



## CONTENTS

<b>Meetings, Workshops and Conferences ..1</b>	
<i>SAPP – EAPP Coordination Meeting.....1</i>	
<i>PSS/E Workshop.....1</i>	
<i>AUC – IEA Ministerial Forum .....1</i>	
<b>System Planning.....2</b>	
<i>Review of SAPP Load Forecasting Methodology.....2</i>	
<i>Impact of the Integration of Renewable Energy Technologies on SAPP Grid – Part 2.....2</i>	
<i>Setting up SAPP Data Management System.....2</i>	
<i>Transmission Maps Development in SAPP.....3</i>	
<b>Update on SAPP Projects.....3</b>	
<i>Baynes Hydro-Power Plant Project.....3</i>	
<i>Botswana – South Africa Interconnector Project.....3</i>	
<i>Kolwezi – Solwezi Interconnector Project...3</i>	
<i>Luapula Hydro Power Plant Project.....4</i>	
<i>Mozambique – Zambia Interconnector Project.....4</i>	
<i>Zambia – Tanzania Interconnector Project..4</i>	
<i>Regional Transmission Infrastructure Financing Facility (RTIFF).....4</i>	
<b>System Operations .....4</b>	
<i>SAPP System Disturbances.....4</i>	
<b>Electricity Trading.....5</b>	
<i>Traded Volumes.....5</i>	
<i>Market Energy Prices.....5</i>	
<i>Market Revenues.....6</i>	
<b>Environmental Corner .....6</b>	
<i>SADC PCB Elimination Project.....6</i>	
<i>SAPP ESC Virtual Training Programme on African Development Bank Environmental and Social Safeguards.....6</i>	
<i>Crime Prevention Working Group Reporting Revision.....6</i>	
<b>Upcoming Events.....6</b>	

## Meetings, Workshops and Conferences

### SAPP – EAPP Coordination Meeting

The SAPP and EAPP held the third Coordination meeting on 5 November 2020. The meeting was held virtually. Progress on the SAPP – EAPP joint activities was discussed.

### PSS/E Workshop

As a follow up to Siemens’ participation at the Planning Sub-Committee meeting in Lilongwe, Malawi in March 2020, the SAPP CC together with the Siemens organized a PSS®E Overview presentation to SAPP members. PSS®E is a high-performance transmission system planning and analysis software commonly used by many SAPP members.

The presentation was a 90-minute webinar that provided SAPP PSS®E users an overview of the many new enhancements of the PSS®E product, feature demonstrations and finally technical clarifications. Similar events with other users around the world have been greatly successful.

The presentation was held virtually on 17<sup>th</sup> November 2020 and it was attended by PSC and OSC members as well as the team that usually carry-out the transfer limits studies.

### AUC – IEA Ministerial Forum

SAPP attended the second African Union Commission (AUC) – International Energy association (IEA) Ministerial Forum held virtually on 24 November 2020. The forum included a presentation of the IEA 2020 World Energy Outlook and the AUC Resilience and Recovery Action Plan. Discussions included the impact of the Covid-



19 Pandemic on the energy sector in Africa and recovery action plans.

## System Planning

### Review of SAPP Load Forecasting Methodology

The review of the Load forecasting methodologies in the SAPP is ongoing. Load forecasts forms the basis for rigorous demand/supply planning analysis. At regional level, inconsistent load forecasts could provide false signals to projects of regional benefit by either over or underestimating the benefits of the project, therefore the SAPP aim to benchmark and evaluate the different load forecasting methodologies that are being used in the various countries with the final objective being to develop a guideline for load forecasting in the region.

During the month of November 2020, the inception report was delivered. The next milestones of the projects are as shown in Table 1 below.

*Table 1: Project deliverables and schedule for the Load forecasting methodology study*

Deliverables	Submission Date
<b>Inception Report Workshop 1</b>	1 <sup>st</sup> December 2020
<b>Draft Report</b>	24 <sup>th</sup> March 2021
<b>Workshop 2 – Draft Report</b>	7 <sup>th</sup> April 2021
<b>Load Forecast Model and Manuals</b>	14 <sup>th</sup> June 2021
<b>Workshop 3 – Training on the use of the model</b>	21 <sup>st</sup> June 2021
<b>Final Report</b>	19 <sup>th</sup> July 2021

### Impact of the Integration of Renewable Energy Technologies on SAPP Grid – Part 2

The draft final report for the project, “Assessment of the Impact of Renewable Energy Technologies on the Operations in



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the SAPP: Part 2” was submitted during the month of November 2020.

