



# 2014

ANNUAL REPORT

# CONTENTS

ANNUAL REPORT 2014



About the Power Institute for East & Southern Africa	1
Members of the PIESA Board	2
Chairman's review	4
PIESA vision & objectives	5
From the desk of the Executive Director	6
Committees	7
Financial statements	11
PIESA membership	13

# ABOUT

THE POWER INSTITUTE FOR EAST AND SOUTHERN AFRICA (PIESA)



**The Power Institute for East and Southern Africa (PIESA) is a voluntary regional electricity industry association established in 1998 to facilitate and coordinate the sharing of information and technology in the specialised areas of:**

- Technology and engineering support;
- Applied research;
- Standardisation;
- Environmental management; and
- Technical development and training

PIESA aims to be the catalyst for sustainable regional technological cooperation in expanding the electricity distribution industry for regional growth and development by:

- Encouraging participation by all regional electricity distributors and supporting industries;
- Compiling, optimising and maintaining integrated information systems for technology related to the distribution of electricity including technical equipment specifications and codes of practice that are appropriate for the regional environment;
- Providing a mechanism for continuously capturing the experiences of members in order to improve efficiency;
- Encouraging the use of local resources and manufacture of equipment for use in the distribution industry;
- Promoting applied research in areas that are relevant to the effective performance of members;
- Fostering a culture of technology transfer and skills development among the members;

- Developing strategic alliances and partnerships with other related organisations involved in or with the electricity distribution industry.

In a nutshell, PIESEA aims to improve electrification in East and Southern Africa through sharing information, research, technology, skills and experiences for the benefit of customers and suppliers in the electricity distribution industry. The main focus is on technical rationalisation to achieve economies of scale with local manufacturers in an effort to enhance electrification in the region.

Membership is open to electric power utilities in East and Southern Africa, manufacturers, suppliers of equipment, researchers, academic institutions, investors, financiers and other associations who wish to participate in PIESEA's activities.

PIESA is governed by a Board of Directors with representatives from each participating utility. The prime responsibility of the Board is to determine the objectives and direction of PIESEA.

PIESA's core activities are conducted through its four Advisory Committees:

- **Electrification**
- **Non-Technical Loss Reduction**
- **Environmental and Safety Management**
- **Standardisation**

Members currently include electricity distributors from the following countries: DR Congo, Kenya, Lesotho, Malawi, South Africa, Tanzania, Uganda, Zambia and Zimbabwe.



# MEMBERS

OF THE PIESA BOARD



**Peter Mtonga**

---

Chairman

ESCOM - Malawi



**Eng. Felchesmi Mramba**

---

Immediate Past Chairman

Tanesco - Tanzania



**Sandile Maphumulo**

---

Member

AMEU Southern Africa



**Paul Johnson**

---

Co-Opted Member

AFSEC



**Zibu Mthiyane**

---

Member

ESKOM - South Africa



**Eng. Bukhosi Siso**

---

Member

ZESA - Zimbabwe

# MEMBERS

OF THE PIESA BOARD CONTINUED...



**Benson Muriithi**

---

Member

KPLC - Kenya



**Simbiso Chimbima**

---

Member

UMEME - Uganda



**Bestty Phiri**

---

Member

ZESCO - Zambia



**Gerard Lehloenya**

---

Member

LEC - Lesotho



**Mbolama Montala**

---

Member

SNEL - DR Congo



**Knox Msebenzi**

---

Executive Director

PIESA Executive Director

# CHAIRMAN'S

REVIEW - MR PETER CHISUSE MTONDA



**The correlation between economic development and electricity penetration is a commonly held truth. Many developing countries are striving to increase the provision of electrical power to the general population. In today's environment, this is against the background of environmental concerns of carbon emissions, resulting in limitations on the development of conventional electricity generation by the use of fossil fuels such as coal.**

A second constraint is the prohibitive costs of establishing electrical power transmission infrastructure in the vast geographical areas of developing regions such as Africa, with limited financial resources. Both of these constraints have led to the popularity of the concept of Distributed Generation which is regarded as a panacea for rural electrification for villages and small settlements remotely located from any grid infrastructure but typically well-endowed with solar and wind energy. The need for low cost electrification is yet an added challenge in extending power to the rural and remote areas. Single Wire Earth Return technologies are proving to be part of the solution to this but Africa has yet to take this technology on board.

