThekweni Electricity actively recruited staff during the financial year; it saw a decrease of 48 staff in its overall staff compliment. This decrease is mainly due to Technical Staff being offered better packages in the Private Sector.

Recruitment Graph



Future Plans

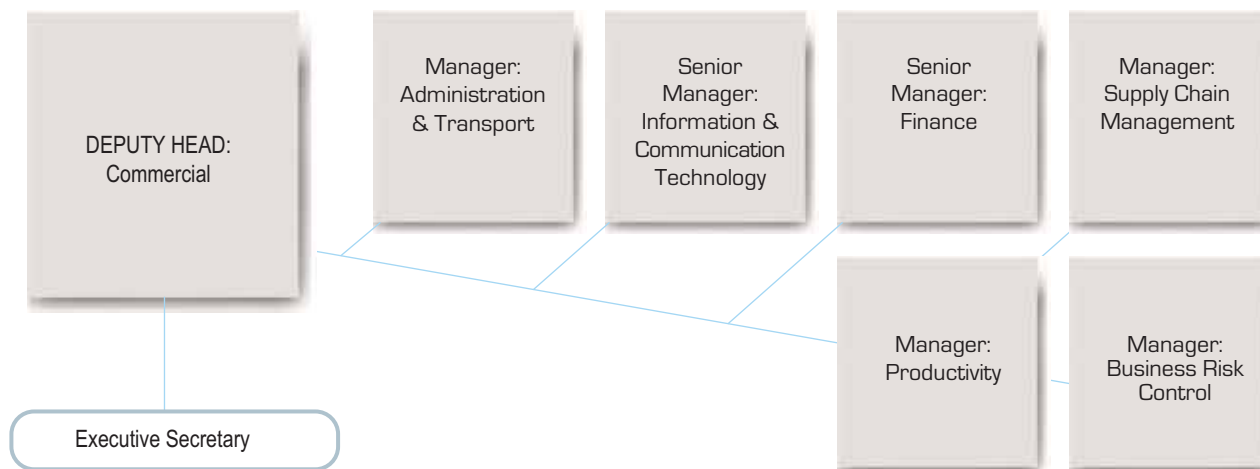
The HR Business strategy going forward will be to revive talent management in terms of succession planning, continue implementing the other modules of the HR Systems such as the online leave application module.

COMMERCIAL

Ensures that legislative practices, controls, policies and procedures are adhered to

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 eThekweni 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 practices, 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.



ADMINISTRATION AND TRANSPORT BRANCH

The Branch offers a support service, in respect of Administration, Buildings, and Fleet. The Administration Section is responsible for various administrative functions, which include the management of documents, in compliance with the Archival Act, word processing of letters, reports, contract documents and transcribing of meetings, disciplines, travel arrangements for staff, the Telephone Management System/PABX, CCTV for site security and the micro-filming of electricity application forms.

The Building Section is responsible for the security, maintenance, and the safety of the assets/personnel on various Buildings, viz, HQ Complex, Springfield Complex, Network Control Complex, Training Centre, Poleyard, Umhlanga Customer Services, PRASA, and Pinetown Customer Services. The provision of additional office space/accommodation and parking areas are a major challenge. Current interventions are being implemented, which include the completion of the Standby Accommodation facilities at the Springfield Complex, the opening of a new Customer Service Centre, Umhlanga, and the commencement of the Control Building upgrade, which include two additional floors to cater for the Network Control. Future plans in progress, is the new Building at the Training Centre, and refurbishment of an existing building, for the Customer Services Operations in Pinetown.

The Fleet Section is responsible for the acquisitions, servicing, maintenance, usage, and disposal of the Electricity Service Unit Fleet. The current operational fleet size is approximately 1 047 vehicles/plant, consisting of various types of Cranes, Aerial Platforms, Trucks, Bakkies, Cars, Generators, Trailers and Compressors. The majority of the fleet, are specially modified vehicles, which are adapted to best suit the operational work activities, undertaken by staff.

The major challenges experienced, are the changes in legislation new technology and vehicle availability. Standardisation and improved vehicle design/s have greatly improved the turnaround time of vehicle availability. A program of continuous Driver Training was introduced, to ensure drivers are abreast with technological advances, in the operations of specialized vehicles.

INFORMATION AND COMMUNICATION TECHNOLOGY BRANCH

The 2014/2015 financial year has again proved to be a challenging year for the I.C.T department. Dominated by the implementation of the eagerly anticipated Ellipse 8 Enterprise Asset Management System, ICT resources have been stretched to the limit in ensuring that this major business initiative was a success. Ellipse 8 is a technology leap forward when compared to the previous version, as it has been re-written using modern software development technology, and is hosted on a completely new, hardware and software, technology stack. The improvements in the software include a modern, browser based interface that makes for a more consistent look and feel whilst eliminating the reliance on the client PC for certain components. This has resulted in a far more reliable and manageable solution.

The new system architecture has however brought its own challenges in that it has demanded re-skilling of already limited ICT Resources. Notwithstanding these challenges, the implementation in March 2015 was successful with data migration and end user training being significant undertakings due to the sheer scale. There are however still a few issues that require resolution and ICT are hard at work together with the Vendor, to address these. Although significant effort has been expended on recruitment, human resource capacity and the slow pace of recruitment remains a concern in all divisions in ICT and will remain a key internal focus for the department.

Facilities

The role of this Branch within ICT is to ensure that there is no disruption of critical systems and to oversee data centre operations, physical security, facility management, hardware and equipment maintenance, administration of servers, database infrastructure

The completion of the long awaited Data Centre in Westville is expected at the end of November 2015. The new datacentre is a Disaster Recovery Centre for all eThekweni Electricity IT systems to improve the security and availability of all information systems as part of business continuity plan. Continued improvements in the governance of ICT at Electricity has been achieved with ongoing improvements being made in Change Control Processes and the monitoring and management of system changes. There has been a progress in the recruitment of IT business Risk Officer whom will be assisting in area of ICT governance at Electricity.

The Data Centre Operations division still suffers from human resource constraints and remains a key focus and deliverable for the Data Centre Operations Manager.

Development

The recruitment of Development Manager which was a long standing vacant post has been successfully filled. We are anticipating to receive 2 x Application Analysts by October, as the recruitment process started and had went through all stages, now waiting for HR to issue letters of appointment to the 2 candidates.

Since the inception of this Unit, Software development has largely been outsourced due to capacity shortage, and the appointment of these 2 Application Analysts will enable progress to be made in the insourcing of some systems development and this will enable an improvement in Electricity's capacity in the Development area.

Although we subscribe to the principles of implementing Best Of Breed packaged solutions, there will always be a need for some bespoke software development, particularly in the very specialized area of Software Integration and Data Interchange. It is therefore important for the Development section to build capacity, to enable the achievement of our ICT Strategy.

Support

A significant amount of work has been done with the upgrading of the Novell back end environment. This includes the following: GroupWise, Vibe, eDirectory, LDAP, Redline, Sentinel and Identity Management. A new Password Self Help System was implemented which has reduced the amount of users contacting the helpdesk to request assistance on locked accounts and denied logins to the system. The Windows 7 roll out has been completed to all Electricity sites and ICT Support are currently working on a Microsoft Windows 10 roll out project, which will be ready for testing by December 2015.

The move to the Virtual Machine (VM) platform is 90% complete with an overall improvement of system stability and has allowed for greater flexibility for future growth. The use of VM's has benefited directly in cost savings on new hardware in the data center and helped reduce electrical power and heating within the data center.

The Genesys call center solution was implemented for the ICT helpdesk which also aligns to the main contact center, this solution offers common telephony features including announcements and media playback in conjunction with hunt groups, ring back tones, "Call Park", 3-way conferencing, and others, while helping to streamline the administrative burden often associated with call centers. The erection of an electronic wall board in ICT has improved the ability of the helpdesk operators to improve call wait times and give an overall improvement of service to our customers.

The good progress made in the recruitment of ICT Support Officer's in 2011/2012 has resulted in continued improvements in the quality of service to the end user. The formalising of the Support portfolio of services and the documenting and improvement of the processes in Support continues and has resulted in improvement in the maturity against the control objectives set out in COBIT for ICT Services Management. The upgrade to Windows 7 is progressing well with minor issues being reported and resolved.

Network

Information and Communication Technology Data Networks had another extremely busy and pressurised year - We made service available with current technology advancements, aligning with our enterprise needs and ensure a commendable uptime on service availability to the customer. Areas of improvement included voice, data, video communication, wide area networks, and wireless. We embarked on no less than 13 new and several ongoing projects focused on customer and overall service delivery improvements. They ranged from: continuation of the POE infrastructure upgrade on edge devices, ISE security improvements, extension of Wi-Fi zones, temporary relocation of the Chatsworth Treasury offices (which included the roll-out of VOIP devices and a Wireless WAN installation with redundancy), upgrades to existing server room infrastructure, DR Centre core and POP establishment - entire Networking Infrastructure, VC upgrading etc. This all was being done whilst an in depth Firewall, Core and Wireless audit exercise was being performed. The numerous expansions and new implementations have no doubt increased the administrative management burden on the limited human resources

Prepayment

Steady growth of Prepayment Customers, approximately to 360 000, has resulted in a linear increase in the number of Prepayment Transactions on the system and therefore resulted in eThekwini Electricity's sales increasing from approximately R 80m to approximately R 100m per month. Although the increase in transactions are significant, there has been no system performance degradation and system availability remained high at 99.98%. The continued expansion of the Super Vendors Point Of Sale footprint has resulted in significant improvement in Customer convenience with additional channels now available to purchase including via the Internet and at certain Bank ATM's.

FINANCE BRANCH

The Finance Branch is responsible for the financial control over all activities of the Department. This includes, inter alia, the management, monitoring and control of revenue, 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 2014/2015 year and the multiyear budgets for the 2015/2016 year onwards were prepared and approved within the stipulated deadlines.

Finance played a pivotal role in the implementation and roll out of Ellipse 8 system which went live March 2015.

The Regulatory Reporting Manuals (RRM) project required by the National Energy Regulator of South Africa (NERSA) was fully completed in the year under review with NERSA expressing their appreciation in the role played by Ethekwini Electricity Finance in the full implementation of this project.

2014/15 Annual Financial Statements are now being audited and the audited AFS are expected to be released in due course. Like in the past financial years, Management expects a clean record and would like to express their appreciation to the dedication and enthusiasm displayed by the staff.

SUPPLY CHAIN MANAGEMENT BRANCH

CONTRACTS AND BUYING DIVISION

The Bid Administration Section administers 197 contracts for the supply of goods and services of which 53 are labour contracts.

The electricity Unit use to purchase non-arc-rated and non- flame retardant overalls via the material management department. They provided a basic level of protection and manufactured using 60% cotton and 40% polyester. Polyester has proven to have highly flammable qualities. Relevant employees from the electricity unit are constantly exposed to working in the vicinity of live equipment such as cable, transformers and overhead lights. The use of 40% polyester overalls with the basic level of protection will not prevent the employee from sustaining serious injuries that may result in death. Hence the eThekweni municipally electricity department has went out to tender to seek clothing that is manufactured with materials that are tested for various arc-rated thermal performance values at accredited laboratories and the use of clothing manufactured with this type of material has proven to significantly reduce burns and prevent fatalities. The use of arc-rated and flame retardant clothing presently ensures that employee's lives are not at risk of serious injuries.

Four appeals were received by the Appeals Committee and were successfully defended.