The primary focus of the Part 2 work is on detailed simulations of the operation of the SAPP power systems with a higher level of variable renewable energy (VRE) penetration. This includes the definition of the procedures and investments required to implement modified dispatch processes in the region. A range of sensitivity studies have been completed to investigate contingency situations in the power system associated with significant increases and decreases in the output of the VRE generation.

A workshop to present the draft final workshop was held virtually on 12<sup>th</sup> November 2020 and was well attended by the PSC and OSC members. A final half-day workshop will be held on 10<sup>th</sup> December 2020 to present the final report.

### Setting up SAPP Data Management System

The SAPP has embarked on a project for setting up a data management system (DMS). The objective is to enable SAPP to have a central depository of all data related to planning, project preparation and development, operations, markets, and environment. This will be assisting the SAPP to easily access the data for any future requirements or studies.

During the month of November 2020, a DMS recommendations report was submitted. The main purpose for the DMS report was to:

- Review options to create a standardized and secure database with a definition of various access rights;
- Identify and recommend appropriate data management system and structure for SAPP;
- Review and provide advice on the best and more secure technology of hosting data portal (whether online or local) based on detailed

presentation of the advantages and disadvantages of alternatives;

- Propose incentives to encourage members to share data and outline how such incentives could be implemented;
- Identify relevant de facto (market) and de jure IT standards to avoid SAPP being locked in by vendors and foresees possible expansions/system growth/future plans;
- Provide advice on training courses;
- Provide advice on SAPP DMS maintenance and support.

### Transmission Maps Development in SAPP

The Transmission Maps Development project is on-going. The recommended software has been procured and delivered to SAPP. Currently the Consultant is mapping the SAPP network into the recommended software – ArcGIS. The final report is expected in January 2021. Training of SAPP staff on the software will be done virtually in January 2021.

### Update on SAPP Projects

#### Baynes Hydro-Power Plant Project

The month under review saw close collaboration and engagement of SAPP and Swedfund, clarifying and firming up on modalities of funding, procurement guidelines and processes for the Environmental studies.

On 16 November 2020, SAPP and Swedfund held a meeting to discuss conditions, process and procedural requirements that SAPP must apply in order to fulfil the Swedfund procurement process requirements for hiring consultants. Further, Swedfund submitted its first feedback on the Technical TORs that were submitted for their attention.

On 19 November 2020, the SAPP and Swedfund discussed the terms of

references, agreed to harmonise the timeline schedule of the technical studies funded by AfDB and the ESIA studies that will be funded by Swedfund. Furthermore, SAPP and Swedfund held another meeting on 24 November 2020 to deepen the conversation on the ESIA funding modalities.

#### Botswana – South Africa Interconnector Project

On 25 November 2020, the project Management Committee Meeting (MANCO) was held virtually to discuss among other issues financing the installation and construction of transmission infrastructure. A request for extension the Facility Agreement had been submitted to DBSA for consideration.

#### Kolwezi – Solwezi Interconnector Project

In the month under review, SAPP received the Draft Environmental and Social Impact Assessment (ESIA) Reports for the DR Congo and Zambia respectively. Further, the DR Congo reported that the ESIA report had been submitted to the environmental authority for review and final decision on the preferred transmission corridor would be made once the reviews are completed.

On 14 November 2020, the Local consultant working with AFRY as ESIA consultant implemented public disclosure and stakeholder engagement meetings along the selected transmission corridor project sites in Zambia. Among other tasks, the local consultant implemented the public meetings in conformity with Covid-19 prevention measures and protocols, as directed by the Government of Zambia. Funding for Covid-19 implementation plans would be financed by AFRY.



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The request to extend the facility agreement was submitted to the AfDB for consideration.

### **Luapula Hydro Power Plant Project**

On 24 November 2020, the SAPP convened a meeting with SNEL and ZESCO, to discuss the way forward regarding funding of technical and ESIA feasibility studies following recommendations by KfW and DBSA in response to prefeasibility ESIA findings.

### **Mozambique – Zambia Interconnector Project**

In the month under review, the technical and environmental studies for the preferred Transmission corridor line routing reported notable progress, with scope creeps and cost variations within permissible limits.

#### **Technical studies**

- In Mozambique transmission corridor, the consultant recommended to install tension towers 10m above the normal seasonal water levels, at the Zambezi river crossing point.
- The Geotechnical consultant will be drilling 19 boreholes along the transmission corridor in Zambia and 56 boreholes along the transmission corridor in Mozambique.

