



## CONTENTS

<b>Meetings, Workshops and Conferences...1</b>	
SAPP – EAPP Coordination Meeting .....	1
Crime Prevention Working Group Meeting 1	
<b>System Planning .....</b>	<b>1</b>
Study for Integration of Renewable Energy Sources in the Zambian Grid .....	1
Transfer Limit Procedure Update .....	2
Renewable Energy and Power Infrastructure Investors Conference .....	2
Assessment of the Impact of Renewable Energy Technologies in the Operations of SAPP – Part 1 .....	2
Assessment of the Impact of Renewable Energy Technologies in the Operations of SAPP – Part 2 .....	2
<b>System Operations .....</b>	<b>2</b>
System Disturbances.....	3
<b>Electricity Trading.....</b>	<b>3</b>
Trading .....	3
Market Clearing Prices .....	3
Market Revenues .....	4
<b>Update on SAPP Projects.....</b>	<b>4</b>
Angola - Namibia (ANNA) Interconnector Project .....	4
Botswana – South Africa Interconnector Project .....	4
Mozambique - Malawi Interconnector Project .....	4
Luapula Hydro-Electric Power Scheme Project .....	5
<b>Environmental Corner .....</b>	<b>5</b>
Green Climate Fund – Private Sector Workshop .....	5
Workshop to review the Legal and Policy Framework for PCB Management in Zimbabwe .....	5
<b>Upcoming Events.....</b>	<b>5</b>

## Meetings, Workshops and Conferences

### SAPP – EAPP Coordination Meeting

The second SAPP - EAPP Coordination meeting was held in Dar es Salaam, Tanzania from 3 to 4 July 2019. A governance structure for the implementation of the recommendations from the SAPP - EAPP Integration study was agreed upon including the terms of reference of the implementation framework. The capacity building needs for TANESCO were also evaluated.

### Crime Prevention Working Group Meeting

The Crime Prevention Working Group meeting was hosted by HCB and held in Maputo, Mozambique from 29 to 30 July 2019 and discussed key strategies to combat power sector related crime within the SADC region.



*SAPP Crime Prevention Working Group Members in Mozambique*

Copper and Aluminium overhead conductors and underground cables and transformers continue to be the main targets of theft and vandalism.

## System Planning

### Study for Integration of Renewable Energy Sources in the Zambian Grid



RES4Africa is a non-governmental organisation that promotes development of renewable energy sources in Africa. In partnership with the Government of Zambia and power utilities in Zambia, including ZESCO and CEC, RES4Africa is carrying out a grid integration study of renewable energy sources in the Zambian power grid. From 24 to 25 July 2019, RES4Africa organised a workshop for validating the inception report of the study. The workshop drew participants from the Department of Energy, Rural Electrification Agency, power utilities and the Energy Regulator in Zambia. SAPP was invited to the workshop and was represented by the Operations Engineer. It was noted that integration of renewable energy will have an impact not only to national power grids but also to the regional interconnected grid. Therefore, coordination of plans and harmonisation of operational standards is critical to smooth integration.

### Transfer Limit Procedure Update

The SAPP held a workshop to review the Power Transfer Limits Procedure. The workshop was held in Johannesburg, South Africa from the 31 July 2019 to 1 August 2019. Some bottlenecks resulting in reduced transfer limits especially for circuits where the limiting factor is thermal overload were identified. Solutions to overcome the bottlenecks were discussed and incorporated in the revised Power Transfer Limit Procedure.

### Renewable Energy and Power Infrastructure Investors Conference

The SAPP was invited to make a presentation at the RENPOWER Zimbabwe 2019 – The 2<sup>nd</sup> Renewable Energy and Power Infrastructure Investors Conference. The conference aimed at bringing a realistic analysis and forecast about investment opportunities in the Zimbabwean Energy and Power Sector.

The SAPP was represented by the Planning Engineer and he made a presentation on, **“Power Infrastructure: On Grid and Off-Grid, Electricity Transmission and Energy Storage Programs”**. The focus points for the presentation were:

- Engaging public utilities and IPPs to expedite the development of solar and wind energy projects.
- First Steps and projects in energy storage and realizing its potential and cost efficiency.