STORES DIVISION

Stores is a Division within the Finance & Administration Department of Electricity Service Unit, that forms part of the Materials/Buying division.

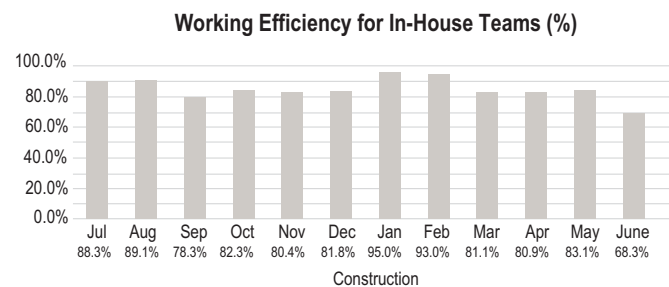
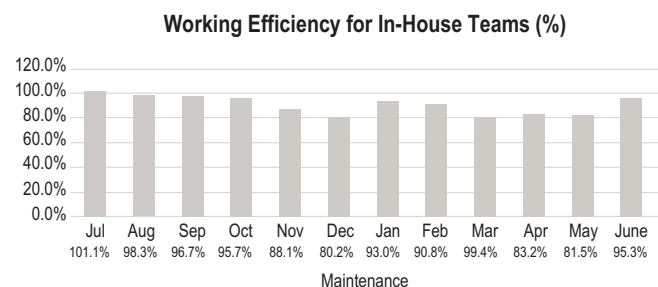
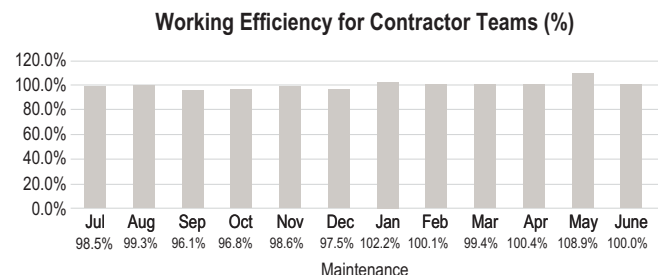
We operate 17 Stores located throughout the distribution area and stock 3 500 items. In addition to the warehousing and issuing of stock items, the Stores are responsible for receiving of all direct (outside) purchases.

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.

With the ever increasing number of contractors working for the Unit, monitoring and 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.

Presented below are the average working efficiencies for the various sections recorded over the past twelve months.



BUSINESS RISK CONTROL BRANCH

The Business Risk Control Branch comprises of the Risk Management Division and the Infrastructure Theft Investigation Division.

The Risk and Compliance Management Division is responsible for the formal identification, evaluation and mitigation of risks within eThekweni Electricity. Compliance to policies and procedures is assessed for the different Departments within the Unit to assist to improve controls by generating appropriate solutions to resolve problems/ issues.

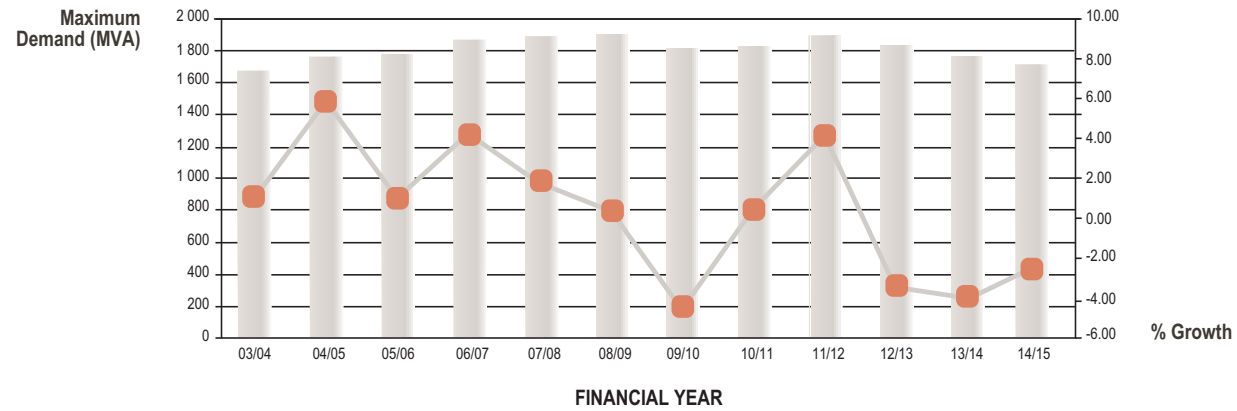
Risk workshops were conducted during the year with all the Departments, where the Unit's strategic and operational risks were identified and assessed. Together with the relevant stakeholders, risk mitigation strategies were designed. The workshop also led to the development of the Unit's risk register which is considered an integral part 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.

The vision of eThekweni Municipality is "By 2030 eThekweni will be Africa's most caring and liveable City" hence, the Enterprise Risk Management strategy was adopted to provide assurance that the risks that might hinder the City from achieving its objectives and its vision, are managed. It is our aim to conduct identification of the Unit's future potential risks with a view to alerting management timeously to ensure that adequate time is available for the development and implementation of mitigating strategies. We will support management in their drive to adopt a zero tolerance approach to maladministration within the organisation.

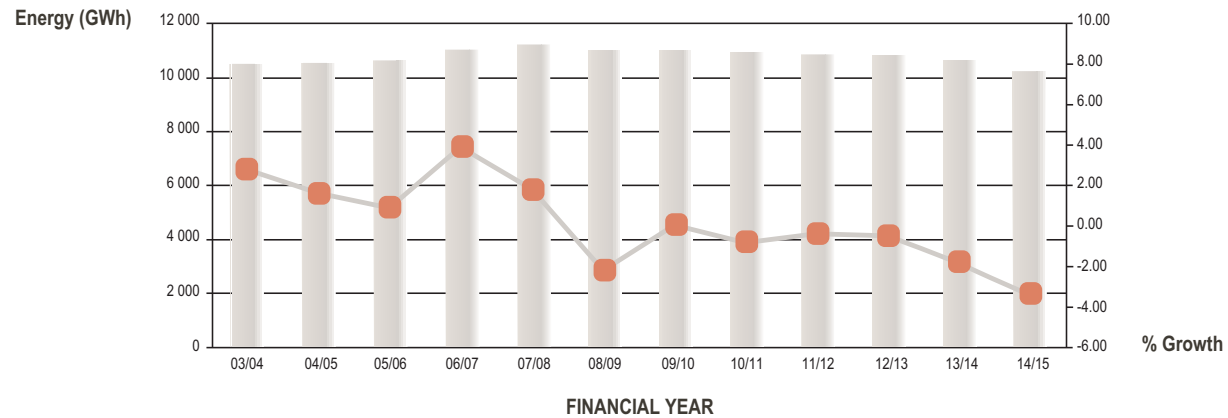
The Infrastructure Theft Investigation Division is responsible for the identification, investigation and mitigation of infrastructure theft on eThekweni Electricity's reticulation network and electrical infrastructure. Special operations were planned in hot spot areas with the assistance of SAPS. A special focus has been on scrap dealer operations in terms of the "Second Hands Goods Act" resulting in scrap dealers being charged and arrested. Currently, the Infrastructure Theft Division is finalising its recruitment processes to ensure that that the division is adequately staffed to respond to infrastructure theft incidents on a 24 hour basis.

Our focus on awareness campaigns will continue, where we campaign in the eThekweni area educating communities and other Law Enforcement Departments regarding the impact of infrastructure theft to the economy and also partnering with them in preventing the theft thereof. The recent changes in the Criminal Matters Amendment Act Bill 2015 will ensure that unlawful and intentional tampering with or damaging and destroying of essential infrastructure will receive a severe penalty, namely imprisonment up to 30 years.