#### **ESIA Studies**

- The Inception report developed by WSP has now been accepted by all the relevant parties. SAPP, EDM and ZESCO have since received the revised and reviewed Inception report, have signed and approved the final inception report.
- The World Bank, EDM, SAPP and ZESCO revised, reviewed and approved the proposed stakeholder's engagement plan.

### **Zambia – Tanzania Interconnector Project**

A project meeting was held on 3 November 2020 to discuss the Procurement and Strategy and Tender Documents. The meeting agreed on the number of Packages/Lots and initially decided to align them with the sources of funding. However, ZESCO clarified that funding for implementation of the project had not been finalised and therefore the Lots could be based on the technically rationalised method proposed by the Consultant.

Indications are that five packages of portions along the transmission lines and associated substations will be proposed with one package to include the SVC at Pensulo. The Tender Documents were prepared in line with the World Bank guidelines.

### **Regional Transmission Infrastructure Financing Facility (RTIFF)**

An initial portfolio of priority projects has now been generated by the consultant in close cooperation with SAPP. The portfolio provides a list of potential first mover projects.

Building on RTIFF's engagement roadmap, the consultant and SAPP have started to engage funders and financiers to explore investment options. The engagements have surfaced significant appetite, with several funders willing to enter detailed discussions in 2021.

### **System Operations**

#### **SAPP System Disturbances**

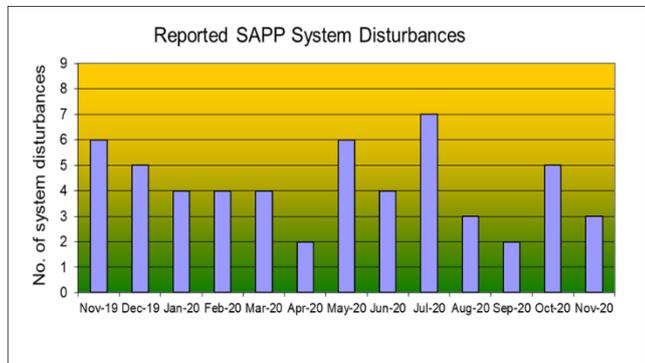
In the month of November 2020, three (3) system disturbances were reported on the SAPP interconnected power system. In the first two disturbances, the 330 kV Mozambique – Zimbabwe interconnector tripped due to transient faults. In the third one, the 220 kV Zambia – DR Congo



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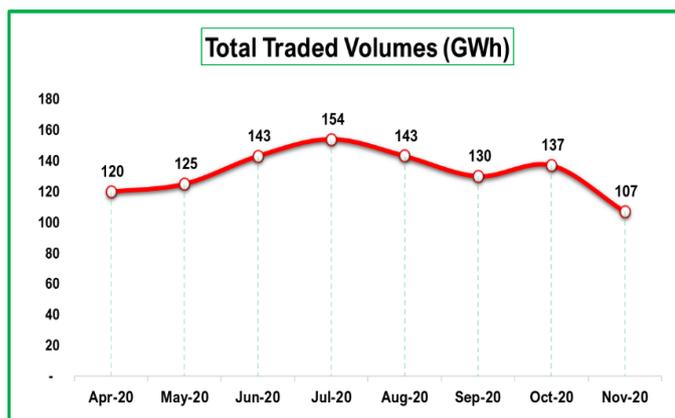
interconnection tripped due to a temporary fault triggered by adverse weather conditions. Refer to the figure below for an outlook of reported SAPP system disturbances in the last twelve months.



## Electricity Trading

### Traded Volumes

Trading on the market was lower during the month of November 2020 when compared to October 2020. 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) decreased by 22% to **107 GWh** in the month of November 2020, from the October 2020 volume of **137 GWh**.



Monthly Traded Volumes (GWh) in DAM, IDM, FPM-W and FPM-M (April 2020 to November 2020)

## Market Energy Prices

### FPM Monthly Prices

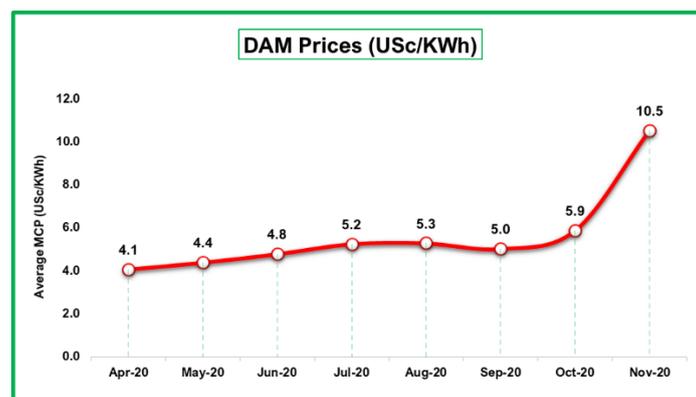
The November 2020 market clearing prices for the non-off peak was 12 USc/kWh, up from the October 2020 figure of 10 USc/kWh. The price for the off- Peak period increased from the October 2020 figure of 2.7 USc/kWh to 3.0 USc/kWh in November 2020.

