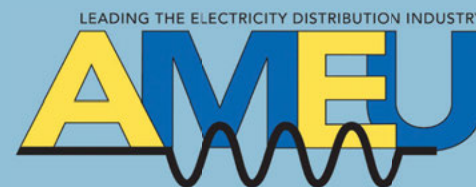




# AMEU NEWS

THE ASSOCIATION OF MUNICIPAL  
ELECTRICITY UTILITIES OF SOUTHERN AFRICA



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## A MESSAGE FROM THE AMEU PRESIDENT...

Refilwe Mokgosi writes;

“With our 27th Technical Convention just a few short months away my first comment is to ask, if you have not already done so, please set your plans in motion without further delay and join us in Cape Town for this very important event. October is around the corner and we need you as a delegate to ensure that our learning, our proceedings and the debates that will follow, are as broad as possible and in due course, carried out into every corner of the land.

Our industry is changing, we cannot turn back the clock. This convention will give you some of the tools that you - and every one of our colleagues - need to ensure a smooth transition into the future ESI. Your participation will ensure that many potential pitfalls will be highlighted and discussed. Your experiences, your problems - and your solutions - need to be identified and debated.

Our industry will benefit by broadening the debate, and your presence and participation can help us achieve that.

We, as the Executive Committee of this proud Association, are doing everything in our power to help resolve the many problems that the industry faces. You don't need to be reminded that these include the ever-present possibility of load shedding, the ongoing vandalism and theft that is everywhere, the shortage of funds and technical personnel ....to name just a few. Many are intractable and of long standing. We are in ongoing discussions with the State and related NGOs to find solutions to them, and will keep you informed as developments take place.

And now we have the 4th industrial revolution bearing down on us. What do we need to know about the technologies embodied in these developments? And how do we use these to our advantage? We need your participation to broaden



Refilwe Mokgosi

our understanding of the developments and their relevance to our networks. In this regard therefore, please use our branch meetings and every avenue possible to keep us informed on all matters affecting, or likely to effect, our industry.

Let me close by saying that it is in the nature of engineering to “be prepared”. We observe, we plan, we design, we negotiate, we manage, we build, we operate....all these are based on education and training. We owe it to our customers and employers to do this as effectively as possible. Your participation in our activities from Branch level upwards can only benefit us all, and prepare us for the future.

I look forward to your ongoing participation in our activities and the benefits to the ESI that will surely flow from them.

Refilwe Mokgosi, President

# KZN SARPA/AMEU MEETING

No less than thirty-three delegates attended the first combined SARPA/AMEU meeting in Kwa-ZuluNatal which was held in Port Edward on 7th March 2019. This included 19 municipal representatives from 9 local authorities, the AMEU Strategic Adviser, 10 Affiliates and delegates from the SAPS, Eskom, the National SARPA President and the SARPA Technical Adviser.



The President of SARPA - Greg Stopford - advised that he was here to show support for the local branch and reported that SARPA needs people to champion the cause. He gave a brief background on which direction the Revenue Protection is heading.

As this was the first formal meeting of the SARPA Branch a local committee was elected as follows;

### **Chairperson;**

Keseree Rajoo (Utilities World)

### **Vice-chairpersons;**

Vabisha Chetty (Eskom) and Manju Naidoo (eThekwinini)

### **Secretary;**

Rosemary Naidoo (eThekwinini)

After completion of the formalities Rens Bindeman, the SARPA Technical Adviser, gave delegates a comprehensive report on activities of the Association and, amongst other things, reported that good progress had been made in interaction with NERSA concerning the percentage of the operational budgets of Utilities that can be allocated to minimizing non-technical losses.

SARPA has canvassed for 2% of the operational budget to be allocated to the non-technical losses issue. This has the full support of NERSA, SALGA, COGTA and DoE. With the assistance of COGTA, it is likely to be rolled out in the next few months. Also, there has been very positive interaction with COGTA whose Director of Revenue has been elected onto the SARPA Executive.

He reported that joint meetings with the AMEU have been held at all Branches and 4 out of 9 branches having female chairpersons. The Central Branch meeting in Clarence was a big success but the Namibia and Mpumalanga branches are still struggling to hold meetings.

The SARPA stall at the 2018 AMEU Convention was well received and had good interaction with delegates.

Some of the other activities reported were that a Revenue Recovery project is underway at Botswana Power Corporation (BPC) and revision documents for NRS 055 (RP Guideline) and NRS 101 (Infrastructure Theft) are nearing completion. Also, membership

training was completed in late 2018 in Bitou and Witzenberg Municipalities and training was conducted in Maputo, Mozambique in early August with delegates from Mozambique, Uganda, Zambia, Gambia, Malawi, Swaziland attending.

SARPA will run an advanced training course in Cape Town, scheduled to take place around May/June 2019 and is providing guidance to several Utilities that are re-establishing Task Teams.

The 23rd Annual Convention will be held on 22nd & 23rd August 2019 in Plettenberg Bay.

Delegates were also reminded that it is essential that the crime code 3200 be used whenever reporting a case to the SAPS.

Presentation were then done by SAPS ( Management of Infrastructure Theft), Utilities World (TID Rollout), and eThekwinini (Infrastructure and Revenue Theft),

The next meeting will be held in Durban on the 11th July 2019.

## KZN - SARPA/AMEU COMBINED MEETING

The AMEU component of the recent combined meeting in Port Edward was attended by 46 delegates of whom 18 were representing 7 municipal utilities. There were also 22 Affiliate members in attendance.

The AMEU Strategic Adviser, Vally Padayachee, gave a comprehensive report on recent Exco proceedings including an update of the on-going discussions with Eskom on the proposed Service Delivery Agreement (SDA) that will cover the procedures for the disconnection of consumers who owe money on their municipal accounts, the provision of public lighting and other matters.

He also updated delegates on meetings with Eskom in which load shedding, the current status of Eskom's generation infrastructure and related matters were discussed. An important subject also reported on was that of the TID rollover.