However, the challenges of Africa's development cannot be solved by piecemeal electrification of villages. Industrialisation remains one of the biggest challenges facing the continent. In order to achieve this, massive investment into sustainable base load power is absolutely essential. Renewable energy sources alone cannot solve Africa's developmental goals. It would appear a judicious mix of energy sources to include base load options such as coal and nuclear are inevitable if Africa is going to industrialise itself out of poverty. This, however, seems to go against popular ideological agendas of some developed countries who believe only renewable energy is the solution for African countries. Clearly, these issues need to be debated to find the right solutions for the continent.

High distribution losses arising from meter tamperers and by-passes is yet another challenge most African utilities are facing. There are obviously huge strides in technology to try and minimise losses. Split prepayment metering combined with smart metering technologies are proving to be the solution so far. Again being a new technology, utilities are playing the wait and see scenario but it is worth mentioning that more and more utilities think this is a solution to metering related distribution losses

This is one of the key strategic issues for PIESA members to address, learning from other regions. As I assume the role of chairman of PIESA, I would like to steer PIESA in a direction that will position the electrical distribution industry on top of the agenda of national and regional development planners and realise significant electrification levels and more revenues through reduction in metering related losses.

I look forward to working with all of you and to facilitate the forging and strengthening of relations with inter and intra region bodies to achieve the goals of PIESA.

Sincerely

**Peter Chisuse Mtonda**

PIESA Chairman

# VISION

## AND OBJECTIVES



### Vision

PIESA's Vision is to be the catalyst for sustainable regional technological cooperation in expanding the Electricity Distribution Industry and stimulating the electrification for regional growth and development.

### Principal Objectives

To stimulate the electrification of the region by:

- Broadening Membership - Participation from all regional electricity distributors and supporting industries.
- Maintaining a centralised integrated information system for technology related to the distribution of electricity.
- Developing mechanisms for the continuous capture of experiences of members to improve efficiencies (feedback loop).
- Encouraging the use of local resources and the manufacture of equipment for use in the distribution industry.
- Optimising and harmonising technical equipment specifications and codes of practice for the regional environment.
- Promoting applied research in areas that are relevant for the effective performance of the members.
- Developing a culture of technology transfer and skills development among members.
- Developing strategic alliances and partnerships in research, industry and manufacture and other similar organisations.
- Compilation of standards and guidelines with the objective of minimising the impact on the natural environment.
- Being flexible to the needs of an evolving Electricity Distribution Industry.
- Facilitating dialogue relating to the Electricity distribution Industry
- Promoting energy efficiency.
- Operating, maintaining upgrading and refurbishment of assets cost effectively.
- Promoting occupational health and safety.

# FROM THE **DESK** OF THE EXECUTIVE DIRECTOR



“

It is an honour for me to have this opportunity to write my first report since I took over from Mr Paul van Niekerk. It is indeed a privilege to serve in such an esteemed organisation and to follow in the footsteps of a giant like Paul.

I was privileged to have attended the Arusha conference which was in partnership with IERE. It was during this conference that the Annual General Meeting instituted a change of guard in the office of the chairman of the board from Engineer Felchesmi Mramba to Mr Peter Mtonga.

The conference and the PIESA meetings went smoothly, thanks to the support and support from TANESCO and IERE. I would like to express my appreciation for this, especially to Engineer Mramba who guided me through the proceedings as this was my first conference since joining PIESA.”

We were honoured by the new chairman's visit to the Secretariat Offices in Bryanston, Johannesburg, on the 30th of January 2014. We appreciate the initiative as it was an opportunity to have the Secretariat function aligned to the vision of the new chairman.

