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## Meetings, Workshops and Conferences

### Training on SCADA System

GE, the contractor for the new SAPP SCADA system, delivered training on modelling substations in the e-terra new SCADA environment from 2 to 6 August 2021 and from 16 to 17 August 2021.

### Joint OSC and MSC Meeting

On 19 August 2021, the SAPP Markets and Operating Sub-Committees (MSC and OSC) held a workshop on the Energy Balancing Market which will soon be opened in SAPP. The sub-committees agreed on a guide for activating bids in the Balancing Market by Transmission System Operators (TSOs).

### East African Energy Program Workshop

SAPP CC made a presentation at the East African Energy Program Workshop organised High Level Interconnection virtual training for Ethiopia, Somalia and Djibouti on 16 August 2021. The benefits and development of electricity trading in SAPP were shared.

### IEEE Power Africa Conference

SAPP CC participated on the Regional Power Integration Panel at the IEEE Power Africa 2021 conference virtually on 23 August 2021.

## System Planning

### Transmission Pricing Model Review

The Consultant continued with the work on the study. During the month of August 2021, the following activities were undertaken:

- Workshop to discuss the load flow scenarios.
- Training Session 1 (Theoretical basis for transmission pricing model including the background to the methodology and principles of the model)
- Training Session 2 (Recap of Python and overview of source coding in the model)
- Training Session 3 (Key building blocks of the Transmission Pricing tool and the overview of using Python for manipulating PSS/E)



- Training Session 4 (Hands-On training on use of the model)

The next step is the development of generation and transmission scenarios for modelling.

### Review of SAPP Load Forecasting Methodology

SAPP is reviewing the recommendations from the load forecasting study in terms of the load forecasting models to be adopted by SAPP.

### SAPP Generic Production Costing Model Training

A workshop was held on the project “SAPP Generic Production Costing Model”. The objective of the workshop was to demonstrate the use of the model and analysis of the results from the simulations.

### Update on SAPP Projects

#### ANNA Project

##### Technical Studies:

On 26 August 2021, SAPP, DBSA, RNT and Zutari held a meeting to discuss among other ANNA project aspects:

- The PIM that will be used by the utilities to secure funding from various institutions.
- The procurement process that will be followed by each utility.
- The support required by the utilities to reach financial close.

The meeting resolved on the following:

- Finalisation of detailed proposals for part 3 TORs.
- Consolidation and finalisation of comments submitted on the draft PIM.

##### ESIA Studies:

The Environmental Licence for the Angola section of the line and ESIA studies has been granted by the environmental authorities in Angola.

Issuance of the environmental license marks the start of the public disclosure process, to inform the public about the decision taken by DNPAIA (Angola Environmental Authority) in granting an authorisation for environmental application. The public disclosure will be done using virtual means such as radio communication and public posters. Physical meetings have been suspended due to the COVID-19 pandemic.

### Baynes Hydro-Power Plant Transmission Project

##### Technical Studies:

The SAPP PAU procurement unit has commenced preparations to launch Request for Proposal (RFP) bids, following authorisation from AfDB and increased beneficiary contributions towards the feasibility study budget. The revised feasibility study TORs have been finalised for utilisation in RFP process to procure a successful bidder.

##### ESIA Studies:

As the RFP process has been completed, the SAPP PAU procurement unit has agreed to use the SwedFund pool of ESIA consulting companies, from which to select a successful bidder.

Therefore, ESIA TORs review has been scheduled for early September 2021. SAPP, SwedFund, RNT and NamPower have agreed to hold a consultative meeting at which a transparent selection and shortlisting process shall be firmed up.

### Kolwezi – Solwezi Interconnector Project

##### ESIA Studies:

SNEL has finally approved payments towards the review of RCAP documents by ACE, the DRC



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environmental authority. Therefore, it is hoped that ACE will approve the RCAP within the ESIA consultancy contract period. ZESCO is yet to finalise and approve payment to ZEMA.

### Malawi – Zambia Interconnector Project

#### Technical and ESIA Studies:

The World Bank has issued a “No Objection” in approval of the need to progress to the RFP process.

### Mozambique – Zambia Interconnector Project

#### Technical Studies:

Findings from the generation dispatch model and simulator have revealed poor economic and financial viability of the project, basing on the respective country generation capacity data provided by EDM and ZESCO. To this end, EDM and ZESCO respectively submitted updated country generation capacity data up to 2030.

Project-wide, the following main activities are being performed:

- Finalisation of the PLSCADD model.
- Assessment of the geotechnical investigation reports.
- Financial and Economic Analysis – of the investment basing on updated generation dispatch model.
- Substation designs.
- Transmission line design.

#### ESIA Studies:

##### Zambian side:

WSP and SAPP are in the process of planning the logistics to conduct the Public Disclosure meetings in Zambia. In addition, WSP submitted a presentation to the ZESCO and SAPP for review and input, and comments were received on 20 August 2021.

##### Mozambique side:

The Consultants submitted a plan to outline the procedure that will be followed to conduct the Public Disclosure meetings in Mozambique. It was

noted that the public meetings will commence as soon as the draft reports are approved by EDM.