- In this regard, amongst other things steps are being taken to secure special funding to assist municipalities with the work involved in re-programming each and every meter, and also to address the legal problem of the "single" supplier in respect of the security module that must be used.
- It was also reported that the AMEU enjoys a good relationship with SALGA, NERSA and many other state departments and entities and, the Eastern Cape, Good Hope, Highveld, Limpopo and Central branches have recently all held successful meetings.
- Vally also reported that NERSA's "call for comment" on the proposed changes to Eskom's method of application of "Notified Maximum Demand" has been responded to, and besides comments that have been made directly to NERSA by Eskom's individual customers, a collective response has been submitted by the AMEU. Discussions have taken place concerning "Third Party Wheeling Charges" through municipal grids but this project is still in its early stages and discussions between NERSA and the DoE will be taking place to clarify aspects of this project and the related matter of energy trading.
- Comments on the matter of a registration fee for small scale embedded generators (SSEG) have also been submitted to NERSA. These include AMEU concerns about certain omissions and ambiguities in documents.



- A meeting was held with NERSA in October 2018 concerning the challenges facing municipal utilities to achieve compliance with the Grid Code. Also, comments have been submitted to the DoE concerning their proposed directive on the procedures for the inspection of new electrical installations by the supply utility.
- The AMEU President's Legacy Award program was also reported on and it was noted that one Metro and one Affiliate have so far entered.
- MISA has reported that thus far only one MISA national framework contract has been approved i.e. pole and ground mounted transformers. Others are still in the process of being implemented. MISA is providing guidance to municipalities on how to make use of the framework contracts and has prioritized to establish six framework contracts to help municipalities roll out electrification:
- A number of NRS specifications have been published, or are due to be published.

After a report on Affiliate activities the following presentations were made;

The Token Rollover by the STS, the development of ground penetrating radar equipment by Optron, Municipal Performance by DoE and the NERSA Mandate by NERSA.



# TYGERBERG HOSPITAL

Many of our readers will have heard of the Tygerberg Hospital in the Western Cape..... and many will know that it is "LARGE"..... but how many know that it is second only in size to Baragwaneth in Gauteng?

And did you know that on any one day about 10 000 people can be found on the Belville campus ?

Is it any wonder that good lighting is an important component of its facilities !



*An aerial view of the hospital in Belville, Western Cape (Photo; Wikipedia)*

Highmast lighting is installed all around the site to provide general area lighting and until recently these were 400W HPS flood lights.



To improve colour rendering and achieve energy savings the Department of Health recently awarded a contract to BEKA Schröder to replace the existing luminaires with their 216W OMNIstar-midi floodlights .

An energy saving of 50% has been achieved.

The OMNIstar-midi was the floodlight of choice due to its high colour rendering index, and due to its high local manufacturing content. It is the smaller sized floodlight in BEKA Schröder's OMNIstar family and various optical solutions make it a very versatile floodlight, ensuring the correct lighting for the area to be illuminated.

It is a cost effective and efficient lighting solution to

maximise energy and maintenance cost savings in high-power applications. In addition, because it has been locally designed and manufactured, it takes Africa's harsh environments and conditions into account, thereby ensuring a long lifetime.

BEKA Schröder locally develops and manufactures energy-efficient LED lighting products, designed and suitable for local conditions. We are very proud to be associated with the Tygerberg Hospital and the Department of Health in providing a successful floodlighting solution for this project.

For further enquiries, contact Grant Kemp at 021 510 8900 or [g.kemp@beka-schreder.co.za](mailto:g.kemp@beka-schreder.co.za)



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## WiE UPDATE

### The Branch Committee is as follows;



*Fakazile Tywaku, Branch  
Chairperson, Nelson  
Mandela Bay Municipality*



*Sivuyile Mahlathi, Branch  
Secretary, Buffalo City  
Metropolitan Municipality*



*Angel Sigangala, Branch  
Deputy Chairperson, Nelson  
Mandela Bay Municipality*



*Ziyanda Nyangule, Branch  
Deputy Secretary, Buffalo City  
Metropolitan Municipality*

## WiE TRAINING

Following the recent establishment of the Eastern Cape Branch of WiE it is pleasing to report that a training session has been held at the Buffalo City Metropolitan Municipality as part of the ongoing efforts to improve the careers of women in the electricity industry.

### WiE EASTERN CAPE BRANCH LAUNCHED

At a well attended meeting held in the Civic Centre in King William's Town on 31st January two members of the WiE Executive Committee, Ms. Fakazile Tywaku and Angel Sigangala, successfully held the first Eastern Cape contact session of WiE, and established a local branch for the organisation.

All the ladies employed in the different municipalities in the Eastern Cape were invited and AMEU Exco member Siviwe Simani opened the meeting with words of encouragement for the delegates.

The four pillars of the WiE program were discussed and the two – Mentorship and Leadership – were focussed on for the 2019 year.

Amongst other things the Training Matrix was explained and the importance of registering on the WiE data base. Delegates shared their experiences of the many challenges which are experienced by women in the industry, including such every-day things as the unsuitable design of personal protection equipment.

Congratulations to the new committee, and best wishes for their endeavours to add value to the many women employed in the industry.



## AMEU WiE Eastern Cape Branch Committee



The 296th meeting of the Good Hope Branch took place in Paarl on 15th February 2019. It was attended by 86 delegates who included representatives from 14 municipalities, 38 Affiliate companies, and various statutory organizations and other members.

After completion of the welcoming and other formalities, in the absence of Vally Padayachee the AMEU Strategic Adviser, Nombulelo Zwane reported on a recently held special ExCo meeting. She noted that, flowing from the relatively low attendances at meetings, the Secretary is looking into the logistics and practical aspects of holding meetings using online facilities. This will also limit travel costs. Vally's full report will be available on the AMEU website.

Rens Bindeman reported that the SARPA president is now Greg Stopford from City of Cape Town and the President Elect is Belinda Marais from Swartland Municipality. Also, revenue recovery projects have been reinstated and any municipality needing assistance should contact him. He appealed to members to report all theft instances to the police as SAPS need all the information they can collect on these cases.

A presentation on the Municipal Infrastructure Support Agency (MISA) and work being carried out on the Framework Contracts was made by Rofhiwa Mulaudzi. He explained the "What, why and how" of framework contracts and provided a list of existing contracts as well as suppliers, of ground and pole-mounted transformers, under these contracts. A list of framework contracts prioritised for development in 2019/20 was provided.

Musa Risenga then gave an overview of MISA, and the background for establishment of the body. Amongst others this was necessitated by the need to promote the use of funds provided by National Treasury to municipalities and provincial entities.

Four technical presentations were made by Affiliates companies, the first being by Jason Pretorius of Optron who discussed the development and usage of Ground Penetrating Radar for identifying buried services and other obstructions.