The board mandated the Secretariat to implement the new structure of PIESA, which was motivated by the need to see more activity between conferences and meetings. The institutionalisation of the new structure started off very slowly but I am happy to say that some progress has been made. The new Secretariat Portfolio Committees have been formed and have started to function. The former Working Group Committees, which are now referred to as Advisory Committees, will meet for the first time in Cape Town before the board meeting, as was directed by the board.

Following the board's mandate to the Secretariat, a meeting to pursue collaboration talks with the European Utility Telecommunications Council (EUTC) was held on the 26th of February at the Secretariat Offices in Bryanston. The meeting was attended by Mr Peter Moray, the Director of Global Programs of UTC and was accompanied by Ms Connie Durcsak, the CEO of UTC in the USA. From the Secretariat's side it was Mr Jean Venter and I. The purpose of the meeting was to explore the feasibility of establishing an African Utilities Communications Council along the same lines as other regional councils. The introduction of modern smart grids (mini grids) and sophisticated smart metering will require the introduction of more sophistication for utility communication. This has been done in America and in Europe. Hopefully this initiative will result in the systematic introduction of a suitable protocol management system in Africa.

PIESA is still working very hard at maintaining our external stakeholder relationships, which include our executive membership of IERE, and affiliation to the African Electro-technical Standardisation Commission (AFSEC), RERA, and the UPDEA. There are some obvious advantages in PIESA maintaining relations with Electricity Suppliers Liaison Committee (ESLC) and SADCSTAN, especially for the Standardisation Secretariat Portfolio Committee.

The effort to engage with potential new utility members continues. We took advantage of the conferences that were held in Johannesburg in March 2014 to approach NAMPOWER, EDM and ENEL.

In order to enhance the experience and the value-add to our meetings, the Secretariat has recommended that we invite some speakers at both the May and the September meetings. In May we had the privilege of being addressed by senior executives from ESKOM, among others. The intention is to broaden the scope of the meetings to cover more interesting topics than to talk shop all the time.

We look forward to a productive 2014/2015.

**Knox Msebenzi Pr. Eng.**

PIESA Executive Director



# COMMITTEES

■ Advisory Committees

■ Secretariat Portfolio Committees



## Advisory Committees

PIESA Advisory Committees are to be established as forums where members and technology partners can meet and discuss pertinent issues and agree on regional strategies and actions.

Each Advisory Committee will have a Chairperson to act as the convener, and be responsible to call the meetings and set the agenda. A Deputy Chair is to provide continuity in the event of absence of the Chair from a meeting and a Secretary to provide an administration service for the Advisory Committee such as agenda and minutes of meetings.

Each committee will also have a 'Sponsor Member' who will have a particular interest in the terms of reference of the particular Advisory Committee. This 'Sponsor' shall be a member of the PIESA Board, and will be responsible to liaise between the Board and the committee and convey specific requests for agenda items from the board.

It is suggested that initially five advisory groups should be established in the following groupings

- Utility Management and Governance
- Electrification
- Revenue Protection (Non Technical loss reduction)
- Environmental and Safety management
- Localisation

The participants are delegated by the utilities and a chairman is appointed to each Advisory Committee by the board. The Advisory Committees delegate strategies and executable projects to any or all of the five services secretariats. Information flow and committee administration conducted by an operations manager situated in the general administration secretariat.

In particular, the requirements for the Advisory Committees would be to:

- Meet on a regular basis,
- Identify pertinent subjects,
- Debate and exchange information,
- Network with each other,
- Develop regional plans, strategies and initiatives,
- Share experiences and best practices,
- Regularly report, with recommendations, to the board, the secretariat and to the members,
- Act in the interest of electricity supply industries in the region.

# COMMITTEES

CONTINUED...



These advisory groups will perform the following specific functions:

## (i) Utility Management and Governance

It will discuss issues of common concern and in particular direct the relevant portfolio secretariat to arrange relevant events for drawing up of guidelines for the transfer of skills in this regard.