### Assessment of the Impact of Renewable Energy Technologies in the Operations of SAPP – Part 1

The SAPP has embarked on a project to assess the impact of Renewable Energy Technologies in the Operations of SAPP. This project is in two phases with Part 1 focusing on the assessment at a high level of the techno-economic and regulatory issues required to ensure reliable integration of projected Renewable Energy capacity.

The Consultant carrying out the studies held a workshop for the Planning Sub-Committee and Operations Sub-Committee to discuss the methodology and agree on some key input assumptions for the study. The key outcomes of the study are:

- Identification of gaps in current regulations, existing infrastructure, institutional capacity and operating procedures; and
- Propose changes to regulations, Grid Code and operating procedures to facilitate successful integration of Variable Renewable Energy.

### Assessment of the Impact of Renewable Energy Technologies in the Operations of SAPP – Part 2

Contract negotiations with the preferred bidder for Part 2 of the study were held in the month of July 2019. Part 2 will in part be informed by the outcomes of Part 1 and will undertake detailed power system modelling to understand the impact of Renewable Energy capacity and identify requisite investments to support the projects.

### System Operations

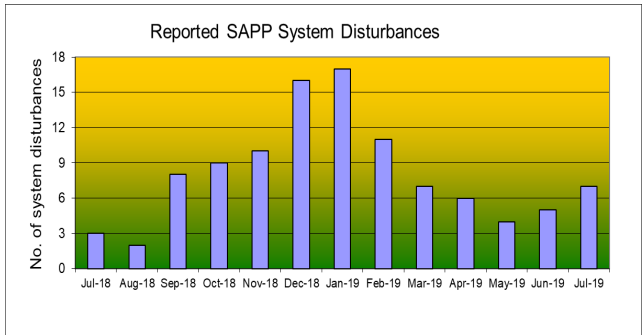


**Southern African Power Pool (SAPP)**  
24 Golden Stairs Road, P.O. Box EH52, Emerald Hill,  
Harare, Zimbabwe,  
Tel: +263-4-335517/335558 / 335468 Fax: +263-4-307023  
Email: [info@sapp.co.zw](mailto:info@sapp.co.zw) Website: [www.sapp.co.zw](http://www.sapp.co.zw)



## System Disturbances

Seven (7) SAPP system disturbances were reported in the month of July 2019. The first two were caused by a fault on a transmission line in DR Congo. The line tripped and initiated power swings on the interconnector and overvoltage on various substations in Zambia, leading to loss of load. The third one affected the Mozambique - South Africa HVDC link and was caused by tripping of an HVDC converter bridge at Songo in Mozambique due to loss of air pressure. The fourth one was caused by tripping of a faulty transmission line in Zimbabwe, leading to tripping of the Zimbabwe - Botswana and Zambia - DR Congo interconnectors due to power swings. The fifth one affected the 220 kV Botswana - Zimbabwe interconnector and was caused by protection malfunction. The sixth one was caused by HVDC system fault in DR Congo (converter bridge trip) and affected the southern network of DR Congo. In the last one, the HVDC link in DR Congo tripped on a fault and caused power swings on interconnectors, and voltage and frequency fluctuations and loss of load in Zambia. Refer to the Figure below for an outlook of reported SAPP system disturbances.



## Electricity Trading

### Trading

Trading in the market was significantly higher during the month of July 2019 when compared to June 2019. Total traded volumes on the Day Ahead market (DAM), Intra-day Market (IDM), Forward Physical Monthly Market (FPM-M) and Forward Physical Weekly Market (FPM-W)

increased by 43% to 250GWh in the month of July 2019, from the June 2019 volume of 175GWh.



Monthly Traded Volumes in GWh in DAM, IDM, FPM-W and FPM-M (April to July 2019).