### Zambia – Tanzania Interconnector Project

#### ESIA Studies:

The final ESIA report has been approved by the ZEMA, thereby marking the completion of the studies.

### Regional Transmission Infrastructure Financing Facility (RTIFF)

The project is currently awaiting a “No Objection” approval from the World Bank after submission of a technical and financial proposal from the consultant to begin the second phase of the assignment. The first phase of the project is now complete, and progress was made on five key areas:

- Options for RTIFF institutional form and structure have been developed.
- Finalized an initial modelling exercise.
- Engaged with financiers and market RTIFF.
- Engaged with project sponsors on five key priority projects.
- Progressed actions and provided a roadmap on enabling the RTIFF assignment.

The second phase of the assignment aims to build from these five key areas and refine RTIFF’s design and move it to establishment.

### System Operations

#### SAPP System Disturbances

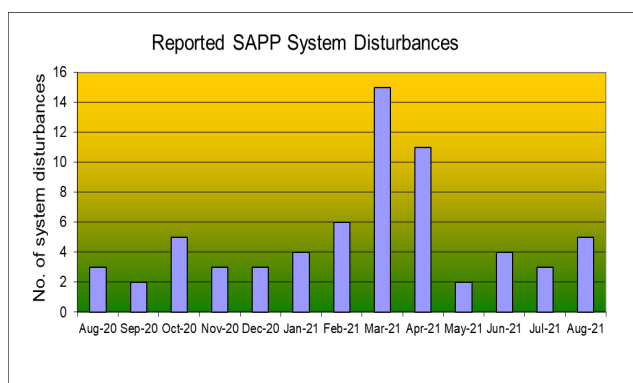
In the month of August 2021, five (5) SAPP system disturbances were reported. The first one emanated from DR Congo where a load of about 166 MW was lost, causing deviations on tie line power flows. In the second one, the Zambian power system collapsed when all generators on bars tripped due to a fault induced by a switching event at a new power station. In the third one, while one 400 kV South Africa - Mozambique



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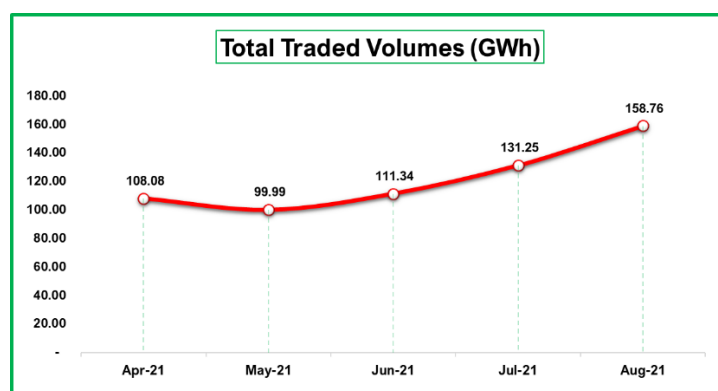
interconnector was out of service on maintenance, the 400 kV South Africa - Eswatini interconnector tripped on voltage un-balance. In the fourth one, the 330 kV Mozambique - Zimbabwe interconnector tripped due to protection system mal-operation on one of the transmission lines in Zimbabwe. The last one was a frequency excursion event. Power frequency dipped from 50.07 Hz to 49.48 Hz when a large generation unit tripped from 913 MW in South Africa. Refer to figure below for an outlook of reported SAPP system disturbances in the last twelve (12) months.



## Electricity Trading

### Traded Volumes

Trading on the market was higher during the month of August 2021 when compared to July 2021. 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 21% to 158.76 GWh in the month of August 2021, from the July 2021 volume of 131.25 GWh.



Monthly Traded Volumes (GWh) in DAM, IDM, FPM-W, and FPM-M (April 2021 to August 2021).

## Market Prices

### FPM Monthly Prices

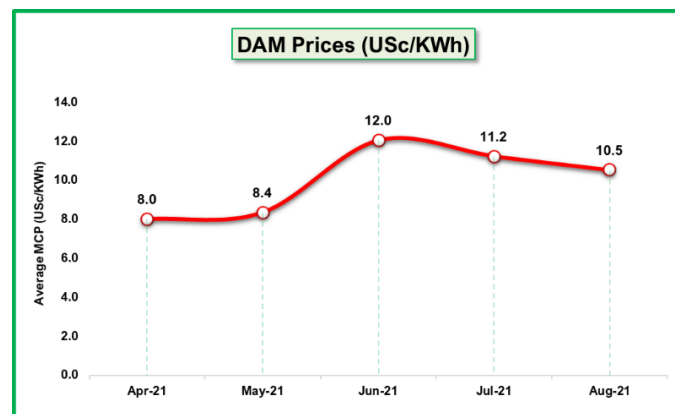
The July 2021 market clearing price for the non-off-peak period was 15.1 USc/kWh, up from the July 2021 figure of 13.1 USc/kWh. The price for the off-peak period was 6.0 USc/kWh in July, the same figure as for July 2021 figure.