ABB's Randall September explained how upgrading of distribution systems can be deferred by the use of microgrid stacking. These are usually stand alone-type facilities incorporating storage and renewably generation that can be integrated into the network.

Ways and means of improving the viability of municipal electricity utilities was discussed by Netelek's Francois Bosch. He pointed out that as a rule of thumb, by simply multiplying the cost of bulk Eskom annual purchases (excluding any interest charges) by 1.7, one can get a good feel of what the revenue should be !

Henk Bredell – IST – gave details of the company's "Business Development Distribution Grid Monitoring and Analytics" system that uses state of the art monitoring equipment and systems to enable the utility operator to keep track of the health of a network amongst many other benefits accruing from its use.

The next meetings of the branch will be as follows;

10 May 2019	Bellville (City of Cape Town)
16 August 2019	Vredendal (Matzikama Municipality)
7/8 November 2019	Plettenberg Bay (Bitou Municipality)





# MORE BRANCH NEWS... GOOD HOPE's 297th ....

The City of Cape Town's Bloemhof Electricity offices in Bellville were the venue for the 297th meeting of the Branch. It took place on Friday 10th May and was attended by more than 80 delegates representing 11 Municipalities, 32 Affiliates and various statutory bodies. There were also three Honorary Members and a Retired Member in attendance.



After the formal welcome by the chairman, Siyabulela Gqwede, the delegates were addressed by CoCT's Phindile Maxiti, the Mayoral Committee Member for Energy and Climate Change. .

Included in the proceedings were three technical presentations by affiliate companies, reports from Exco and SARPA, and from the DoL and the Western Cape Government.

In a comprehensive update of Exco activities the AMEU Strategic Adviser, Vally Padayachee, reported – amongst other things – that the SALGA/Eskom Task Team is handling a number of long standing issues and that the AMEU is represented on the Team.

Other matters receiving attention include the question of financing the work involved in the TID Rollover changes that are vitally necessary for pre-payment meters, and the problem of the non-compliance with the Grid Code by many municipal utilities.

The question of the inspection of installation wiring by utilities as well as the progress with the MISA national framework contracts are being monitored by Exco. Also the DoE's program of installation of solar hot water systems, proposals for changes to Eskom's NMD charges and the registration of SSEG installations, along with many other items.

Rens Bindeman reported on the operations of the various SARPA branches and gave an update on training that the Association is providing, amongst other things. SANS 1741, a specification for cable marking that will provide evidence of ownership in cases of infrastructure theft, has been published and webinars on rogue meters are being planned. The annual SARPA Convention will be held in Plettenberg Bay in August, 2019.

The representative from the Dept. of Local Government, Leon Eksteen, discussed the operations of the Department and covered need for electricity master plans in municipalities as well as details of MIG and LDSG funded projects.

Dr. Hildegard Fast and Bruce Raw of the Western Cape Gov. and of Green Cape discussed the various factors influencing load shedding and the concern that this is creating for the anticipated 3-5 years span that this is expected to apply for. They also covered what steps are being taken to mitigate the effects and gave feedback on various energy-related developments in the Province.

Eskom's Wayne Fortuin gave the meeting details of the "Edison Screw CFLs for residential installation" program that is distributing ES-type lamps for new electrification projects. He also discussed the work that is being carried out to assist utilities by Eskom's Energy Advisory Group.

Delegates were given an introduction to the Construction Regulation and OHS Act by De Munck Menderoi who discussed various aspects of the law and the duties of clients, designers and contractors.

ABB's Stuart Michie made a presentation on the company's new software product that will assist utilities to better control distribution networks and related utility systems, and Freddie Smit of FMI Smart Trading discussed "Halo Solutions" LED strip lighting technology. This is a specialised product developed for use in mines, and suitable for many applications in hazardous areas. The product has a 10-year-plus lifespan.

Andrew Duncan, IB McIntyre, showed delegates a video on the WD40 Lubricant which, amongst other things, displaces moisture very effectively from equipment.

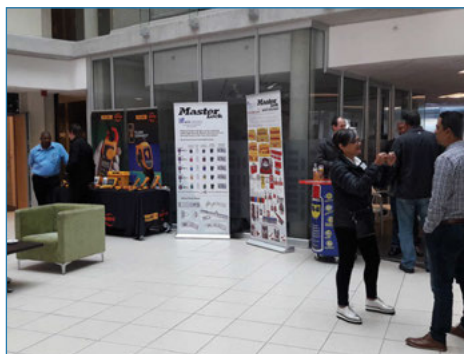
## The next meetings of the Branch are scheduled as follows;

16th August 2019; Vredendal (Matzikama Municipality)

7/8 November 2019; Plettenberg Bay (Bitou Municipality)

February 2020; Arniston (Cape Agulhas Municipality)







# OOPS.....!

## You know you have a friend when.....

You don't have to be into "publishing" to know that proof-reading is an integral and important part of any writing. In years gone by, long before "tipp-ex" and "delete keys" were even thought of, letter writers would "cross out" wrong words or incorrect spelling with their quill pens after re-reading their scripts.

Generally speaking we seem to check- and - correct our writing subconsciously except.....

Judging by some of the spelling and format of the "text messages" that come through on our cell phones, one has to wonder whether "predictive text" and "spell check" need to go on refresher courses..... Then again, texting at 100km an hour on the N1 does make putting a finger on the correct keys of a rather small cell-phone keyboard a bit difficult.....

But just to show how relatively unimportant this all is, some readers may remember the paragraph - reprinted below - that did the rounds a while back....

"It deosn't mtttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe."

... talk about an editing nightmare !

All of which leads to the point of the story.....



On page 14 of our 97th (March 2019 ) newsletter, there was a story about the retirement of the CEO of our sister organisation, the SAIEE. AMEU Hon. Member Stan Bridgens has recently retired from that position - after a 12 year stint - and has duly handed over to the new incumbent, none other than AMEU Past President and Hon. Member Sicelo Xulu. Our "story" carried a picture of the two of them.

And that's when the "gremlin" did it's dastedly deed .....by changing the last "t" in the "stint" word to a "k", in the text of the story, "tint" became "stink" !

So ?

Now depending upon your source, a "friend" can be defined as a "pal, companion, confidant, chum,

workmate, .....plus many others, including "amigo" !!!