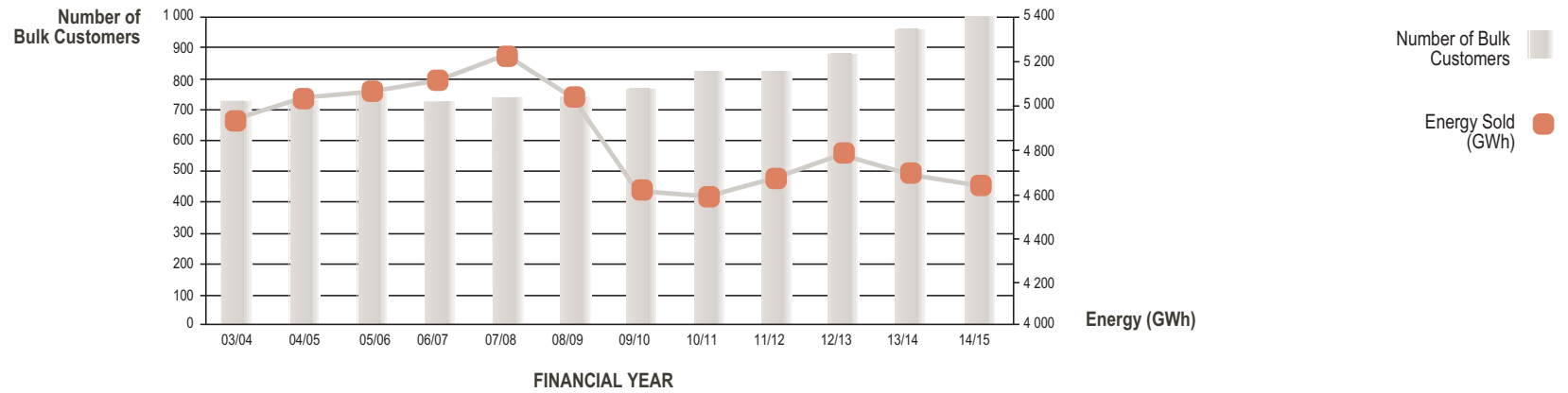
SYSTEM MAXIMUM DEMAND



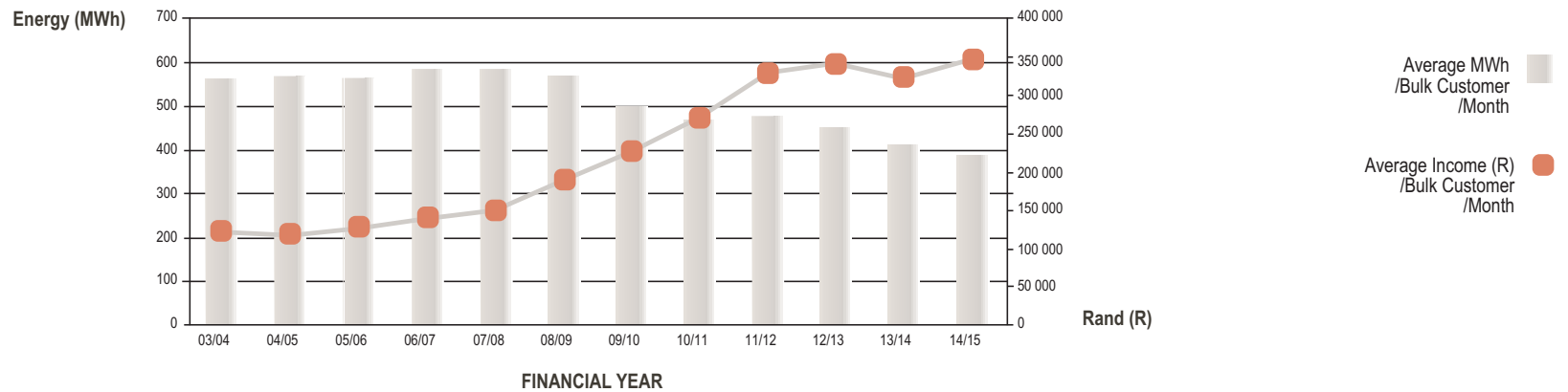
ENERGY SALES PER ANNUM



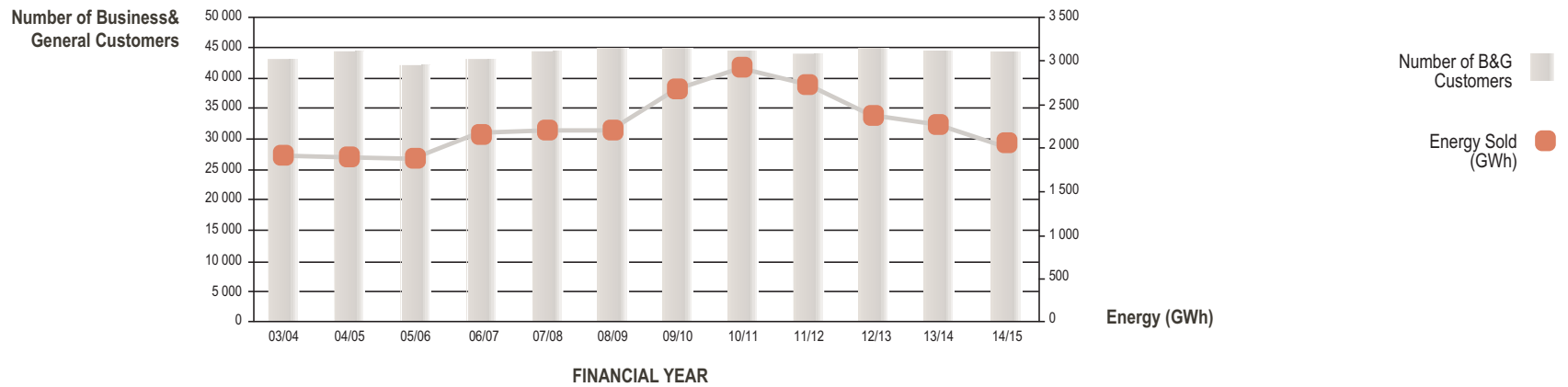
GROWTH OF BULK CUSTOMERS



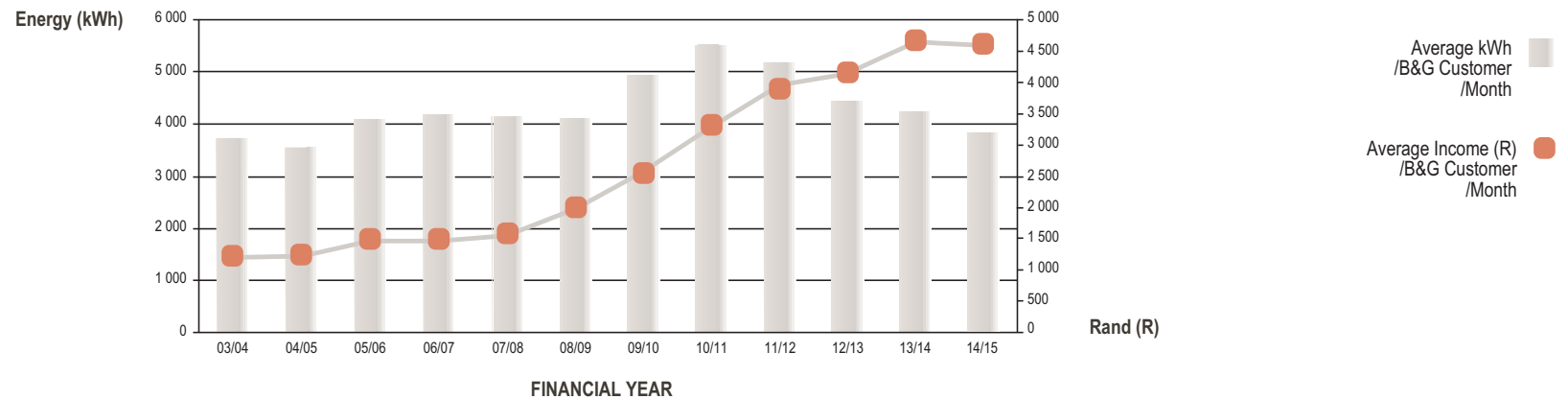
AVERAGE MWh PER BULK CUSTOMER/MONTH



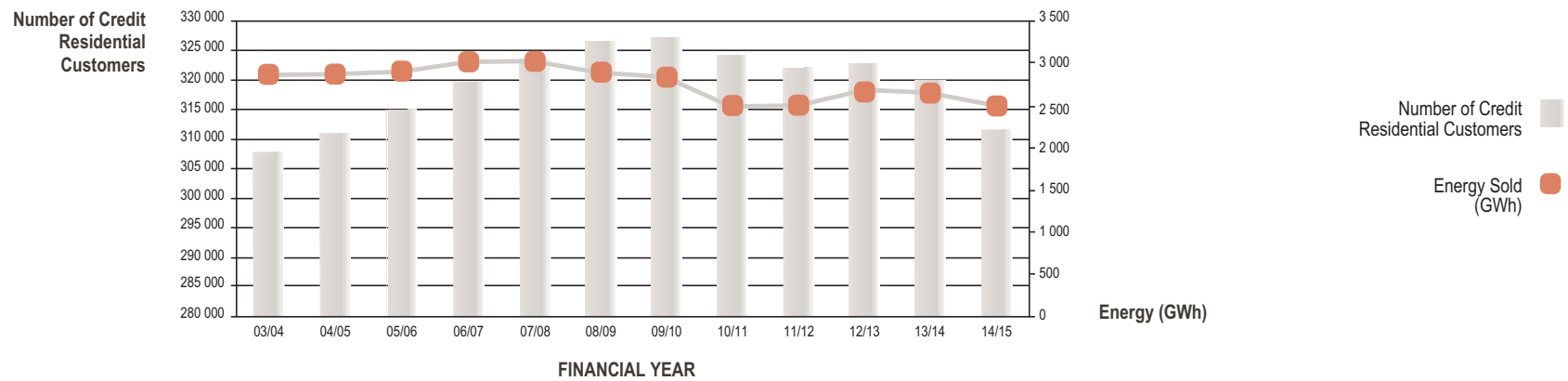
GROWTH OF BUSINESS & GENERAL CUSTOMERS



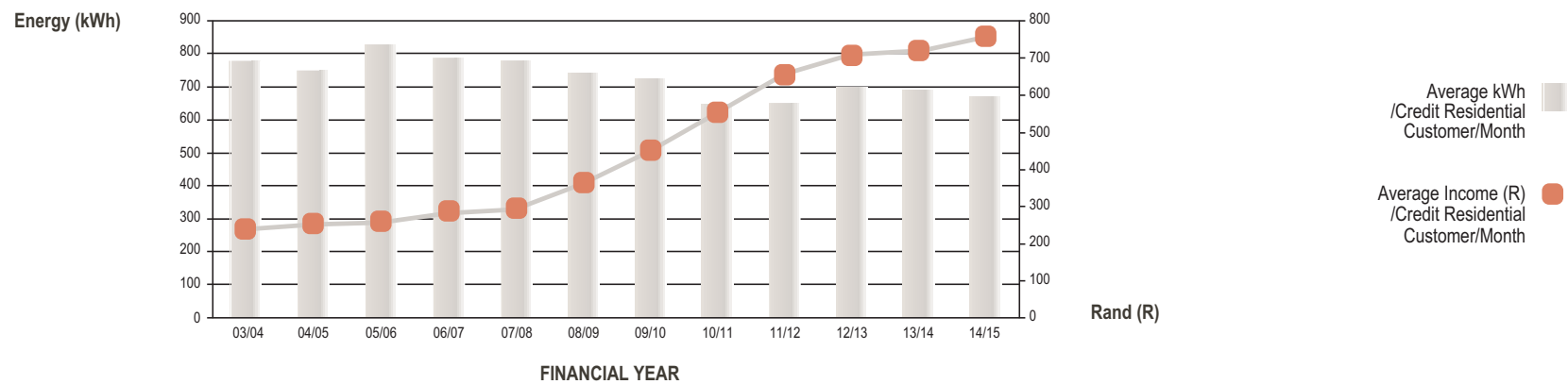
AVERAGE kWh PER BUSINESS & GENERAL CUSTOMER/MONTH



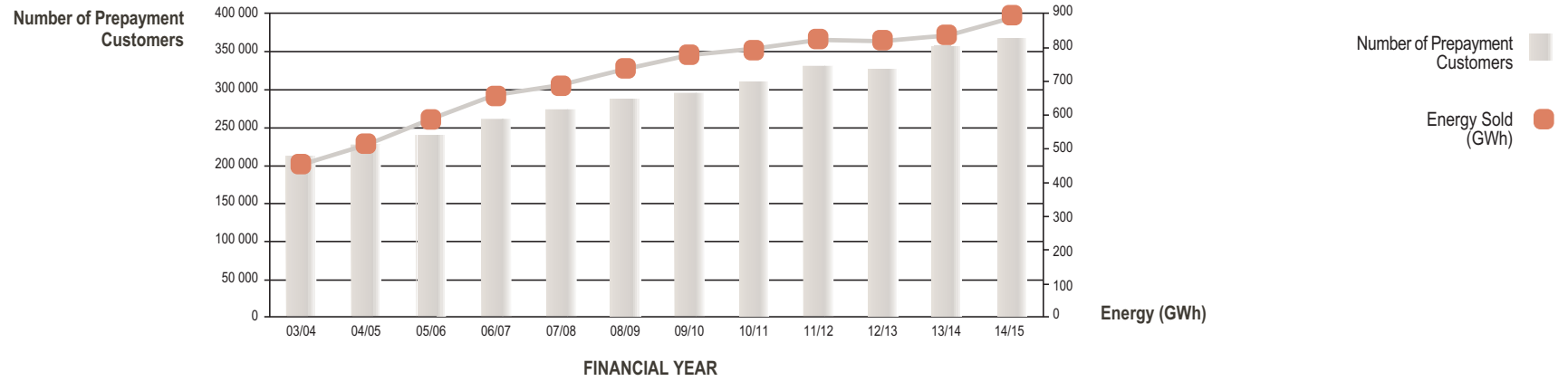
GROWTH OF CREDIT RESIDENTIAL CUSTOMERS



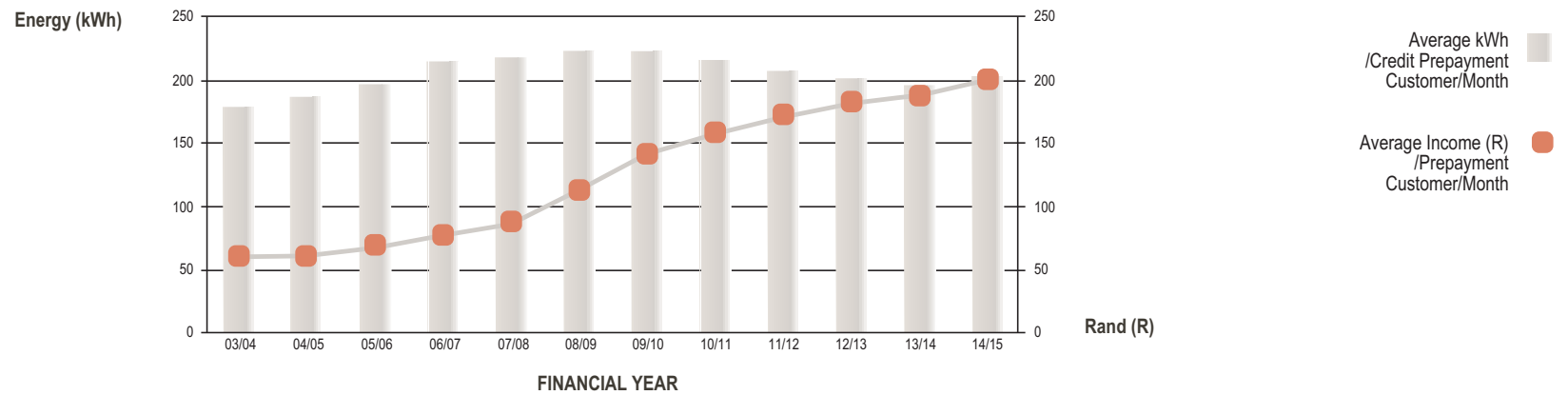
AVERAGE kWh PER CREDIT RESIDENTIAL CUSTOMER/MONTH