### FPM Weekly Prices

The average market clearing price for the peak period was higher by 5% at 22.7 USc/kWh in August 2021 from the July 2021 figure of 21.6 USc/kWh. Standard period average market clearing prices decreased from the July 2021 figure of 10.7 USc/kWh to 10.3 USc/kWh in August 2021. The average off-peak market clearing price for the month of August 2021 was 5.4 USc/kWh. During the month of July 2021, the average off-peak price was at 5.7 USc/kWh.

### Day Ahead Market

The monthly average DAM market clearing price (MCP) was lower by 6.3% during the month of August 2021 at 10.5 USc/kWh when compared to 11.2 USc/kWh recorded in July 2021.



Monthly Average Market Clearing Prices from April 2021 to August 2021.

### Intra Day Ahead Market (IDM)

The average IDM price for the peak period for the month of August 2021 was 13.0 USc/kWh, down



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from the July 2021 figure of 14.6 USc/kWh. The average IDM price for the standard period was 9.2 USc/kWh in August 2021, down from the figure of 9.5 USc/kWh recorded in July 2021. The average off-peak period price recorded for August 2021 was 4.1 USc/kWh, down from the July 2021 figure of 4.6USc/kWh.

### Market Revenues

A total of USD 16 million was exchanged on the competitive market during the month of August 2021 when compared to USD 14.29 million exchanged in July 2021. The change is mainly attributed to changes in prices and traded volumes. USD 7.5 million was exchanged on the competitive market during the same month of August in 2020.

### Market Monitoring and Surveillance

During the month under review there were no observed cases of market manipulation or use of insider information.

On year-on-year basis compared to August 2020, the Market Clearing Prices (MCPs) for August 2021 were relatively higher due to the easing of the COVID-19 lock-down restrictions within the SAPP Market region.

According to the transmission allocation rules, transmission capacity utilisation was deemed to be efficient for the month under review. The Market Operator observed its own processes and procedures.

### Environmental Corner

#### The Twenty-Fifth Annual Southern Africa Regional Climate Outlook Forum (SARCOF-25)

The SADC Secretariat through the SADC Climate Services Centre convened the annual Southern African Regional Climate Outlook Forum (SARCOF-25). This year, the theme of SARCOF was “Impact of warming ocean on our weather and climate” to raise awareness of the effect of the warming ocean in the region due to the

changing climate. The Forum was held virtually from 30 to 31 August 2021 to present a consensus outlook for the 2021/2022 rainfall season over the SADC region.

Climate scientists from the SADC National Meteorological and/or Hydrological Services (NMHSs), the SADC Climate Services Centre (CSC) formulated this Outlook. Additional inputs were acquired from African Centre for Meteorological Application for Development (ACMAD) and Global Producing Centres (GPCs) namely, European Centre for Medium Range Weather Forecast (ECMWF), South African Weather Service (SAWS), National Oceanic and Atmospheric Administration (NOAA), Beijing Climate Centre (BCC), Météo-France, Australian Bureau of Meteorology (BoM), UK Met Office, Japan Meteorological Agency (JMA) and Korea Meteorological Agency (KMA). Inputs from International Research Institute for Climate and Society (IRI) and National Centre for Atmospheric Research (NCAR) were also used in this work.

This Outlook covers the major rainfall season from October 2021 to March 2022. The Outlook is presented in overlapping three-monthly periods as follows: October-November-December (OND); November-December-January (NDJ); December-January-February (DJF); and January- February-March (JFM). This Outlook is relevant only to seasonal (overlapping three-monthly) timescales and relatively large areas and may not fully account for all factors that influence regional and national climate variability, such as local and month-to-month variation

The bulk of SADC is likely to receive normal to above-normal rainfall for most of the period October to December (OND) 2021, whilst north-western part of Angola, bulk of Democratic Republic of Congo, western and southern Madagascar, northern Malawi, northern Mozambique, western fringes of Namibia and South Africa, south-western United Republic of Tanzania and north-eastern Zambia where normal to below-normal rains are expected. The January to March (JFM) 2022 period is expected to have normal to above normal rainfall for most of the



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region except for, south-western fringes of Angola, western fringes of Namibia and South Africa. This information is aimed to assist various stakeholders in planning for various sectors of the economy.

### Upcoming Events – 2021

DATE	EVENT
14 September 2021	57 <sup>th</sup> SAPP Sub-Committee Meetings, <b>Virtual</b>
21 September 2021	48 <sup>th</sup> SAPP CC Board Meeting, <b>Virtual</b>
28 September 2021	57 <sup>th</sup> SAPP Management Committee Meeting, <b>Virtual</b>
7 October 2021	51 <sup>st</sup> SAPP Executive Committee Meeting and SAPP AGM, <b>Virtual</b>
12 -14 October 2021	Forum for African Power Pools and APUA Meetings, <b>Senegal</b>
13 -15 October 2021	SADC Energy Sub Committee Meetings
October 2021	SADC Energy Ministers Meetings
2 December 2021	49 <sup>th</sup> SAPP CC Board Meeting



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