Stan and I have known each other for close on 40 years... and dare I say that as he didn't kick up a stink about the mistake it's fair to say that in that time "known" has grown into a "friendship" that has been cherished by us both.

He retired from a senior position in Johannesburg Electricity in 2001 after some 41 years of service. He has been a member of the SAIEE for 55 years and served a term as President in 1998.

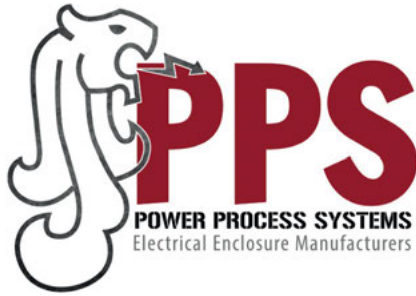
With similar passions for our industry - and let me add, senses of humour - he and I have enjoyed working together on numerous industry-related projects. In the immediate past 12 years during his period as CEO of the Institute, this has included - amongst other things - a significant role in the planning, construction and commissioning of the new Headquarters building in Observatory in Johannesburg, and the development of the Innes House Museum of Electrical Engineering.

Stan has worked tirelessly to support our profession and industry, motivating our colleagues to become active members by making their talents and ideas known through their chosen organisations. It's been a great road travelled and I've enjoyed being a part of it supporting a friend.

Enjoy your second retirement stint Stan !

Max Clarke





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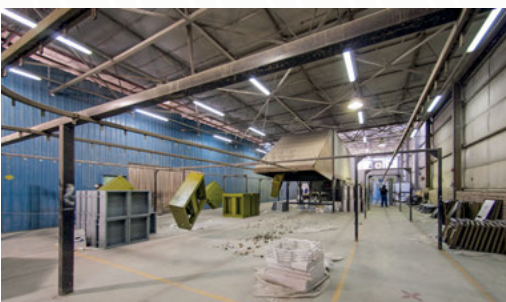
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## DID YOU KNOW ?

- The UK government has recently provided funding to support the building of a demonstration “package delivery system” near London. Magway, the company involved, is headed by a South African engineer, Rupert Cruise, who has been working on linear motor technology for some 20 years. The capsule/mini-train that will carry the packages and freight will move through pipes about a meter in diameter, some of which will be underground. If successful, the project has the potential to greatly reduce traffic congestion in the city streets and speed up deliveries between depots in cities across the nation.
- According to a report in the “New Scientist” the US space agency NASA has been monitoring the dust clouds moving across the Atlantic ocean by the prevailing east-to-west winds. From data collected by satellites they calculate that over 27 million tons of dust is blown from the Sahara desert to Brazil each year. It falls back to earth mainly in the Amazon rain forests !
- An International media report says that “Oersted” - a Danish company that is the world’s largest “off shore” wind power company by capacity – will increase their installed capacity from its current 5,6 GW to 15 GW by 2015. One of the “spin offs” will be that at times of surplus capacity the energy will be used to produce hydrogen by electrolysis. This will be sold into the industrial market in Europe which currently consumes 9 million tonnes of the gas each year.
- A report from the USA says that the Public Utility Commission of Texas has “denied approval” of a planned 2GW wind farm in the Oklahoma pan-handle area. No reasons have been published.
- Most of us have included a bottle of milk or some other “perishable” food item in our shopping forays to the local supermarket. But how often have we stopped to consider the “mechanics” of the refrigeration that keeps these products fresh and safe to consume.... and the walk-way isle comfortable enough to be able to stand and make our selection? A UK company - Aerofoil Energy – has developed a “clip on” device that can be retrofitted to open refrigerator shelves to “streamline” the air curtain that is used in certain open-shelf designs to retain the cooled air. It is based on the design of the “wing” that is standard on Formula 1 racing cars and which assists with the stability and performance of these hi-tech machines. The device has the potential to save about 30% of the energy costs used by these open refrigerators and was one of the three recent finalists for the Royal Academy of Energy’s McRobert Award for engineering innovation.
- A Cape-based company, located in Parow, is recycling some 40T of plastic each month. It was established in 2013 and is called New Earth Recycling and currently handle most types of plastic but focuses particularly on polystyrene. The wide variety of end products which it manufactures from recycling the plastic include such things as coat-hangers, insulated panels, picture frames and lightweight building blocks. They employ 15 permanent staff and have a turnover of R3m per month. Their vision is to increase the re-cycling tonnage to 250T per month.

(Anyone know of similar operations in our other cities ? Ed.)



In MEMORIAM

### JOYCE TOTH

It is with regret that we record the death of Josephine (Joyce) Diana Toth, a well known personality in our industry. She passed away in April after many years of battling against cancer.

For the last 5 years she was responsible for sales and marketing in the Gauteng area for PPS, one of our AMEU Affiliate companies.

Joyce was extremely brave and always had a smile on her face.

She leaves two daughters, Jayd & Nicole, to whom we offer sincere sympathy on behalf of a many readers who counted her as a friend.

Rest in peace Joyce.

“Tell your  
friends you  
read it in  
AMEU News”

# METER TESTING AT ITS BEST!

# KoCoS

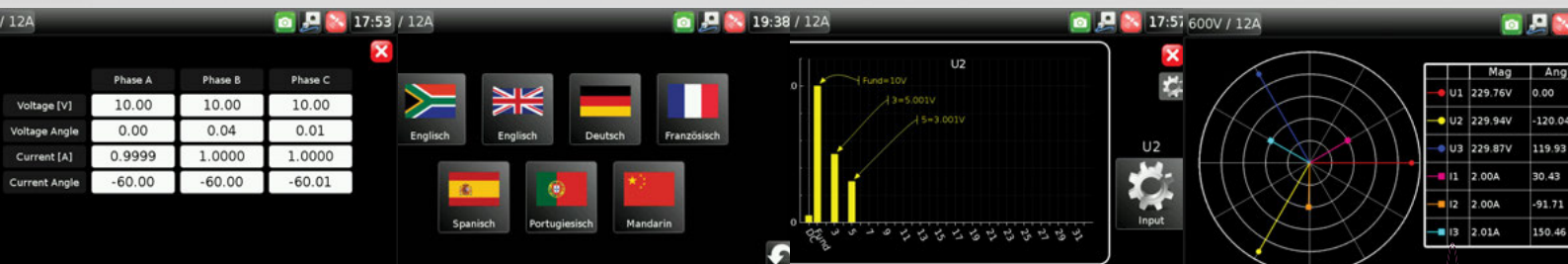


## METES<sup>325</sup>

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A FRIEND OF ENERGY

There will be very few of our readers who, by this time, have not been sensitized to the fact that the current software used in pre-payment meters will no longer accept tokens of electricity purchases after 24th November 2024. To prevent this from happening each meter must be cleared of all current stored TIDs (token identifiers) and then at the same time, an updated version must be installed.