## Market Clearing Prices

### FPM Monthly Prices

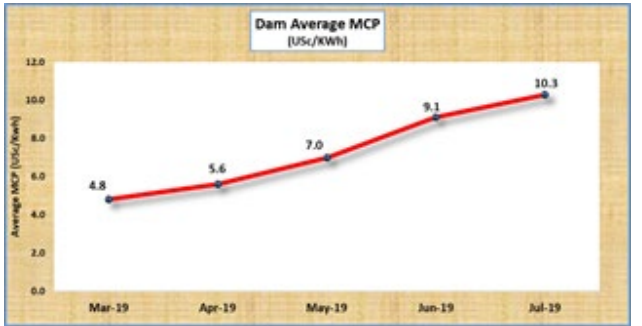
Non-off-peak prices increased by 91% from 11.1USc/KWh in June 2019 to 21.2USc/KWh in July 2019. Off-peak prices increased by 12% from 5USc/KWh in June 2019 to 5.6USc/KWh in July 2019.

### FPM Weekly Prices

The average price for the peak period was higher by 35% at 22.2USc/KWh in July 2019 from the June 2019 figure of 16.4USc/KWh. Standard period average prices increased from the June 2019 figure of 8.7USc/KWh to 10.6USc/KWh in July 2019. The average off-peak price increased from 3.9USc/KWh in June 2019 to 5.1USc/KWh in July 2019.

### Day Ahead Market

The monthly average DAM market clearing price (MCP) was higher during the month of July 2019 at 10.3USc/KWh when compared to 9.1USc/KWh recorded in June 2019.



Daily Average MCP prices from March 2019 to July 2019. Intra Day Ahead Market (IDM)



**Southern African Power Pool (SAPP)**  
 24 Golden Stairs Road, P.O. Box EH52, Emerald Hill,  
 Harare, Zimbabwe,  
 Tel: +263-4-335517/335558 / 335468 Fax: +263-4-307023  
 Email: [info@sapp.co.zw](mailto:info@sapp.co.zw) Website: [www.sapp.co.zw](http://www.sapp.co.zw)



The average spot price for peak period for the IDM for the month of July 2019 was 15.2USc/KWh from the June 2019 figure of 17.4USc/KWh. The average spot price for the standard period for July 2019 was 11.7USc/KWh. The average off-peak period price increased from 4.8USc/KWh in June 2019 to 5.4USc/KWh in July 2019.

### Market Revenues

A total of USD 20 million was exchanged on the market during the month of July 2019 when compared to a total of USD 13 million exchanged in June 2019. The change is mainly attributed to reduced traded volumes.

### Update on SAPP Projects

#### Angola - Namibia (ANNA) Interconnector Project

##### Functional Design Progress:

The preliminary design cost estimations were shared at the Preliminary Design workshop held on the 8th of July 2019 where it was decided that RNT should review the cost prior to finalising the Report. The Consultant is awaiting feedback regarding the updated Preliminary Design Cost estimates.

##### Network Analysis:

The Final Network Analysis report was submitted on the 5th of July 2019. The Insulation Co-ordination Report was prepared and circulated to the Project Stakeholders.

##### Draft Feasibility Report:

- The majority of the Draft Feasibility Report has been developed.
- Part of the Draft Feasibility report involves the updating of the Financial and Economic values based on the updated Preliminary Design cost estimates.

##### Environmental Studies:

The Namibian Draft Scoping Report and Draft Environmental and Social Management Plan were finalised and submitted for approval to the relevant project stakeholders. The approval from

SAPP and NamPower was received on the 18 July 2019. The Scoping Report was submitted to the Environmental Authority in Namibia on the 23 July 2019.

The Scoping Report for the Angolan portion of the transmission line is under translation into Portuguese and should be finalised in August.

The Draft Specialist Reports based on the fieldwork and amendments on the Lubango Substation position are in progress. The Consultant is currently reviewing these reports and will submit them to SAPP and the utilities in August 2019.

The Consultant issued a summary of Specialist Findings on 5 July 2019. Preparation of the Environmental and Social Impact Assessment reports is in progress.

#### Botswana – South Africa Interconnector Project

The Technical Business Case activities are in progress and the Draft Final Business Case Report was submitted for comments. A Final Network Analysis Report was delivered.