### FPM Weekly Prices

The average market clearing price for the peak period was higher by 115% at 19.6 USc/kWh in November 2020 from the October 2020 figure of 9.1 USc/kWh. Standard period average market clearing prices increased from the October 2020 figure of 6.8 USc/kWh to 8.7 USc/kWh in November 2020. The average off-peak market clearing price increased from 2.9 USc/kWh in October 2020 to 3.8 USc/kWh in November 2020.

### Day Ahead Market

The monthly average DAM market clearing price (MCP) was higher by 78% during the month of November 2020 at 10.5 USc/kWh when compared to 5.9 USc/kWh recorded in October 2020.



Monthly Average Market Clearing Prices from April 2020 to November 2020

### Intra Day Ahead Market (IDM)

The average IDM price for the peak period for the month of November 2020 was 10.0



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USc/kWh, up from the October 2020 figure of 8.2 USc/kWh. The average IDM price for the standard period increased to 8.1 USc/kWh in November as compared to the October 2020 figure of 5.8 USc/kWh. The average off-peak period price recorded for November 2020 was 3.8 USc/kWh, up from the October figure of 2.6 USc/kWh.

### Market Revenues

A total of USD 9.9 million was exchanged on the competitive market during the month of November 2020 when compared to USD 7.8 million exchanged in October 2020. The change is mainly attributed to increase in market clearing prices. The amount exchanged in November 2020 was however lower than the USD 12.1 million that was exchanged during the month of November in 2019.

### Environmental Corner

#### SADC PCB Elimination Project

The Memorandum of Agreement between SAPP and the Africa Institute (AI) for the execution of the SADC PCB Elimination Project was reviewed by the SAPP and resubmitted to Africa Institute for consideration.

In addition, the AI availed a template to the participating member states, for the development of a Phase out Plan, of outstanding PCB oil and contaminated equipment available in the countries. This will also serve as a commitment to implement the Project as per the Plan.

#### SAPP ESC Virtual Training Programme on African Development Bank Environmental and Social Safeguards

The SAPP Environmental Sub-Committee and Environmental and Social staff of utilities participated in a virtual Workshop focusing on

the Integrated Safeguard Standards of the African Development Bank (AfDB). The workshop was held on 3<sup>rd</sup> November 2020, addressing the following broad topics:

- (i) Environmental and Social Safeguards in Project Implementation
- (ii) The Bank's Integrated Safeguards System
- (iii) Environmental and Social Assessment Procedures
- (iv) Environmental and Social Specifications in Bidding Documents

AfDB indicated its approach towards harmonisation of safeguard practices across multilateral financial institutions to enhance environmental sustainability.

#### Crime Prevention Working Group Reporting Revision

Following the approval by SAPP MANCO to adjust the reporting structure of the Crime Prevention Working Group (CPWG) from MANCO to the OSC, a meeting was convened by the OSC, on 26<sup>th</sup> November 2020. The Meeting aimed to manage the hand-over/take-over and similarly, address the devolution of secretariat duties to the OSC.

#### Upcoming Events

DATE	EVENT
01 December 2020	ANCEE Session of the 9 <sup>th</sup> Steering Committee Meeting - <b>Virtual</b>
08 December 2020	SAPP Power Quality Working Group Meeting, <b>Virtual</b>
10 December 2020	VRE Integration Studies Final Workshop, <b>Virtual</b>



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14 December 2020	AU 1 <sup>st</sup> Extra-Ordinary Session of the STC-TTIIET, <b>Virtual</b>
15 December 2020	SAPP Coordination Centre Board Meeting, <b>Virtual</b>
15 December 2020	SAPP Annual General Meeting, <b>Virtual</b>
11-16 January 2021	ESKOM Control Area, Power Transfer Limits Workshop, <b>Virtual</b>
19 January 2021	SAPP OSC Meeting, <b>Virtual</b>
25 – 29 January 2021	ZESA and ZESCO Control Area Power Transfer Limits Workshop, <b>Virtual</b>
7 <sup>th</sup> April 2021	Workshop 2 – Load Forecasting Methodology, <b>TBC</b>



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