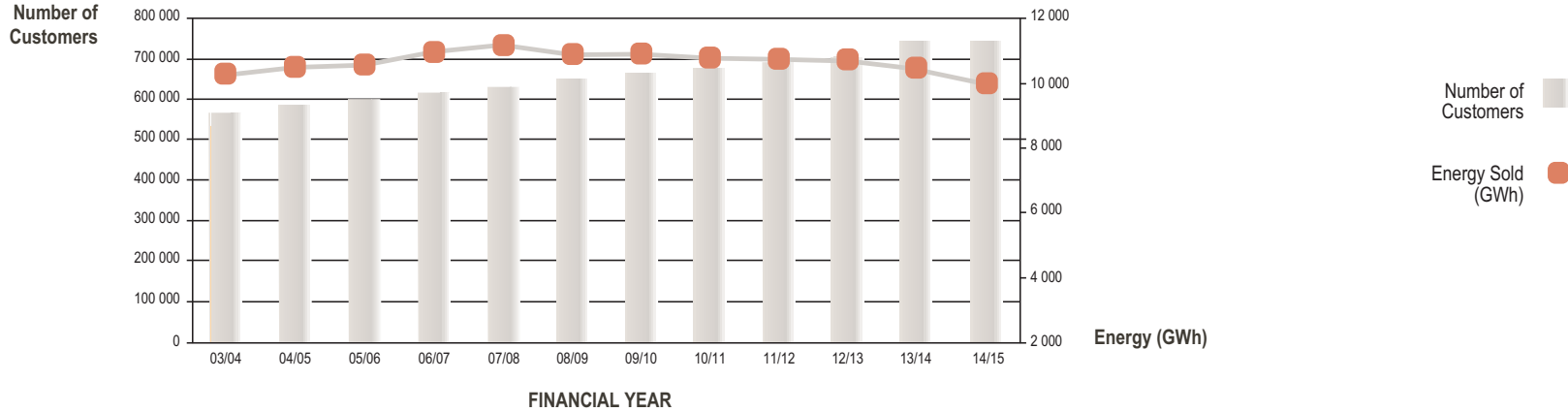
GROWTH OF PREPAYMENT CUSTOMERS



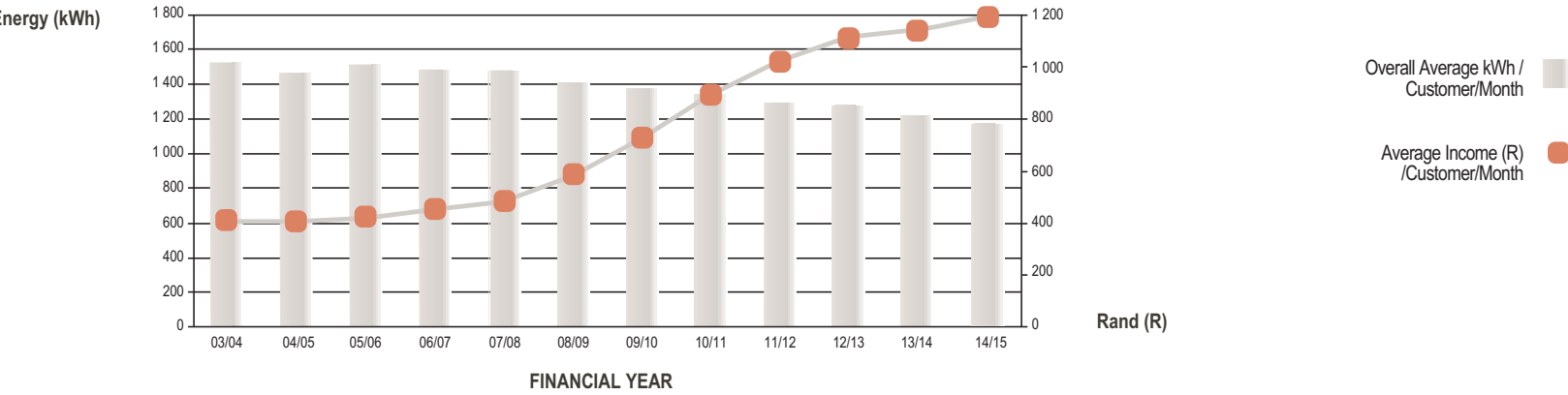
AVERAGE kWh PER PREPAYMENT CUSTOMER/MONTH