This is a massive task as some 7 million meters are involved in South Africa and with a limited period available to carry out the work (5 years) an average of about 4000 meters must be visited each day throughout the entire country. (There are estimated to be some 70 million meters world-wide that will require this intervention.)

In February 2019 the SARPA Executive accepted a proposal to introduce a new concept to reach and assist members on critical utility revenue protection issues by way of holding regular webinars. It was also decided that the first webinar would be about the STS Token ID Rollover process.

This was scheduled for the 6 May 2019 and has now taken place. It was chaired by Don Taylor and Coordinated by v.d.Walt & co, the SARPA Secretariat. A total of 42 persons participated. The

session consisted of a presentation by the chairman and a question and answers session from the participants and the presenter.

The issues addressed were

- What is TID
- Limitations of the TID
- TID size trade-off
- TID rollover key change
- STS Security level
- STS 600-4-2
- Meter certification prior 2014
- Action to take
- Key change operation
- TID Conservation
- Assistance from STSA

Issues that were stressed are as follows:-

- STS meters do not have to be replaced
- Start as soon as possible and spread the operation over a manageable period of time

Issues explained during QA session were as follows:-

- Cost of modules and the sole supplier issues

- Funding challenges and deliberations underway to deal with this
- Cyber security risks
- Solution to extend the TID beyond 2024 is not endorsed by the STS Association
- Procedure of Testing different kind of meters by STS to determine TID rollover status
- Can the base date of 2014 be changed to 2019?

It is worth reminding readers that the STS was created in South Africa in 1993 as an industry standard to support the Eskom mission of "Electricity for all". This electrification programme aimed to connect 10 million households to the electrical supply grid by making use of prepayment metering technology. The STS Association was founded and became the custodian of the STS in 1997, which was then published by the International Electrotechnical Commission (IEC) as IEC62055-41 and IEC62055-51 as open international standards for prepayment meters. There are currently approximately 170 members from 36 countries, almost all of which are manufacturing STS compliant products.

## THE DoE SOLAR WATER HEATING PROGRAM

In June 2009 the Minister of Energy announced that the Government planned to ensure that 1- million solar water heaters would be installed in households and commercial buildings over the then next 5 year period. Amongst other things this would fit in with broader plans to reduce air pollution, and assist communities to improve their quality of life,

For a project of this magnitude and complexity there were inevitably going to be delays but after the practical start of the operation of placing these units over 30 000 had been installed in the past few years.

There have been further delays but the next phase of the DoE's ongoing efforts is about to start in earnest.

According to the latest information from the Department,



since 2015/2016 about 87000 SWH units have been purchased. Municipalities have been invited to take part in the rollout program and some 20 local authorities have expressed interest in taking part. The next stage of the program is about to commence.



# WHAT DO YOU KNOW ABOUT M.V. CABLE JOINTING ?

The steady increase in the use of XLPE – type cables in our networks, and the obvious change in jointing and termination methods, has necessitated the introduction of new materials and techniques into the industry. In spite of the fact that the new jointing and termination materials are generally of high quality and “relatively easy” to use, proper training is as an absolute necessity if the finished installations are to match the expected life-span of the cable itself.

A marked increase in the number of failures experienced in any utility can invariable be linked to incorrect installation procedures, generally as a result of inadequate or improper training of the artisans involved. The differences in the knowledge and skill required for handling and working on XLPE against that required for PILC is significant. This is compounded by the fact that “transition joints” are often required when the newer XLPE cable is introduced to older networks.

It is interesting to note that for installation of house wiring a formal trade test is mandatory, but that no formal test is required for MV Jointing and Terminating.

With the ever increasing global competitiveness among manufacturers and more modern switchgear connections being used within South Africa, it is obvious that installations need to be done correctly the first time around to ensure reliability and safety.

Tank Industries A division of ATC (Pty) Ltd identified a need to increase the level of knowledge and skills of its own personnel and customers and as such started a training academy to cater for the instruction of Low and Medium Voltage Cable Jointing and Termination methods and procedures. The facility and the courses have become recognised by the industry as one of the leaders in the field.

The course instruction promotes general principles and uses internationally



and nationally recognised experts in their fields to transfer their knowledge to attendees. The curriculum uses SANS 10198- 9, 10 and -11 as its base and learners are tutored in the theoretical as well as practical aspects of Jointing and Termination of cable and cable accessories. Assessment and moderation are carried out and performed by trained and experienced professionals.

In order to control the process and confirm the training outcome, external moderation is performed by EWSETA.

The results of the training courses over the years have been very encouraging and have led to the courses being considered as a prerequisite for contractors contracted to work on national and municipal networks.

Training classes are provided for different entrance levels from NQF level 2 to NQF level 4. The Training facility is an accredited EWSETA Skills Development Centre specialising in Medium and Low voltage Cable Jointing and Termination methods. The training is both theoretical and practical and is done under the auspicious and accreditation of EWSETA. Procedures have been established for the training needs of the technical personnel to meet the standards of SANS 10198 (Part 9, 10 & 11), SANS 1332/NRS 053:2008.