It could for example liaise with the Knowledge Sharing and Networking secretariat portfolio to coordinate with universities to determine the viability of post graduate management course (or Degree) in utility management. Alternatively, it could liaise with universities or management consultants with respect to setting up guidelines for corporate governance in the utility environment.

## (ii) Electrification

It will discuss and raise issues of common concern, share experiences and refer projects to the portfolio secretariat.

### Examples of Electrification 'projects' would be:

- setting up working relationships with GSEP regarding the SE4All project.
- getting involved with the design and specifications for low cost electrification projects.

## (iii) Revenue Protection (Formerly - Non Technical loss reduction)

The committee is required to meet and raise matters of common interest, and determine the members that will serve on the portfolio secretariat.

The Objective of the Advisory Committee is to address common problems in revenue management and loss control in the region and to establish a set of practical recommendations for all PIESA utility management aiming at modern metering innovations and reducing losses.

## (iv) Environmental and Safety management

The function of this Advisory Committee is to identify environmental issues of common interest to PIESA members and contribute to business efficiency and environmental performance by the development of programmes to facilitate policy development, training and skills development, research and communication.

## (iv) Localisation

This committee will be required to meet on a regular basis and discuss issues regarding the local manufacture of materials and equipment required for electrification projects to be manufactured to PIESA standards.

The standards will be adopted or adapted from existing standards by the portfolio secretariat to suit the specific objectives defined by the group.

The role of the localisation Advisory Committee will thus evolve to include the functions of the former standardisation working group.

### Its prime function will be:

- To review annually/as required the existing purchasing guide and make recommendations for review/updates.
- To recommend to the PIESA secretariat those standards (local national standards or international standards) that could be proposed as projects to SADCSTAN and/or AFSEC for harmonisation.
- Propose and prepare new PIESA purchasing guides for equipment/materials to support the standards recommended in the point above.

# COMMITTEES

CONTINUED...



## Secretariat Portfolio Committees

The secretariat is proposing to restructure the organisation in a way that will allow for clearly defined service delivery channels, with visible accountability and performance measurement processes in place, with roles and functions in the structure, more clearly defined.

Core to the proposal is to re-mandate the existing Working Groups to become Advisory Committees, supported by five new services secretariats, each staffed with a manager and a mix of hired and seconded resources.

The proposal separates the delivery of services from the advisory and networking activities of members and the objective is to establish five service delivery portfolios in support of the aforementioned advisory groups as listed below:

- Administration
- Supply Chain Management
- Standardisation
- Knowledge Sharing and Networking
- Stakeholder Relationships

The Portfolio Committees will perform the following specific functions

### (i) Administration and Finance

The primary role of this Secretariat is to coordinate activities of the Board, and the various Advisory committees.

Provide a financial service including determination of subscriptions, billing and revenue collection and production of regular financial statements and an external audit at the end of each financial year.

Set up and maintain good communications between members by means of telecommunication, email and internet and follow up assigned tasks and activities performed by individual members. The Secretariat is required to assist the Board, and the Advisory Committees with logistical and administrative support.

### (ii) Standardisation

The Standardisation Portfolio Committee will provide a Standardisation service to all Advisory Committees. Each group will have a requirement to acquire the correct existing standard for a particular function.

Recognising that the higher level standards are in general broader that directly suitable as purchase specifications, PIESA can use the common knowledge/needs of its members to develop purchasing guides based on the higher level standards. Such guide should be typically 1-2 pages of text plus a purchasing schedule. The schedule should be in editable format, separate from the guide published in Pdf format.

This has the advantage of retaining the added value of the PIESA standards in a form that can more readily be kept up to date than a full technical specification.

Where the reference standard is an IEC document, it can be included in the IEC's allocation of free IEC standards to affiliate members, or in the case of an IEC member, sold in its IEC form or adopted as a national standard. The reference standard can be proposed to SADCSTAN as a harmonisation project.