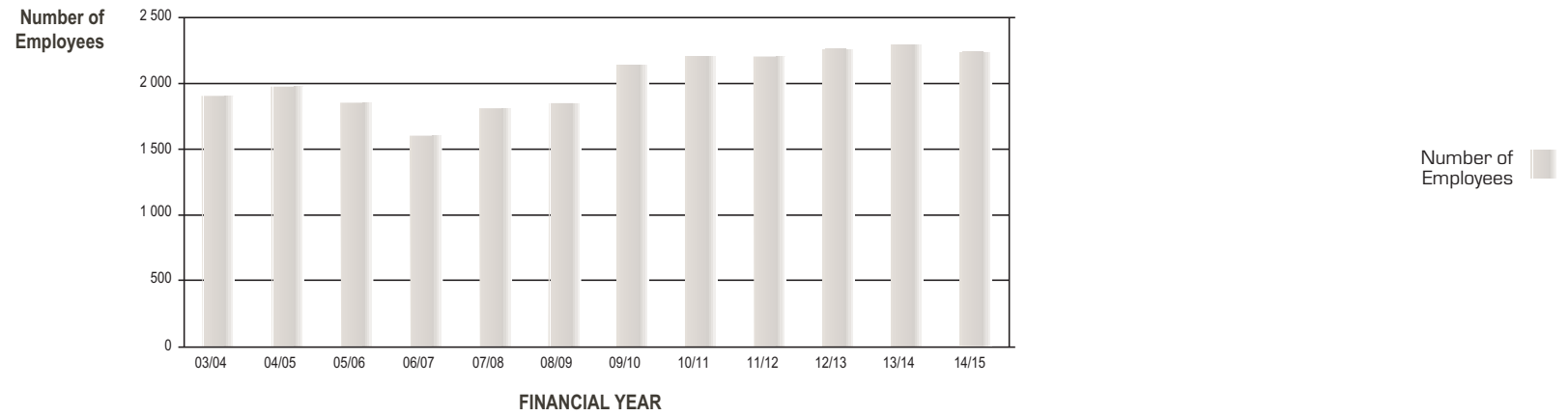
OVERALL GROWTH OF CUSTOMERS



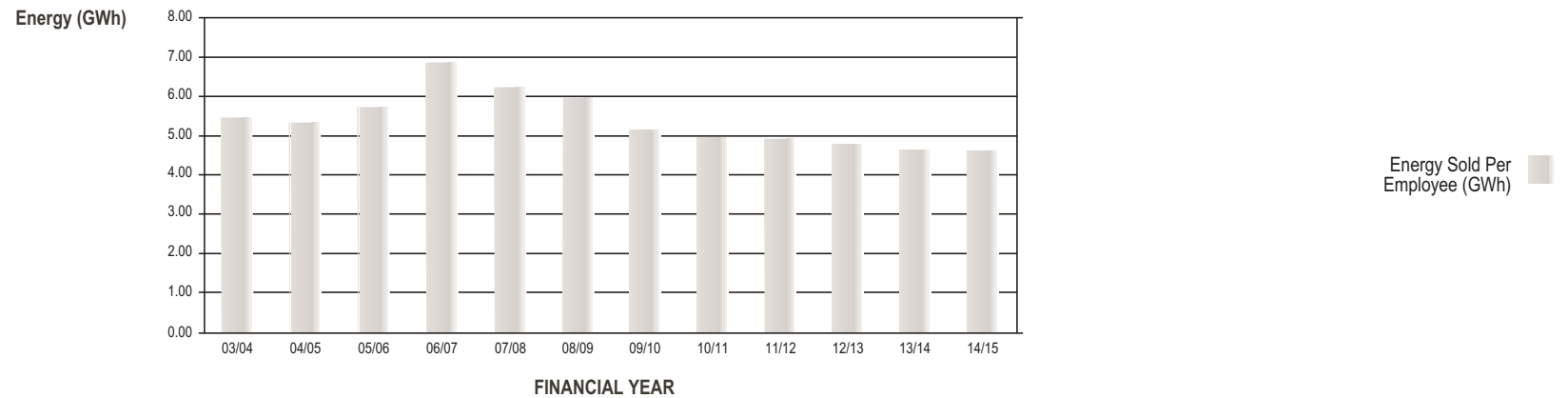
OVERALL AVERAGE kWh PER CUSTOMER/MONTH



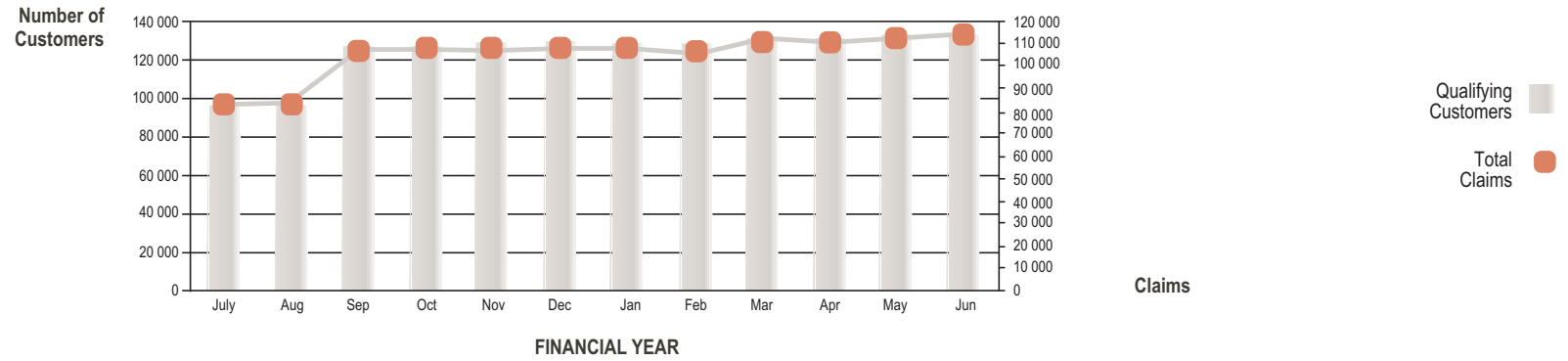
GROWTH OF EMPLOYEES



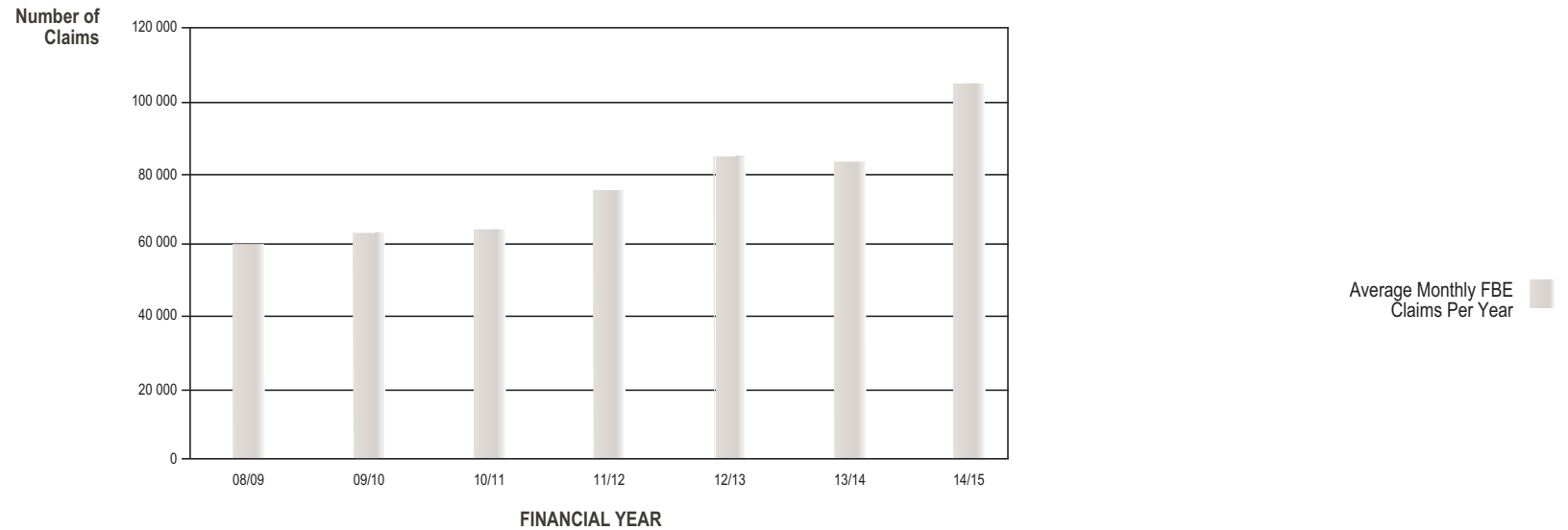
ENERGY SOLD PER EMPLOYEE



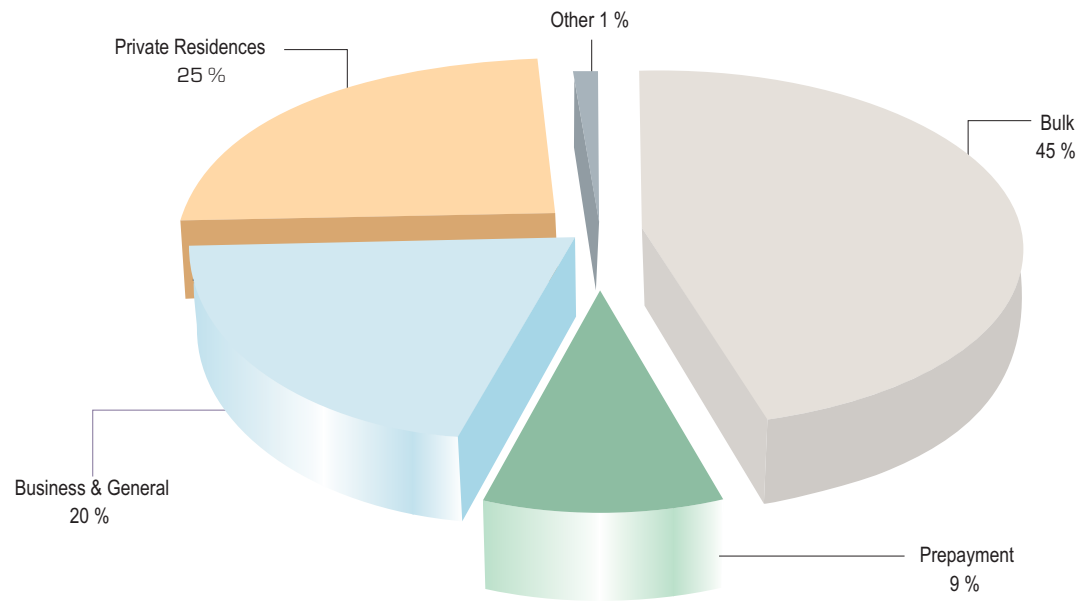
FREE BASIC ELECTRICITY CLAIMS PER MONTH



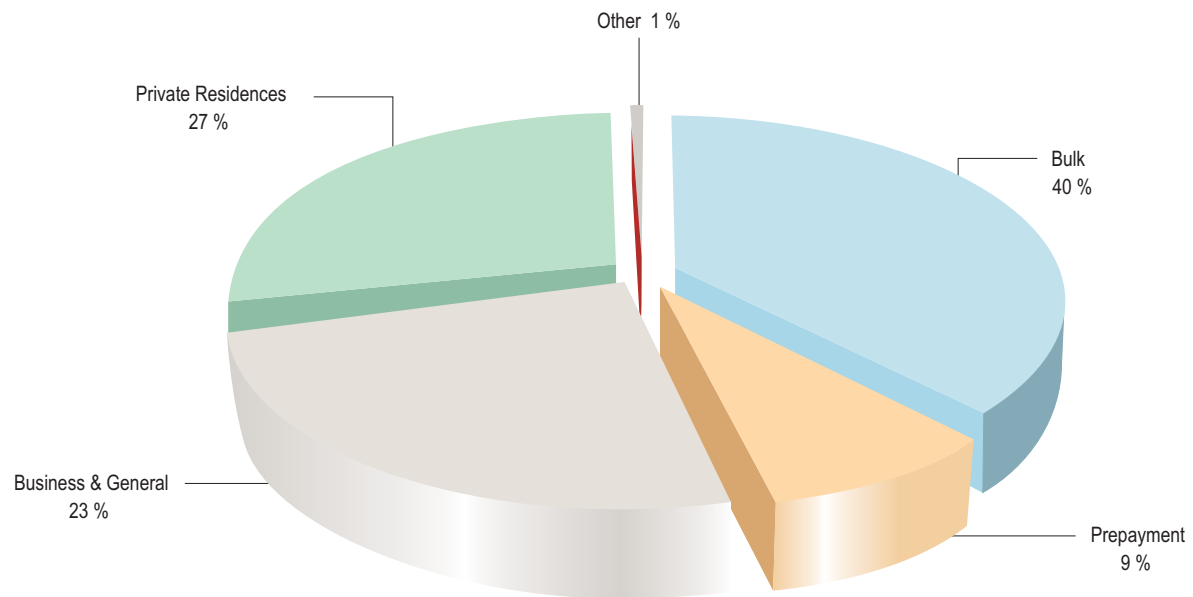
AVERAGE MONTHLY FREE BASIC ELECTRICITY CLAIMS PER YEAR



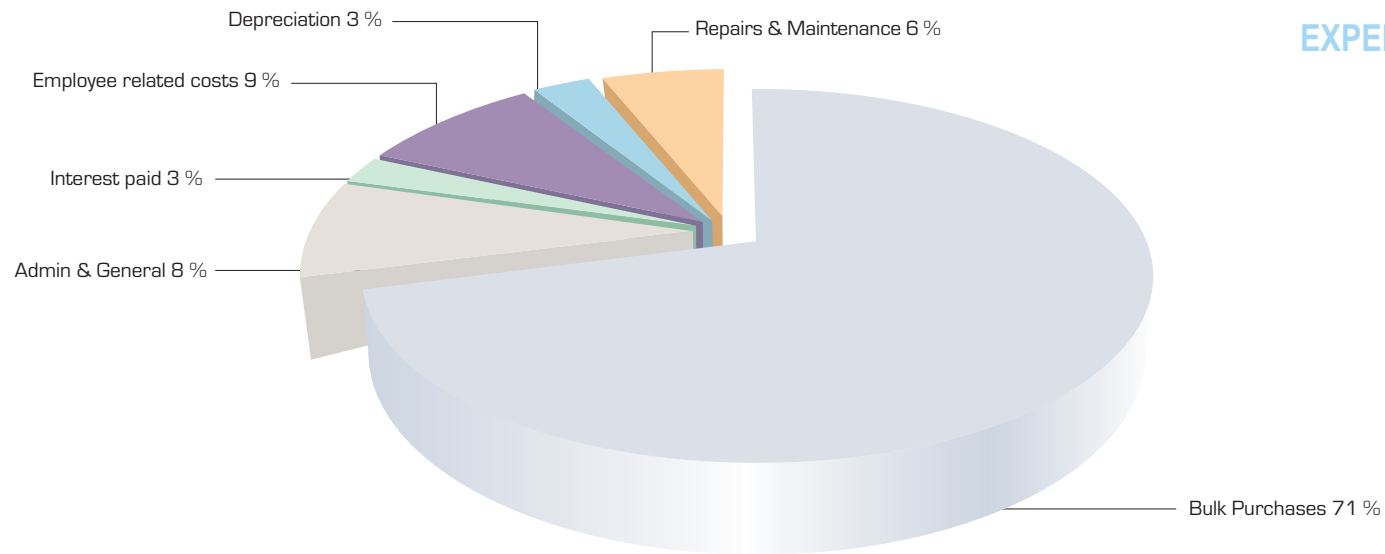
DISTRIBUTION OF ENERGY SALES 2014/2015



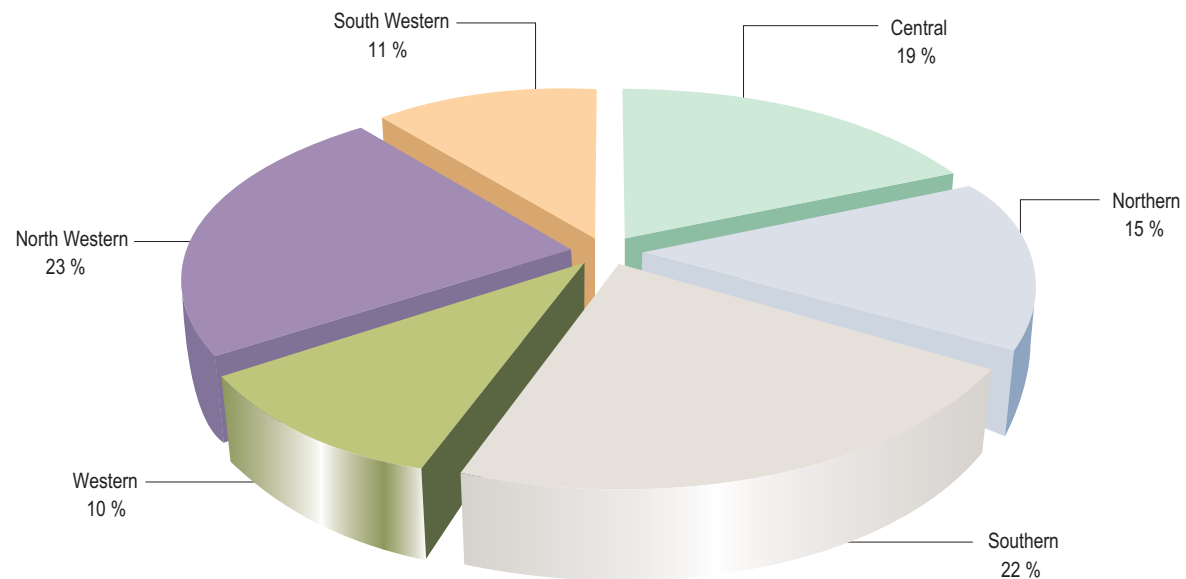
DISTRIBUTION OF REVENUE FROM SALES 2014/2015