For any further enquiries please contact Kobus van Eeden

Phone: +27 (0)21 700 4380

Fax: 27 (0)21 701 0128

Email: kobus.vaneeden@tank.co.za

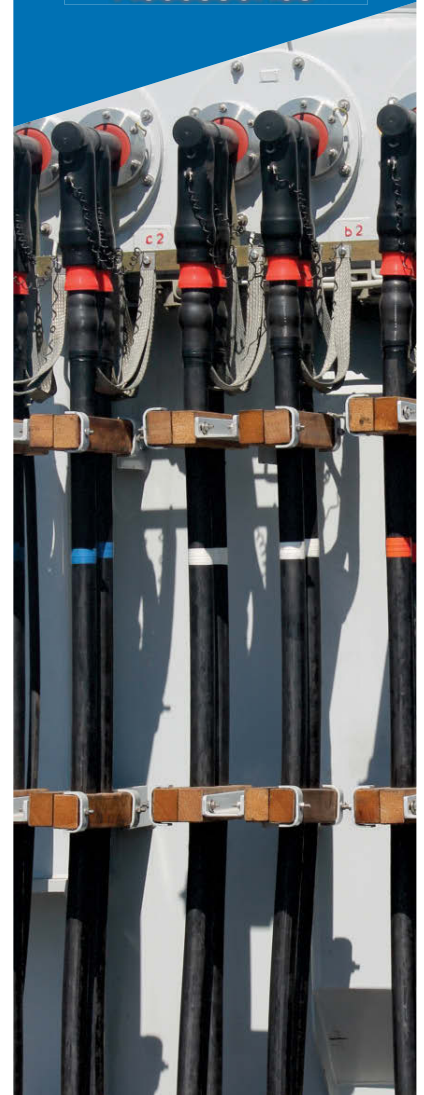
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# AFFILIATES AFFAIRS



## GOLF DAY

One of the highlight events in the AMEU Affiliates annual calendar is their get-together on a golf course. This year it took place on 23rd May on the Glenvista course in Jo'burg. Sixteen four-balls took part and all enjoyed the perfect weather that greeted them. A great day was had by all.

It was well supported by the group's sponsors and special thanks go out to the following companies for this greatly appreciated assistance...

### The following companies sponsored four-balls

Actom	M-Tec
ADC Energy	Nyamezela Metering
Beka Schröder	Rocla
Eaton	Schneider Electric
Eberhardt Martin	Sectional Poles
GE Grid Solutions	Tank Industries
Landis & Gyr	

### The following companies sponsored holes

Beka Schröder	Eaton
M-Tec	

The winners of the various categories are as follows;

**Longest drive on 18th:** Jakes Jacobs – L to R: Nisha Chetty, Jakes Jacobs and Sam Kgosana

**Nearest to the pin on 8th:** Andries du Plessis – Photo: L to R - Nisha Chetty, Andries du Plessis and Sam Kgosana

**Longest day:** photo L to R: Basil McNaughton, Clive Watson, Nisha Chetty, Tony Sherrin, Sam Kgosana

**Runner up:** Jannie Rossouw, Italo Filliseti, Nisha Chetty, Carl Scheepers, Sam Kgosana, Dawie van Niekerk

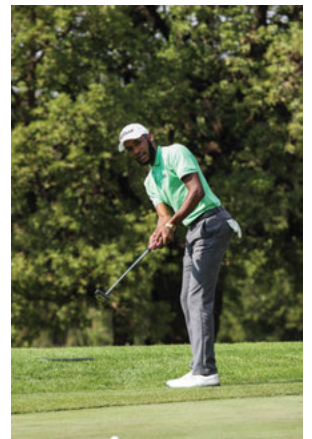
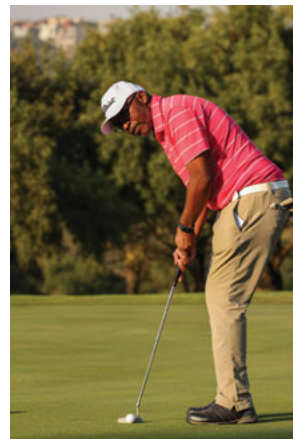
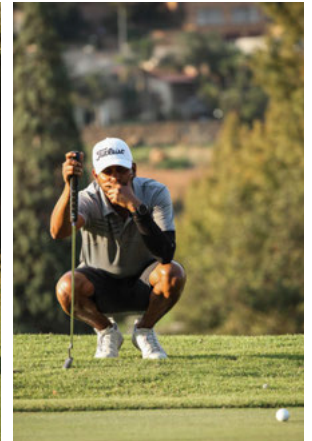
**Winning team:** Deon Bopal, Theo Pretorius, Andries du Plessis, Melvin Kupersamy







## AFFILIATES AFFAIRS



## CONVENTION

Just a reminder of the prestige Affiliates Exhibition that runs concurrently with the Convention, will this year be held in the Cape Town Convention Centre from 13th to 16th October 2019. For more information on this and other planned activities or related matters please contact Jacqui Burn, 083 229 9750, [jburn@telkomsa.net](mailto:jburn@telkomsa.net).

## BUSINESS LEADERS BREAKFAST

Arrangements for this important event are still being finalized but it will take place on 5th September, 2019 and readers are asked to reserve the date in their diaries and await further details,

## CONTACTS

For easy reference, below is a list of the Committee members and their contact details should you require information on any Affiliate-related matters;

**Gordan Arons (Chairman); 082 567 8281**

**Paddy Padachee (Vice Chairman); 082 560 8953**

**Jacqui Burn (Treasurer); 083 229 9750**

**Yolandi Zeelie (Secretary); 084 012 4531**

**Dave Turton; 082 461 4180**

**Hannes Roos; 082 469 3933**

**Sam Kgosana; 011 456 4200**

**Nisha Chetty; 012 645 3117**

**Cynthia Badenhorst; 082 656 9710**



## RUNNING NEWS.....

### Two Oceans 56km ultra marathon

The Two Oceans Marathon features a 56km ultra marathon, a 21 km half-marathon and a number of "fun" runs. The overall entries exceed 20 000 with the "main" event well in excess of 10 000 runners. The route is essentially from Newlands to Muizenberg, then Fish Hoek and then up the Atlantic seaboard via Hout Bay and Chapman's Peak back to the City.

The 2019 event was the 50th since it started in 1970 with 26 runners, Numbered in the 10 000+ participants in the 2019 run was our AMEU President Refilwe Mokgosi who completed her 7th run in 5hrs-54mins ! Well done and **CONGRATULATIONS.....**



### And now the very latest.....

In 1999 the authorities in China introduced the world's running athletes to a 42km marathon along the Tianjin Section of the Great Wall of China, 129km North-east of Beijing. Runners encounter some 5000 steps along the route. The 2019 event took place on the 16th May and yes, you guessed it... our Refilwe was there !

Again our **CONGRATULATIONS** to Refilwe and **WELL DONE** to all the members of the South Africa group who took part.



### And it doesn't stop there !

On the 13th April 2019 the Maluti D90 cycle race took place..... This event runs from Clarence, to Bethlehem and then to the Golden Gate , finally returning to Clarens... a round trip of 180km. And again, Refilwe was there !