NOTE: There will be issues of copyright to be agreed between SADCSTAN and IEC, but this is outside the scope of control or responsibility of PIESA.

Where the reference standard is a national standard from one of the SADC or East Africa countries, it can be proposed to SADCSTAN as a harmonisation project. PIESA should first consult with the relevant National Standards Body (NSB), as it might be preferable for the NSB as a member of SADCSTAN to make the proposal, with a motivation supported by PIESA.



# COMMITTEES

CONTINUED...



Where the reference standard is an NRS specification, the PIESA members should have direct, controlled-access to the NRS specification by arrangement with Eskom/the Electricity Suppliers Liaison Committee (ESLC) in South Africa. PIESA is already an observer member of the ESLC, which is the committee that develops NRS specifications. By agreement, PIESA can be included in the NRS WGs and so give input when an NRS of interest to PIESA is under review, or a new NRS is being developed. PIESA secretariat/representative on the ESLC should ensure the relevant steps are taken to have PIESA members included as observer members of the NRS WGs of interest to PIESA and that they receive the draft documents. Suitable arrangements for the draft NRS specifications to be reviewed by PIESA members need to be established by the PIESA secretariat in collaboration with the PIESA WGs/Advisory Committees.

#### The role of the standards portfolio in the PIESA secretariat will be:

- To liaise with and make recommendations to SADCSTAN (and if applicable, also AFSEC),
- Be custodian of the processes and procedures (outlined in the plan of action) and templates,
- Flag reminders to the Localisation Advisory Committee for outstanding actions,
- To represent/ensure representation of PIESA on the ESLC and ensure that PIESA members are nominated onto the relevant NRS WGs,
- Ensure timely input from PIESA to relevant draft NRS specifications,
- Ensure PIESA members are kept informed of AFSEC standardisation activities and solicit for appropriate PIESA membership of AFSEC technical committees.

#### NOTE this is a mirror of how the IEC operates:

**At head office, the technical officer from the PIESA secretariat will be the custodian of the processes and procedures**

#### (iii) Knowledge Sharing and Networking

The PIESA Board and Advisory Committees will direct their requirements for skills development and training needs to this committee, who will then coordinate a Advisory Committee staffed with the best available combination of volunteers or hired individuals or companies, who would be in a position to provide this form of skill development.

Depending on the level of sophistication of the project, the service secretariat will:

- Project identification & facilitation
- E learning
- Pilot Project planning
- Academic Cooperation

#### (iv) Stakeholder Relationships

This secretariat is intended to be a coordination body for linking with external stakeholders that can benefit PIESA.

All Advisory Committees will refer their requirements for linking to external organisations to the secretariat.

#### (v) Supply Chain Management

The Supply Chain Management Portfolio Committee is to work closely with the Localisation Advisory Committee and on issues relating to procurement and localisation of the supply chain. Maintenance general asset management issues will also be part of this portfolio. To the extent that standards affect localisation, this committee will work closely with the Standardisation Portfolio Committee and the Electrification Advisory Committee.



# FINANCIAL

## STATEMENTS



The association is predominantly funded from membership fees with the most dominant expenditure items being for the regional secretariat in Johannesburg, South Africa, travel expenditure and conference costs. The year ended February 2014 produced a surplus amounting to R295 000. Excess revenue amounting to R942 000 is held in interest bearing money market accounts and the interest is applied to the general funding of the organisation. An audit was conducted by the Johannesburg office of the international audit firm KPMG, which was unqualified.

The most pressing financial challenges for this period related to the non payment of membership fees by a number of country members, as well as finding ways to obtain more operational value from the available financial resources. During 2013 the board approved a restructuring plan involving the creation of a number of operational committees consisting of volunteers and the secretariat, to aid the broadening of operations without increasing expenditure. This process of supplementing permanent resources with volunteer resources should show results in 2014 and into the future.