DISTRIBUTION OF EXPENDITURE 2014/2015



NEW CONNECTIONS PER REGION 2014/2015



Annual Financial Statements

STATEMENT OF FINANCIAL POSITION AT 30 JUNE 2015

NOTE	JUNE 2015 R	JUNE 2014 R				
NET ASSETS AND LIABILITIES			ASSETS			
Net Assets	6 722 672 375	5 752 787 466	Non-current assets		5 429 278 969	5 174 920 408
Capital replacement reserve	2 869 965 340	2 118 922 737	Property, plant and equipment	5	5 337 800 006	5 086 464 532
Capitalisation reserve	0	0	Intangible Assets	18	70 592 984	67 569 897
Government grant reserve	1 144 020 774	1 092 527 932	Investments	6	20 885 980	20 885 980
Donations and public contribution reserves	204 718 680	189 749 262				
Self-insurance reserve	0	0	Current assets		5 942 936 790	4 953 777 788
COVID reserve	0	0	Inventory	7	141 580 194	105 448 087
Revaluation reserve	0	0	Consumer debtors	8	1 154 553 072	1 002 073 518
Accumulated Surplus/(Deficit)	2 503 967 581	2 351 587 535	Other debtors	9	162 581 111	154 254 378
			VAT	19	0	0
			Bank balances and cash	20	4 484 222 413	3 692 001 804
LIABILITIES			Total Assets		11 372 215 760	10 128 698 196
Non-current liabilities	2 077 187 593	2 067 360 913				
Long-term liabilities	2 077 187 593	2 067 360 913				
Non-current provisions	0	0				
Current liabilities	2 572 355 792	2 308 549 817				
Consumer deposits	1 256 069 174	1 117 295 716				
Provisions	0	0				
Creditors	1 240 501 388	1 135 697 568				
Staff leave	53 702 986	44 007 999				
Unspent conditional grants and receipts	94050 0	0				
VAT	4 22 082 243	11 548 534				
Bank overdraft	0	0				
Total Net Assets and Liabilities	11 372 215 760	10 128 698 196				

STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 30 JUNE 2015

	Note	ACTUALS JUNE 2015 R	ADJ. BUDGET JUNE 2015 R	ACTUALS JUNE 2014 R
REVENUE - exchange transactions				
Service Charges	11	10 358 321 369	10 351 538 780	9 631 514 315
Rental of Facilities and Equipment		475 407	432 360	403 184
Interest Earned		214 167 117	95 005 630	119 328 162
Interest Earned - Outstanding Debtors		29 635 269	25 725 000	26 545 993
Other Income	12	138 785 889	133 599 020	126 666 563
Public Contributions and Donations	00504	8 955 269	15 000 000	15 039 015
Gains on disposal of Prop; Plant; Equip	00505	17 554 106	3 000 000	653 039
Internal Income		255 493 685	266 643 050	255 434 045
Total Revenue from exchange transactions		11 023 388 109	10 890 943 840	10 175 584 316
REVENUE - non-exchange transactions				
Transfer revenue				
Government Grants and Subsidies	13	186 541 089	377 785 090	233 945 964
Total Revenue from non-exchange transactions		186 541 089	377 785 090	233 945 964
Total Revenue		11 209 929 198	11 268 728 930	10 409 530 280
EXPENDITURE				
Employee Related Costs	14	858 991 026	975 102 410	784 379 331
Contribution to Provision for Bad Debts		26 903 696	34 415 670	-2 378 812
Depreciation		281 795 420	285 246 980	244 144 931
Repairs and Maintenance		584 608 343	749 599 970	613 840 961
Interest Paid	15	229 927 177	228 592 100	199 105 322
Bulk Purchases	16	6 716 137 398	6 960 027 770	6 319 701 132
Contracted Services		170 605 599	232 208 890	157 995 204
General Expenses		201 665 944	232 703 720	174 181 200
Loss on disposal of Prop; Plant; Equip	20445	44	1 000 000	148 868
Internal Charges		382 662 989	447 748 800	393 415 232
Total Expenditure		9 453 297 636	10 146 646 310	8 884 533 370
OPERATING SURPLUS				
Cross Subsidisation		-776 762 748	-776 762 660	-715 815 672
Other		-979 868 813	-345 319 960	-809 181 238
SURPLUS FOR THE YEAR		0	0	0

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2015

	JUNE 2015 R	JUNE 2014 R
1. LONG-TERM LIABILITIES		
External Financing Fund		
Development Bank of South Africa	1 536 925 989	1 445 766 984
European Investment Bank	70 724 958	81 338 224
Internal Loans - ESF (FRB)	52 585 424	77 973 818
Nedbank Loans	55 660 187	62 531 309
ABSA Loan	173 121 076	207 247 692
RMB Loan	188 169 959	192 502 885
SLC Stock	0	0
Total External Loans	2 077 187 593	2 067 360 912
2. CONSUMER DEPOSITS		
Electricity Deposits	1 179 568 689	1 055 646 749
Guarantees in Lieu of Deposits	0	0
Interest on Consumer Deposits	76 500 486	61 648 967
Total Consumer Deposits	1 256 069 174	1 117 295 716

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

Guarantees iro prepayment vendors	895 000	895 000
Interest paid on consumer deposits	30 867 797	9 305 001

3. CREDITORS

Trade Creditors	1 151 349 020	1 046 675 325
Payments Received in Advance	41 195 556	33 679 777
Retentions	17 757 239	15 385 556
Other Creditors	29 304 573	39 061 909
Guarantees in Lieu of Deposits	895 000	895 000
	1 240 501 388	1 135 697 568

4. VAT

VAT Payable	22 082 243	11 548 534
-------------	-------------------	-------------------

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

Carrying Values at 1 July 2014

	Land R	Buildings R	Infrastructure R	Plant & Equip. R	Total R
Carrying Values at 1 July 2014	131 531 225	123 703 955	4 489 122 817	342 106 543	5 086 464 532
Cost	131 531 225	157 086 486	6 618 272 205	678 668 044	7 585 557 960
Valuation	0	0	0	0	0
Accumulated depreciation	0	-33 382 531	-2 129 149 389	-336 561 501	-2 499 093 421
- Cost	0	-34 017 586	-2 140 271 370	-365 672 713	-2 539 961 669
- Revaluation	0	635 055	11 121 981	29 111 212	40 868 248
Acquisitions	40 947	11 449 939	439 262 013	83 467 049	534 219 948
Capital under construction	0	11 442 011	6 460 208	-19 127 873	-1 225 654
Increases/decreases in revaluation	0	0	0	0	0
Transfers - Cost	0	0	0	0	0
Transfers - Depreciation	0	0	0	0	0
Depreciation	0	-3 380 983	-202 986 916	-69 639 754	-276 007 653
- based on cost	0	-3 380 983	-202 986 916	-69 639 754	-276 007 653
- based on revaluation	0	0	0	0	0
Carrying value of disposals	0	0	0	-5 651 167	-5 651 167
Cost/revaluation	0	0	0	-6 386 032	-6 386 032
Accumulated depreciation	0	0	0	734 865	734 865
Impairment losses	0	0	0	0	0
Other movements - Intangible Assets - Cost	0	0	0	0	0
Other movements - Intangible Assets - Accumulated Depreciation	0	0	0	0	0

Carrying values at 30 June 2015

Carrying values at 30 June 2015	131 572 172	143 214 914	4 731 858 121	331 154 807	5 337 800 006
Cost	131 572 172	179 978 436	7 063 994 426	736 621 188	8 112 166 222
Revaluation	0	0	0	0	0
Accumulated depreciation	0	-36 763 522	-2 332 136 305	-405 466 382	-2 774 366 209
- Cost	0	-37 398 577	-2 343 258 286	-434 577 594	-2 815 234 457
- Revaluation	0	635 055	11 121 981	29 111 212	40 868 248

	Land	Buildings	Infrastructure	Plant & Equip.	Total
	R	R	R	R	R
Reconciliation of Carrying Value					
Carrying Values at 1 July 2013	131 531 225	104 278 431	4 266 157 168	297 671 162	4 799 637 978
Cost	131 531 225	135 186 384	6 214 924 397	589 050 684	7 070 692 690
Valuation	0	0	0	0	0
Accumulated depreciation	0	-30 907 953	-1 948 767 229	-291 379 522	-2 271 054 704
- Cost	0	-31 543 008	-1 959 889 210	-320 490 734	-2 311 922 952
- Revaluation	0	635 055	11 121 981	29 111 212	40 868 248
Acquisitions	0	12 210 321	360 302 035	93 287 858	465 800 214
Capital under construction	0	9 746 640	48 076 342	643 324	58 466 307
Increases/decreases in revaluation	0	0	0	0	0
Transfers - Cost	0	0	0	0	0
Transfers - Depreciation	0	0	0	0	0
Depreciation	0	-2 531 430	-184 986 568	-48 415 370	-235 933 367
- based on cost	0	-2 531 430	-184 986 568	-48 415 370	-235 933 367
- based on revaluation	0	0	0	0	0
Carrying value of disposals	0	0	-52 294	-121 792	-174 086
Cost/revaluation	0	-56 860	-5 030 568	-4 313 822	-9 401 250
Accumulated depreciation	0	56 860	4 978 275	4 192 030	9 227 164
Impairment losses	0	0	-437 490	-958 643	-1 396 133
Other movements - Intangible Assets - Cost	0	0	0	0	0
Other movements - Intangible Assets - Accumulated Depreciation	0	0	0	0	0
Carrying values at 30 June 2014	131 531 225	123 703 955	4 489 122 817	342 106 543	5 086 464 532
Cost	131 531 225	157 086 486	6 618 272 205	678 668 044	7 585 557 960
Revaluation	0	0	0	0	0
Accumulated depreciation	0	-33 382 531	-2 129 149 389	-336 561 501	-2 499 093 420
- Cost	0	-34 017 586	-2 140 271 370	-365 672 713	-2 539 961 668
- Revaluation	0	635 055	11 121 981	29 111 212	40 868 248

Summary of Debtors by Customer Classification

30 JUNE 2015

Current (0 - 30 days)

31 - 60 Days

61 - 90 Days

91 - 120 Days

121 - 365 Days

+365 Days

Sub-total

Less: Provision for bad debts

Total debtors by customer classification

Summary of Debtors by Customer Classification

30 JUNE 2014

Current (0 - 30 days)