**WELL DONE & CONGRATULATIONS !**





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## SMILE !

We all know that the only certain thing in life is that there will be CHANGE !..... It's a simple fact that we fool ourselves if we believe otherwise....

So ? .... We are indebted to Chris Rist for the picture below. It shows a part of the assembly of the delegates at the 1957 AMEU Margate Convention. Chris' father - Cyril Rist - came to South Africa from "Rist Wires and Cables" in the UK in February 1947 to start Aycliff Cables in South Africa. His wife Jean is just visible on the extreme left in the second row, and he is next to her, second from the left. Aycliff's Sales Manager Milton Frankle and ..... his wife are seated next to the Rists.

So, does anyone remember an Affiliate company called Aycliff cables ?..... No ?... it's not surprising.. it was bought by Aberdare Cables in 1969 and "disappeared" after a life-span of some 20 years. And "in those days" there were no "Affiliates"!

The attendance of commercial organizations - particularly engineering-based organizations - was on an informal basis.... Affiliate Membership was only formalized in 1974... ..... a change that has served the AMEU well these past 40+ years..... check out the spectacles and the ladies head-gear !

A view of the 2017 convention in Emfuleni

(On a personal note... the 1957 Margate Convention was my very first AMEU Convention, having started my 37 year municipal career in Somerset East in 1954 ! Ed.)



## GENERATION,..... TRANSMISSION.....DISRIBUTION.....

The current moves to change the "vertical structure" of ESKOM, our troubled para-statal company, triggered a search into the history of what is ultimately the key link in the chain, Transmission..... it revealed some interesting facts.....

AC transmission was made possible after the development of a "secondary generator" – effectively a 1;1 transformer – by Lucien Gaulard (France) and John Dixon (England) who collaborated in the development work in 1881. This was followed by a 34km line operating at 2kV built for the 1884 for the Turin International Exhibition in Northern Italy.

In 1885 a 2kV system was installed in Rome, powered by two Siemens & Halske alternators supplying electricity to 200 public lighting lamps via 19km of lines. This was followed a few months later by an AC system in London.

The first three-phase alternating current system, regarded as the beginning of three phase transmission, was used to supply power to the International Electricity Exhibition in Frankfurt, Germany, in 1891. It transmitted power from a hydro station at Lauffen on the Neckar river via a 175km long line operating a 15kV and had a claimed efficiency of 75%.

The project was designed by a Russian-born engineer, Mikhail Dolivo-Dobrovolsky, who had moved to Germany in 1881 and worked for AEG from 1887. The hydro-electric station at Lauffen - which he designed - was a world first, as were the three-phase transformers used in the project. He is generally regarded as the "father" of modern AC transmission systems.

He also designed the first squirrel-cage induction motor and held over 60 patents during his lifetime.





# ELECTRIFICATION FUNDING..

Providing the basic infrastructure to distribute electricity is an expensive business. Providing access to electricity and the networks involved in making that possible requires money, material and manpower. From the earliest programs under the various “electricity for all” initiatives, even from Eskom early build programs, funding has always been a key issue.

More recently, the main funding of the newest Integrated National Electrification Programme (INEP) is a conditional grant allocation through the National Budget (Fiscus).

The DoE occasionally provides capacity building support to municipalities struggling to implement the electrification programme.

However, the electrification programme experiences a number of challenges which include:

- Implementation of grid connections in some municipalities starting late due to municipal financial year being July – June, whereas the department’s (National) financial year runs from April – March.
- The lack of holistic infrastructure to ensure that the networks are extended in the most effective manner.
- Increasingly, households have to be electrified in deep rural areas where installation cost is much higher.
- Lack of skills and resources in municipalities’ technical departments to plan and manage these large electrification projects.
- Long procurement processes in both Eskom and municipalities delaying the start and completion of projects and the escalation of costs.

The Urban Settlements Development Grant (“USDG”) was introduced in the 2011/2012. Its strategic goal



Chief Albert Luthuli Ext 6 (Photo credit: ESI-Africa.com)

is to assist metropolitan municipalities to improve household access to basic services through the provision of bulk, link and internal reticulation infrastructure, with a focus on the poor, and urban land production to support broader urban development, spatial integration and inclusion by supplementing the capital budgets of metropolitan municipalities.

The USDG seeks to supplement the capital revenues of metropolitan municipalities in order to support the national human settlements development programme, focusing on poor households. Eight metros were initially registered to receive this supplementary funding.

Until December 2018 metros and other municipalities and Eskom accessed the DOE INEP funding to undertake their various electrification programmes. In addition to the INEP funding metros could also access the USDG to undertake electrification projects. However since December 2018 metros will no longer access the INEP grant funding for electrification. They can only access the USDG to fund their electrification projects.

This change has an adverse effect on the affected Metros’ ability to expand their electrification programs and discussions are taking place in various forums to try to find a way forward.

## WIND ENERGY DEVELOPMENTS

As most observers know, the conventional wind turbines that are springing up in our country, and very rapidly all over the world, have large diameter propeller - type rotors that turn relatively slowly. A major component located in the nacelle, along with the generator, is of course the gear-box. This is a significant piece of equipment both in its size and mass.

Ongoing research and development in this field is now looking into designing generator that will operate at “slow” speeds and allow for a direct drive to the propellers. These advanced - and physically smaller designs - will lead to more efficient and cheaper-to-build machines.

One of the companies involved is ABB, who are researching the development of a lightweight double-stator generator - including an advanced magnet cooling system - for turbines of up to 15 MW.



## MORE WiE UPDATE

eThekweni Electricity hosted the launch of its Women in Electricity programme on 28 May 2019. Approximately 200 Electricians, Engineers, Technicians and Technologists from eThekweni, Msunduzi, uMhlathuze, Ray Nkonyeni and Umuziwabantu Municipalities attended the workshop. The delegates were welcomed by Maxwell Mthembu (Head:eThekweni Electricity). The workshop programme directors were Tasmin Moodley and Sinegugu Phungula.

Punkie Majola (Chairperson of the AMEU WiE) shared the WiE mandate i.e. accelerate gender transformation in the industry; create tangible programmes that are designed to capacitate women in the electricity sector and maximize the positive contribution that women can make in the industry. The delegates were also encouraged to register as WiE members on the AMEU website.