# FINANCIAL

STATEMENTS CONTINUED...



## ABRIDGED FINANCIAL RESULTS AND POSITION FOR THE YEAR ENDED FEBRUARY 2014

Income	2012	2013	2014
Membership fees	958 000	1 355 000	1 481 000
Events and Education	271 000	76 000	451 000
Interest	1 000	9 000	9 000
<b>Total income</b>	<b>1230 000</b>	<b>1 440 000</b>	<b>1 941 000</b>

Expenditure	2012	2013	2014
Regional Secretariat	939 000	1 046 000	1 120 000
Travel and venue costs	370 000	208 000	456 000
Audit fees	18 000	23 000	16 000
IERE affiliation fees	43 000	46 000	55 000
Taxation	(2 000)	13 000	
<b>Total Expenditure</b>	<b>1 368 000</b>	<b>1336 000</b>	<b>1 647 000</b>

Surplus for the year	2012	2013	2014
Retained surplus brought forward	798 000	660 000	764 000
<b>Retained surplus at end of year</b>	<b>660 000</b>	<b>764 000</b>	<b>1 058 000</b>

Assets and liabilities	2012	2013	2014
Cash and cash equivalents	531 000	556 000	942 000
Receivables	178 000	274 000	181 000
Education fund	(33 000)	(33 000)	(33 000)
Payables and prepaid revenue	(16 000)	(33 000)	(32 000)
<b>Net assets held</b>	<b>660 000</b>	<b>764 000</b>	<b>1 058 000</b>

# MEMBERSHIP

## CATEGORIES AND ELIGIBILITY



**Membership of PIESA is open to the electricity industry. The number of members from time to time shall not be limited, but shall at no time be less than five (5). Membership may not be assigned or transferred to any other person, company or concern.**

Membership is obtained by paying the prescribed contributions as stipulated in Article 14.2 following the acceptance by the PIESA Board of the application for membership.

PIESA has the following categories of membership:

Full Members are organisations that:

- (a) Generate, transmit, distribute or buy and sell electricity; or
- (b) Represent an organisation contemplated in (a).

Affiliate Members are organisations or individuals with an allied interest to PIESA, and would include, inter alia, manufacturers and suppliers of services or equipment to the electricity distribution industry, researchers, consultants and financiers.

### Benefits to members include:

#### Members

- AMEU
- ESCOM
- Eskom
- KPLC
- LEC
- SNEL
- TANESCO
- UMEME
- ZESA
- ZESCO

#### Affiliate Members

- Aberdare Cables
- Circuit Breaker Industries
- Hi-Tech Transformers Maintenance
- Integrity Control Systems
- Landis + Gyr (Pty) Ltd
- Lucy Electric South Africa
- Metal Frabricators - Zambia PLC
- Powertech Transformers
- Reinhausen South Africa
- Schneider Electric
- Siemens Southern Africa
- TE Connectivity
- ZEST WEG Group

- Access to and participation in the development of standards for the electricity distribution sector;
- Sharing of information, technology and skills and, in particular, experiences gained from pilot projects and implementation of new technologies, and local solutions to recurrent problems experienced in the region;
- Network with like-minded organisations, joint research activities and access to information from international research organisations e.g. IERE, EPRI, SAPURAB;
- Influence the development of standard specifications appropriate for the region through active involvement in the Advisory Committee;
- Coordinate with like-minded organisations e.g. SADCSTAN, UPDEA towards the common goal of harmonised standards;
- Participate in training activities, exchange programmes and development projects;
- Participate in regional workshops and conferences, and network with strategic decision-makers in the electricity industry;
- Provide opportunities for market growth and economies of scale for regional manufacturers and suppliers of equipment and services.

# MEMBERSHIP COVERAGE



[www.piesa.com](http://www.piesa.com)  
[piesa@vdw.co.za](mailto:piesa@vdw.co.za)

P.O. Box 868, Ferndale, Johannesburg, South Africa, 2160

Tel: (011) 061 5000