31 - 60 Days

61 - 90 Days

91 - 120 Days

121 - 365 Days

+365 Days

Sub-total

Less: Provision for bad debts

Total debtors by customer classification

Reconciliation of bad debts provision

Balance at beginning of the year

Contributions to Provision

Bad debts Written off against provision

Consumers	Industrial/ Commercial
R	R
414 495 315	460 589 939
59 220 576	128 805 577
20 911 940	6 918 225
16 048 930	12 098 947
212 389 767	18 980 671
0	0
723 066 529	627 393 359
-104 892 905	-91 013 910
618 173 623	536 379 448
404 197 516	420 350 478
65 558 946	44 791 432
19 102 781	5 728 479
11 731 529	1 703 536
189 585 655	10 481 523
0	0
690 176 427	483 055 447
-160 297 929	-10 860 427
529 878 498	472 195 020
JUNE 2015	JUNE 2014
R	R
171 158 356	179 303 426
27 938 324	-1 210 152
-3 189 865	-6 934 918
195 906 815	171 158 356

9. OTHER DEBTORS

Insurance Recoverables	
Private Jobs - Cost of Work done	
Prepayment Meter Token Sales	
Sundry Debtors - General	
Metro Water	
Mechanical Workshops	
Debtors Capital	
Insurance Sundry Accounts	
Apprentice Tools Cost/Recovery	
CL A/C - Refuse Disposal	
Corporate Services	
Payments ex Sundries	
Mechanical Workshops - Consumables	
Sundry Debtors clearing account	
RMS-Inter-Dept CA Control Account	

10. BANK, CASH & OVERDRAFT BALANCES

EThekwini Electricity has the following bank accounts:

Electricity Expenditure Account

Standard Bank - Kingsmead - Account Number 050134701

Cash book balance at beginning of year

Cash book balance at end of year

Bank statement balance at beginning of year

Bank statement balance at end of year

Electricity EFT Account

Standard Bank - Kingsmead - Account Number 050133608

Cash book balance at beginning of year

Cash book balance at end of year

Bank statement balance at beginning of year

Bank statement balance at end of year

Electricity Foreign Exchange Account

Standard Bank - Kingsmead - Account Number 050134698

Cash book balance at beginning of year

Cash book balance at end of year

Bank statement balance at beginning of year

Bank statement balance at end of year

JUNE 2015 R	JUNE 2014 R
98 686 448	108 633 314
15 920 369	12 741 841
29 707 314	22 523 448
16 854 191	8 965 122
0	0
0	0
1 407 067	1 389 728
0	0
5 722	926
0	0
0	0
0	0
0	0
0	0
162 581 111	154 254 378
130 374 394	104 062 644
155 720 370	130 374 394
1 723 790	2 998 252
1 480 290	1 723 790
28 621 214 301	20 000 019 489
37 678 083 814	28 621 214 301
639 653 132	614 401 966
669 886 634	639 653 132
14 508 233	9 113 653
16 577 189	14 508 233
0	923 442
222 587	0

11. SERVICE CHARGES

00101 - Bulk Supply
00102 - Business Cooking - Scale 5
00103 - Business and General Scale 1
00106 - Industrial Water Heating & Pumping
00107 - Prepayment Meters - FBE
00108 - Prepayment Meters
00109 - Residential Scale 3 and 4
00111 - Sundry Income - Private Lights
00112 - Two Rate - Scale 2
00120 - Poverty Relief/Indigent/EBBST
00122 - Income Foregone - Load Shedding
20300 - Electricity
20385 - Free Basic Electricity - Municipality
Total Service Charges

12. OTHER INCOME

00119 - Traffic Signals
00201 - Surcharge Business Levy
00202 - EB Steam - Wheeling Charges
00204 - Lotus Park - Wheeling Charges
00205 - Wheeling Incentive
00405 - Admin Charge - PAFC & Insurance
00408 - Meter Reconnection and Test Fees
00412 - Sundry Income - Taxable
00413 - Sundry Sales
00416 - Settlement Discount
00417 - Tender Document Fees
00418 - Sweep Reconnection Fees
00425 - Training - Local Government
00426 - Training - Contractors
00427 - Training - Outside Organisations
00431 - Meter Test Fees
00434 - Promotional Items
00435 - Proceeds from Insurance - Operating
00455 - Rural Electrification Project
00506 - Prepayment Connection Fees
00507 - Conventional Connection Fees
00508 - Proceeds from Insurance - Capital
Total Other Income

ACTUALS JUNE 2015	ADJ. BUDGET JUNE 2015	ACTUALS JUNE 2014
4 194 313 701	3 967 445 650	3 744 530 467
30 294 154	36 974 700	32 646 024
2 002 622 740	2 022 960 760	1 876 794 388
8 123 953	10 852 460	9 025 222
81 064 221	65 507 900	59 927 942
807 903 739	812 083 180	753 980 805
2 842 228 419	3 021 438 930	2 772 408 183
1 022 943	1 453 530	1 522 568
407 886 402	429 970 280	393 118 017
94 111 747	100 507 990	70 364 643
0	0	0
-17 138 902	-17 148 610	-12 439 301
-94 111 747	-100 507 990	-70 364 643
10 358 321 369	10 351 538 780	9 631 514 315
1 297 080	1 933 020	2 295 458
0	0	0
0	0	0
79 146	115 760	249 608
160 002	165 380	146 478
7 361 591	5 250 000	6 006 903
20 776 762	21 125 200	19 470 110
1 869 745	1 378 760	13 024 081
3 169 853	1 380 560	584 556
857 671	1 995 000	1 229 096
244 197	286 650	307 800
710 592	992 250	270 205
86 842	76 570	71 403
204 026	255 230	135 219
452 658	668 310	682 859
64 680	29 400	35 789
4 621	6 300	9 003
13 927 815	28 940 630	22 754 733
0	0	0
15 940 534	9 000 000	13 059 224
58 736 698	50 000 000	40 642 968
12 841 379	10 000 000	5 691 071
138 785 889	133 599 020	126 666 563

13. GOVERNMENT GRANTS AND SUBSIDIES

00121 - Municipal Infrastructure Grant
 00123 - Equitable Share
 00500 - Capital Grant - Urban Settlement Development
 00501 - Capital Grant - Demandside Management
 00502 - Equitable Share
 00503 - Capital Grant - Electr. Prog

Total Government Grants and Subsidies

13.1 Urban Settlement Development Grant 0500

Balance unspent at beginning of year
 Current years receipts
 Conditions met - transferred to revenue
 Conditions still to be met - transferred to liabilities

13.2 Electrification Programme - INEP

Balance unspent at beginning of year
 Current years receipts
 Conditions met - transferred to revenue
 Conditions still to be met - transferred to liabilities

13.3 Equitable Share

Balance unspent at beginning of year
 Current years receipts
 Conditions met - transferred to revenue
 Conditions still to be met - transferred to liabilities

	ACTUALS JUNE 2015	ADJ. BUDGET JUNE 2015	ACTUALS JUNE 2014
	0	0	0
	0	0	0
	94 266 000	275 510 000	141 319 000
	0	10 000 000	0
	77 275 089	77 275 090	72 626 964
	15 000 000	15 000 000	20 000 000
	186 541 089	377 785 090	233 945 964
	0	0	0
	94 266 000	133 527 984	141 319 000
	-94 266 000	-133 527 984	-141 319 000
	0	0	0
	0	0	0
	15 000 000	5 000 000	20 000 000
	-15 000 000	-5 000 000	-20 000 000
	0	0	0
	0	0	0
	77 275 089	0	0
	-77 275 089	0	0
	0	0	0

14. EMPLOYEE RELATED COSTS

10118 - BACKPAY - CONDITIONS OF SERVICE
 10100 - Staff Salaries
 10101 - Staff Overtime
 10104 - Pensioners Medical Aid
 10105 - Council Pensions
 10106 - Housing Subsidy
 10107 - Durban Pension Fund
 10110 - Medical Aid
 10112 - Long Service Award
 10116 - Holiday Bonus
 10120 - Market/Scarce Skills Allowance
 10122 - Emergency Sustenance
 10123 - Shift Allowance
 10198 - Task Implementation
 10199 - Contingency Staff Vacancy
 10220 - Cell Phone Allowances
 10300 - Executive Packages
 10400 - Locomotion Allowances
 10401 - Travelling Allowances
 10402 - Telephone Allowances
 10403 - Travel and Subsistence
 10409 - EDUCATION FEES - BURSARY STUDENTS
 10500 - Temporary Staff
 10501 - Uniforms
 10502 - Education Fees
 10503 - Travel & Removal Costs
 10506 - Unemployment Insurance Fund
 10507 - Employment Services
 10508 - Leave Comm - Trf Ex Provision
 10510 - Employ - Cost Capitalised Offset
 10700 - Ward Committee Training

Total Employee Related Costs

	ACTUALS JUNE 2015	ADJ. BUDGET JUNE 2015	ACTUALS JUNE 2014
	1 997 500	2 000 000	2 180 298
	463 992 218	519 012 970	433 390 170
	94 992 103	106 426 050	90 223 561
	11 684 880	11 684 870	10 869 650
	6 069 600	6 069 620	5 646 150
	2 367 274	3 346 920	2 228 741
	81 892 133	93 884 710	76 635 512
	42 086 442	50 000 000	38 835 305
	0	0	0
	36 904 994	43 061 360	33 691 467
	36 389 200	41 100 450	36 064 597
	1 825 808	2 247 000	1 778 705
	1 474 474	1 500 000	0
	0	2 000 000	0
	0	13 598 500	0
	3 576 795	3 907 590	3 476 611
	8 972 439	11 004 170	9 593 926
	41 636 319	44 500 000	39 156 855
	0	0	0
	0	0	437
	123 858	206 040	171 627
	3 136 383	3 164 100	0
	4 086 647	6 241 850	4 441 616
	5 816 855	6 521 240	4 330 093
	1 991 294	2 435 900	1 559 430
	47 552	176 960	89 928
	3 782 353	4 129 040	3 636 008
	2 873 813	3 742 990	3 983 591
	19 939 669	15 000 000	13 451 691
	-18 669 577	-21 859 920	-31 056 638
	0	0	0
	858 991 026	975 102 410	784 379 331

15. INTEREST PAID

29560 - Interest
29563 - Interest - Consumer Deposits
Total of Interest Paid

16. BULK PURCHASES

00901 - Eskom - Maximum Demand Charge
00902 - Eskom - Unit Charge
00905 - Service Fees
00908 - Elect - Landfill Site - Marianhill
00910 - Elect - Hullet Sugar
00911 - Elect - Landfill Site - Bisasar Road
00912 - Energy Charge (Peak)
00913 - Energy Charge (Std)
00914 - Energy Charge (Off)
00915 - Rate Rebalancing Levy
00916 - Environmental Levy
00917 - Eskom - Admin. Charge
00918 - Transmission Network Charge
00919 - Residual Connection Charge
00920 - KVARH Surcharge
00921 - Energy Charge
00922 - Energy Charge
00923 - Energy Charge
00929 - Co-Generation Energy
Total Bulk Purchases

17. CAPITAL COMMITMENTS

Commitments in respect of Capital Expenditure:
Approved and contracted for - Electricity
Approved but not yet contracted for - Electricity
Total