Sarisha Ojageer and Suerakisha Mahadeo introduced eThekweni Electricity's WiE initiative. The objectives of the eThekweni Electricity WiE initiative are to provide technical training that is relevant to women at all levels within eThekweni Electricity; develop soft skills such as professional etiquette, confidence, personal financial management, networking and interview skills; provide mentorship for ECSA professional registration; improve representation of women in the Energy sector and stress the importance of participation in work groups and technical forums; encourage participation in women development initiatives for personal growth and the empowerment of other women; provide mentorship for girls involved in STEM in schools and universities; create a network of likeminded women to help each other grow; and change the mind-set from merely "progression"-orientated to "advancement" and "empowerment" to encourage lateral growth. The intention is to develop women into "Change Agents" who can then drive long-lasting and far-reaching change.

Veer Ramnarain provided a background to eThekweni Electricity's journey to improve female representation in technical job categories. Raj Dhrochand shared career paths available for Electricians, Engineers, Technicians and Technologists at eThekweni Electricity. Thenjiwe Mthembu from the Independent Municipal and Allied Trade Union shared a presentation on the challenges faced by women. Thomas Francis shared safety insights with the ladies and reminded them that electricity can result in fatalities if not treated with caution. Phumzile Sibisi, eThekweni Electricity's first female Deputy Head, provided a motivational talk on holistic development and the balancing act.



The purpose of the day was to engage with the delegates in order to understand and document the challenges that they face as women in eThekweni Electricity. The delegates were divided into groups to discuss the challenges and opportunities with respect to personal growth, the work environment, career development and training and skills development. A representative from each group presented their findings in a feedback session facilitated by Themesha Khan. This feedback will be the input for developing future initiatives for eThekweni Electricity WiE.

The proceedings were concluded with a vote of thanks by AMEU's President-Elect, Jayshree Pershad. Support for the programme was implicit in the spirited and enthusiastic interactions between the delegates. This successful launch marked the start of many fruitful engagements with the community of women in electricity.

# NOBODY GIVES YOU POWER

## MORE WiE TRAINING

The newly launched branch in the Eastern Cape has wasted no time in arranging training for the members of their Branch. The picture shows a recent gathering of the ladies for a training session that covered all aspects of their work, working conditions, and related matters. Well done and congratulations to the organisers. Keep up the good work !



## MORE ABOUT TRAINING

It is worth recording that our sister organisations, the SAIEE and IESSA, both have very active technical training programs. These are available to AMEU Members and the SAIEE course fees have a discounted rate for AMEU Members. The following is a list of courses that may be of interest to our members.

### SAIEE Training Academy



July		
01/07/2019	High Voltage Testing & Measurement	CPD Course
02/07/2019	oad to Registration for Engineering Candidates	CPD Course
09/07/2019	Fundamentals of Power Distribution	CPD Course
11/07/2019	Electrical Engineering Fundamentals for non-Electrical Engineers	CPD Course
16/07/2019	CIGRE SC B1 Tutorial Session: Cable Systems Reliability	CPD Course
16/07/2019	Incident Investigation and Management (incl. Root Cause Analysis)	CPD Course
18/07/2019	Fundamentals of Developing Renewable Energy Plants	CPD Course
18/07/2019	WCC19: New Engineering and NEC contract	CPD Training
23/07/2019	Fundamentals of Long Term Evolution (LTE) for Mobile Communications	CPD Course
25/07/2019	Advanced MS Excel: Practical Data Management Applications for Engineers	CPD Course
30/07/2019	Power Systems Protection	CPD Course

Contact SAIEE, Tel: 011 487-3003 or +27(0)11 487 9040, e-mail: [info@saiee.org.za](mailto:info@saiee.org.za)

### IESSA



4 July	7IESSA CONGRESS		
15 - 16 July	Energy Efficiency	TBAIESSA,	Centurion
17 - 18 July	Interior Lighting	Andre Blignaut	IESSA, Centurion
12 - 13 August	Lighting for Roads & Precincts	Daniel Kasper	IESSA, Centurion
14 - August	Exterior Lighting	Andre Blignaut	IESSA, Centurion
16 - 17 September	Shop & Retail Lighting	Christo Kapp	*IESSA, Centurion
18 - 19 September	Basic Lighting Concepts	Elsie Coetzee	NMISA, Pretoria
9 - 10 October	Hazardous Lighting	David Maree	*IESSA, Centurion

Contact Tel: IESSA, Tel: 011 476-4171, Email: [info@iessa.org.za](mailto:info@iessa.org.za)



# IESSA ACTIVITIES

Readers will know that the Illumination Engineering Society of South Africa, is the sister organization to the AMEU that looks after the interest of lighting, the lighting industry, the science involved and all its ramifications and applications. There is also a significant cross membership between the two organizations and many AMEU members have held executive positions in both organizations.

In much the same way as the AMEU and SARPA, IESSA has a branch structure that assists members living and working in different parts of South Africa, and which hold meetings from time to time.

The report below has been received from the KZN Branch, and gives an indication of their activities in that Region.

## IESSA KZN ACTIVITIES

"IESSA KwaZulu-Natal Branch holds member meetings every month with informative technical presentations on a variety of topics from basic lighting concepts of LEDs, to the application of



lighting in hazardous areas to waste management of lighting equipment. We are always very appreciative of our IESSA members and presenters and the time and effort they put into sharing knowledge, and effectively, adding tremendous value to all our members and associates. A great big thanks to you all.

To get notifications of the next meeting please contact Dereck Currie (kwazulunatal@iessa.org.za ).

We are also working on getting a few courses set up in KZN as well and are very excited about this. This will be

relayed to all our valued members in the days to come.

KZN branch attended the KwaZulu-Natal Construction Exhibition which was a great success. We enlightened some people that visited our stand and received a lot of interest with scholars and university graduates as well.

IESSA is holding its annual congress from the 4th to the 7th of June in Pretoria, for more information on this please see our web site (www.iessa.org.za) for enrolment forms.

Membership base is growing though we are always looking for new members to share in the valuable knowledge. There are two ways of acquiring membership application forms. Visit our website or you can contact any of the committee members whose details are on the website as well for your convenience, for more information."

(Our thanks to Dereck for compiling this report. Other Branches are welcome to submit appropriate information on their activities, or minutes of meetings, for publication. Ed)

*"Tell me and I forget, teach me and I may remember, involve me and I learn."*

*Benjamin Franklin*

## LIST OF SPONSORS

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