Consultations are in progress on the Environmental and Social Status in Botswana and South Africa.

#### Mozambique - Malawi Interconnector Project

Progress on the key technical activities related to preparation for the Project Implementation Memorandum (PIM) is as follows:

- Resettlement Action Plan (RAP) preparation is on-going since February 2019 and is scheduled to be finalized in September 2019.
- Procurement of the Owner's Engineer commenced in April 2019 and should be completed in February 2020.
- Preparation of Tender Documents is on-going and should be finalized in November 2019.
- Mobilization of Construction Contractors will be carried out between January and August 2020.



**Southern African Power Pool (SAPP)**  
24 Golden Stairs Road, P.O. Box EH52, Emerald Hill,  
Harare, Zimbabwe,  
Tel: +263-4-335517/335558 / 335468 Fax: +263-4-307023  
Email: [info@sapp.co.zw](mailto:info@sapp.co.zw) Website: [www.sapp.co.zw](http://www.sapp.co.zw)



### Luapula Hydro-Electric Power Scheme Project

Technical deliverables and activities for July include the following:

- Submission of the Final Options Selection report and the Gauging Stations Report
- Commence with the Prefeasibility Studies
- Development of the Environmental and Social Screening Report is ongoing.

### Environmental Corner

#### Green Climate Fund – Private Sector Workshop

The SAPP attended a workshop on increasing private sector's understanding of the Green Climate Fund (GCF) at the invitation of the Zimbabwean Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement. The GCF is the largest multilateral fund designed to support the paradigm shift towards low emission and climate resilient

The main objective of the workshop was to introduce the GCF and specifically, the Private Sector Facility, PSF. The modalities and operations of the PSF were unpacked, with the view of raising awareness of key private sector stakeholders to respond appropriately to the opportunities presented by GCF resources to invest in climate change outcomes in Zimbabwe. The workshop also aimed at raising awareness on the accreditation requirements for the GCF and proposal development processes to help the private sector assess their capacities; fostering dialogue between private and public sector actors for engagement with GCF; and identify ongoing and project ideas in various sectors.

#### Workshop to review the Legal and Policy Framework for PCB Management in Zimbabwe

SAPP attended a workshop to review the Legal and Policy framework for PCB management in Zimbabwe, at the invitation of the Ministry of Environment, Tourism and Hospitality Industry. The workshop aimed to identify gaps in the afore captioned, as part of the SADC regional project

for disposing PCBs, with the Africa Institute as the implementing Agency.

### Upcoming Events

DATE	EVENT
20 – 23 August	IEEE Power Africa Conference, <b>Abuja, Nigeria</b>
15 August 2019	Joint OSC, MSC and PSC meeting on Transmission Pricing and Energy Imbalance, <b>Johannesburg, South Africa</b>
16 August 2019	OSC, MSC and PSC meetings, <b>Johannesburg, South Africa</b>
20 – 23 August	IEEE Power Africa Conference, <b>Abuja, Nigeria</b>
26 - 30 August	53 <sup>rd</sup> SAPP Management Committee Meetings, <b>Kinshasa, DR Congo</b>
10 – 12 September 2019	SAPP Power Quality Working Group meeting, <b>Harare, Zimbabwe.</b>
8-12 September 2019	24th Congress World Energy Council, <b>Abu Dhabi, UAE</b>
1 – 4 Oct 2019	CIGRE 2019, <b>Johannesburg, South Africa</b>
October 2019	SAPP Executive Committee Meeting, <b>Gaborone, Botswana</b>
3 – 7 Nov 2019	CHINA – Africa Power Sector Forum, <b>Beijing, China</b>



**Southern African Power Pool (SAPP)**  
 24 Golden Stairs Road, P.O. Box EH52, Emerald Hill,  
 Harare, Zimbabwe,  
 Tel: +263-4-335517/335558 / 335468 Fax: +263-4-307023  
 Email: [info@sapp.co.zw](mailto:info@sapp.co.zw) Website: [www.sapp.co.zw](http://www.sapp.co.zw)