This expenditure will be financed from:
Government Grants
Own Resources

	ACTUALS JUNE 2015	ADJ. BUDGET JUNE 2015	ACTUALS JUNE 2014
	199 059 380	218 343 400	189 800 321
	30 867 797	10 248 700	9 305 001
	229 927 177	228 592 100	199 105 322
	3 643 905	6 132 060	4 779 054
	5 098 777	6 440 240	5 407 328
	1 027 048	1 035 160	942 248
	2 868 667	3 493 950	2 485 067
	0	2 403 000	0
	21 345 409	29 258 870	19 583 927
	1 924 126 961	2 057 076 060	1 800 130 258
	2 270 369 939	2 328 906 490	2 135 657 930
	1 399 686 265	1 403 285 410	1 327 155 576
	614 359 279	641 474 110	578 807 388
	0	0	0
	215 006	229 260	208 830
	185 608 443	186 956 940	172 540 409
	501 552	542 010	501 552
	9 349	41 770	11 969
	0	697 350	104 297
	27 509 209	28 875 650	26 058 153
	259 465 117	260 926 640	241 464 564
	302 471	2 252 800	3 862 583
	6 716 137 398	6 960 027 770	6 319 701 132
	675 207 776	66 209 440	
	23 792 982	332 370 230	
	699 000 758	398 579 670	
	0	0	
	699 000 758	398 579 670	

18. INTANGIBLE ASSETS

Servitudes

Opening Balance (July 2014)
Acquisitions
Disposals - Cost

Computer Software

Opening Balance (July 2014)
Accumulated Depreciation

Acquisitions
Work in Progress
Disposals
Depreciation for the year
Transfers - Cost
Transfer - Depreciation
Disposals - Cost
Disposals - Depreciation

19. VAT

Vat Receivable

20. BANK AND CASH BALANCES

21. LOSS IN ELECTRICITY DISTRIBUTION

Estimated Electricity losses 849 426 488 kWh (2014: 687 009 986 kWh) occurred during the year under review which resulted in revenue losses to the municipality. These estimated electricity losses amounted to R 566m (2014: R 424m). The norm for electricity losses ranges from 5.6% to 12%. The loss incurred by the municipality is 7.70% (2014: 6.11%) and is due to a combination of transmission/distribution losses and losses due to illegal connections. In comparison to other Metro's, eThekwinini Municipality maintains its losses at a lower end of the norm.

Transmission losses are inevitable, however, the following interventions have been implemented:

- Optimal network configuration
- Effective maintenance on network
- Efficient network loading

The following interventions have been implemented to curb illegal connections:

- Area sweeps
- Employment of security intelligence teams
- Installation of anti-theft technologies at substations
- Theft hotline

22. ASSETS PRIOR YEAR ADJUSTMENTS

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.

JUNE 2015 R	JUNE 2014 R
48 435 503	48 362 676
1 672 084	72 827
0	0
50 107 586	48 435 503
19 134 394	20 879 962
0	0
15 431 233	1 368 220
-8 292 463	362 691
0	-37 238
-5 787 767	-3 439 242
0	0
0	0
0	0
0	0
20 485 398	19 134 394
0	0
4 484 222 413	3 692 001 804

Statistical Data: Customer Base Statistics

	04 / 05	05 / 06	06 / 07	07 / 08	08 / 09	09/10	10/11	11/12	12/13	13/14	14/15
NUMBER OF CUSTOMERS											
Business & General	44 143	42 010	42 980	44 261	44 832	45 007	44 213	43 879	44 654	44 344	44 164
Private Residences	310 955	314 975	319 516	323 389	326 386	327 002	324 044	321 904	322 844	319 875	311 817
Other	1 398	1 173	4	4	4	4	4	4	4	4	4
Bulk	739	748	730	746	744	769	821	819	888	959	1 009
Prepayment	227 895	243 549	254 017	263 712	275 670	289 946	305 977	333 434	342 705	358 411	367 483
Total	585 130	602 455	617 247	632 112	647 636	662 728	675 059	700 040	711 095	723 593	724 477
UNITS (kWh)											
Business & General	1 900 283 815	1 887 628 514	2 161 999 560	2 203 077 556	2 205 258 603	2 662 458 083	2 921 756 030	2 723 355 860	2 367 758 535	2 263 456 147	2 042 812 264
Private Residences	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	2 680 118 904	2 644 041 922	2 505 800 359
Other	140 222 213	123 385 815	36 693 199	37 605 719	37 677 922	39 678 620	41 785 554	86 221 641	95 297 605	112 538 964	118 165 912
Bulk	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	4 781 979 791	4 688 943 005	4 641 845 461
Prepayment	514 181 235	587 881 511	652 855 481	687 805 495	738 475 562	774 714 890	789 573 652	826 397 419	819 810 059	840 892 154	878 206 982
Total	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	10 744 964 894	10 549 872 192	10 186 830 978
UNITS GROWTH											
Business & General	0.34%	-6.91%	14.54%	1.90%	0.10%	20.73%	9.74%	-6.79%	-13.06%	-4.41%	-9.75%
Private Residences	0.07%	0.96%	3.64%	0.23%	-3.73%	-2.57%	-11.53%	-0.19%	7.38%	-1.35%	-5.23%
Other	52.21%	-12.01%	-70.26%	2.49%	0.19%	5.31%	106.34%	10.53%	18.09%	18.09%	5.00%
Bulk	3.16%	3.15%	0.96%	2.27%	-3.51%	-8.27%	-0.83%	1.83%	2.47%	-1.95%	-1.00%
Prepayment	18.59%	14.33%	11.05%	5.35%	7.37%	4.91%	1.92%	4.66%	-0.80%	2.57%	4.44%
Total	1.62%	0.95%	3.85%	1.82%	-2.18%	0.04%	-0.81%	-0.35%	-0.50%	-1.82%	-3.44%
INCOME IN RANDS											
Business & General	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	2 232 766 352	2 486 098 587	2 448 927 248
Private Residences	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	2 710 411 169	2 772 408 183	2 842 228 419
Other	22 214 691	20 181 773	13 433 024	15 189 096	19 709 806	25 294 174	36 500 000	51 154 591	51 019 905	50 940 590	56 883 781
Bulk	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	3 635 164 500	3 744 530 467	4 194 313 701
Prepayment	168 477 331	204 733 254	241 183 183	275 381 501	377 042 920	494 949 284	584 894 116	695 382 979	757 018 411	813 908 747	888 967 960
Total	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	9 386 380 338	9 867 886 574	10 431 321 108
CENTS/UNIT											
Business & General	35.41	36.43	36.05	38.32	48.75	52.26	60.48	75.80	94.30	109.84	119.88
Private Residences	32.77	33.83	36.26	38.19	48.84	63.09	86.11	101.55	101.13	104.85	113.43
Other	15.84	16.36	36.61	40.39	52.31	63.75	87.35	59.33	53.54	45.26	48.14
Bulk	21.11	22.81	24.12	25.92	33.96	45.26	58.02	68.74	76.02	79.86	90.36
Prepayment	32.77	34.83	36.94	40.04	51.06	63.89	74.08	84.15	92.34	96.79	101.23
Total	27.42	28.87	30.60	32.60	42.12	52.97	66.45	79.21	87.36	93.54	102.40
AV. UNITS/MNTH/CUST											
Business & General	3 542	4 087	4 192	4 148	4 099	4 930	5 507	5 172	4 419	4 254	3 855
Private Residences	747	825	784	776	741	720	643	646	692	689	670
Other	8 359	8 766	764 442	783 452	784 957	826 638	870 532	1 796 284	1 985 367	2 344 562	2 461 790
Bulk	567 199	563 390	582 831	583 268	564 280	500 796	465 171	474 833	448 759	407 451	383 370
Prepayment	186	196	214	217	223	223	215	207	199	196	199
Total	1 459	1 509	1 480	1 472	1 405	1 374	1 338	1 285	1 259	1 215	1 172
AV. RANDS/MNTH/CUST											
Business & General	1 254	1 489	1 511	1 589	1 998	2 576	3 331	3 920	4 167	4 672	4 621
Private Residences	252	260	284	297	362	454	554	656	700	722	760
Other	1 324	1 434	279 855	316 440	410 621	526 962	760 417	1 065 721	1 062 915	1 061 262	1 185 079
Bulk	119 763	128 503	140 552	151 159	191 649	226 679	269 872	326 389	341 138	325 385	346 408
Prepayment	62	70	79	87	114	142	159	174	184	189	202
Total	408	422	453	480	592	728	889	1 018	1 100	1 136	1 200

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
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%	10 924 656 709	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
12 / 13	1 828 468	-3.42%	10 744 964 894	-0.50%	11 412 377 063	-0.44%	5.85%	98.91%	74.55%	711 095
13 / 14	1 756 716	-3.92%	10 549 872 192	-1.82%	11 236 882 178	-1.54%	6.11%	98.31%	76.03%	723 593
14 /15	1 713 185	-2.48%	10 186 830 978	-3.44%	11 036 257 467	-1.97%	7.70%	98.38%	76.83%	724 477

Statistical Data: Expenditure per Annum

NOTE: Ratios of Admin and General Distribution have varied as a result of restructuring
 * Include depreciation of R160 million not included previously, owing to financial statements
 now presented as GAAP and GRAP

ITEM OF EXPENDITURE	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15*
DISTRIBUTION and Admin												
Admin and general	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	1 749 616 409	1 751 885 955	1 922 624 719
Distribution	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	520 567 882	613 840 961	584 608 343
Sub Total	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	2 270 184 290	2 365 726 916	2 507 233 062
% increase	9%	8%	24%	18%	17%	22%	17%	7%	15%	9%	4%	6%
% of total expenditure	24%	24%	27%	28%	29%	29%	27%	24%	23%	23%	23%	22%
FUNDS												
Capital Development	0	0	0	0	0	0	0	0	0	0	0	0
Rates and General	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	659 791 740	715 815 672	776 762 748
Working Capital	121 334 894	149 687 274	90 000 000	258 235 673	290 856 887	413 521 565	427 377 149	721 389 400	710 743 608	748 164 456	809 181 238	979 868 813
Durban Metro	0	0	181 914 287	0	0	0	0	0	0	0	0	0
Sub-Total	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	1 258 819 654	1 407 956 196	1 524 996 910	1 756 631 561
increase	13%	14%	44%	34%	25%	5%	8%	39%	3%	12%	8%	15%
% of total expenditure	10%	11%	14%	17%	19%	16%	14%	16%	14%	14%	15%	16%
LOAN CHARGES												
Sub-Total	315 325 905	316 056 450	0*	0	0	0	0	0	0	0	0	0
% increase	15%	0%	0%	-22%	-9%	17%	12%	3%	1%	2%	-8%	16%
% of total expenditure	11%	11%	0%	5%	4%	4%	3%	3%	2%	2%	2%	2%
Interest Paid	0	0	218 808 794	171 542 017	156 036 300	182 419 882	204 605 993	211 132 352	213 076 263	216 737 290	199 105 322	229 927 177
ELECTRICITY PURCHASED												
Energy	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	5 842 651 946	6 314 922 078	6 712 493 492
Demand	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	347 654 847	4 779 054	3 643 905
Sub-Total	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	6 190 306 793	6 319 701 132	6 716 137 398
% increase	9%	5%	3%	11%	7%	35%	31%	27%	25%	12%	2%	6%
% of total expenditure	55%	55%	52%	50%	48%	52%	55%	58%	61%	61%	61%	60%
TOTAL												
Total Amount	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	9 066 532 747	10 085 184 569	10 409 530 280	11 209 929 198
% increase	10%	6%	9%	14%	12%	25%	23%	23%	18%	11%	3%	8%

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