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## Meetings, Workshops and Conferences

### SAPP Traders and Controllers Forum

The 17th Annual SAPP Energy Traders and System Controllers Forum was held from 20 to 21 October 2020 on an online virtual meeting platform. All SAPP member utilities participated in the forum. Participants shared experiences and challenges in energy trading, power system control and operations in SAPP.

### SAPP Executive Committee

The SAPP Executive Committee meeting was held virtually on 20 October 2020. Key issues emanating from the Management Committee were discussed.

### SAPP Energy Ministers Meeting

The Energy and Water Seniors Officials meetings were held from 26 to 27 October 2020. This was followed by the Joint meeting for the Ministers responsible for Energy and Water on 30 October 2020. The meetings were held virtually. The progress on the Regional Transmission Infrastructure Financing Facility (RTIFF) was presented.

## System Planning

### Review of SAPP Load Forecasting Methodology

Load forecasts forms the basis for rigorous demand/supply planning analysis. At the regional level, inconsistent load forecasts could provide false signals to projects of regional benefit by either overestimating or underestimating the benefits of the project. Therefore, the SAPP initiated a project with the intention to benchmark and evaluate the different load forecasting methodologies that



are currently being used in the various countries with the final objective being to develop a guideline for load forecasting in the region.

The next deliverables for the project are the delivery of an inception report and workshop 1. The inception report will cover the following:

- The agreed scope of work and the methodology for executing the study
- The agreed timelines for completing the study
- Data collected and outstanding
- The evaluation of the current load forecasting methodologies being used by SAPP member utilities and
- A description of the recommended methodologies to be used by SAPP member utilities to result in the SAPP regional forecast.

The inception report is planned to be delivered on the 24<sup>th</sup> November 2020 and Workshop 1 on the 1<sup>st</sup> December 2020. The final report will be delivered in July 2021.

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

Part 2 of the study “Assessment of the Impact of Renewable Energy Technologies on the Operations of the SAPP interconnected system” is ongoing. Part 2 work includes the definition of the procedures and investments required to implement modified dispatch processes in the region.

The inception report was delivered in May 2020 and a data validation workshop was held in September 2020 as a teleconference with both Planning Sub Committee and Operations Sub Committee members. During the month of October 2020 another workshop was held with the PSC and OSC to discuss initial findings of the study. Workshop 3 will be held in November 2020 to present the draft

report and after which a one-week period will be allowed for the receipt of comments on the draft report, then the final report will be delivered.

The final workshop to discuss the final findings will be held on the 10<sup>th</sup> December 2020

### **Setting up SAPP Data Management System**

The main objective of this study is to set up a data management system which aims 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 October 2020, a Data Management System (DMS) Recommendation report was delivered. The main purpose of the report is 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



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- Provide advice on SAPP DMS maintenance and support

### Update on SAPP Projects

#### Angola – Namibia Interconnector Project

The ANNA project held its Management Committee (MANCO) meeting 9 September 2020. The following reports were submitted to the MANCO:

- The outstanding deliverables required prior to completion of the Feasibility Study are the Project Information Memorandum (PIM) and Risk Register.
- The Namibian portion of the line received approval from the authorities which is valid for a period of three years.
- The Angolan authority requested the consultant to update relevant sections of the EISA report, to reflect recent changes in environmental legislation in Angola
- The PAU received a request from the AfDB that they would like to assist in funding construction implementation of the project, noting that feasibility study information cannot be shared with the AfDB due contractual obligations information as well as legal documents with AfDB.

#### Baynes Hydro-Power Plant Project

On 16 October 2020, SAPP submitted a letter to Swedfund, requesting for funding to procure ESIA consultancy services for the proposed 400kV transmission line and associated substations studies.

On 23 October 2020 SAPP requested a “No Objection” from the NEPAD-IPPF based at the AfDB, to commence with advance procurement in accordance with AfDB procurement framework. The “No Objection request was in respect of accelerating project preparation and implementation, in order that Techno-Feasibility and ESIA studies

commence latest February 2021 and Financial close is reach in March 2024.

Further, on 29 October 2020, the SAPP and Swedfund held an introductory meeting to discuss Swedfund draft facility agreement and funding terms and conditions.

#### Botswana – South Africa Interconnector Project

The BOSA project MANCO meeting was held on 7 September 2020 to discuss the project schedule which has been delayed by environmental studies and to anticipate approval of the draft Final ESIA report by the Department of Environmental Agency (DEA) of South Africa. The MANCO was informed that the financing facility agreement was valid until September 2020. It was therefore necessary to request the Consultancy firm to motivate a request for extension to the DBSA for timeline ending February 2021, to cover project closing and audits.

#### Kolwezi – Solwezi Interconnector Project

In the month under review, SAPP PAU, SNEL and ZESCO received confirmation from the DR Congo Environmental authorities that payment towards reviewing the draft ESIA report was received.

#### Luapula Hydro Power Plant Project

On 29 September 2020, SADC, SAPP, DBSA and the project financiers discussed new developments on project funding commitment from KfW as rising from the recommendations of the environmental studies report.

Further, the meeting discussed the decision on utilizing the SADC PPDF funding for the studies, stating that the next meeting to be held on 12 November 2020, would provide direction on the matter.



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## Mozambique – Zambia Interconnector Project

In the month under review, the following was progress on the project:

- The Consultant is in the process of aligning the transmission line route between the technical and environmental studies in order to accommodate the deviation of the line in Zambia caused by new infrastructure along the transmission corridor.
- The revised alignment is also taking into consideration the wider rights of way that will be required in Mozambique to accommodate the second transmission line.
- A joint meeting between the Environmental and Technical team was held on 22 October 2020 to discuss the way forward.

## Zambia – Tanzania Interconnector Project

In the month under review, the tender packaging of substation and transmission plant assets was discussed and preliminary report identified and defined five lots comprising substation equipment, a Static Voltage Compensation (SVC) pack, sections of the Pensulo-Mpika transmission corridor, Mpika-Kasama transmission corridor and Kasama-Nakonde transmission corridors. Geotechnical studies and field work have all been completed, however, analysis and results are awaited.

## Regional Transmission Infrastructure Financing Facility (RTIFF)

The RTIFF Consultant (PEGASYS) made a presentation on the development of the RTIFF to the third (3<sup>rd</sup>) meeting on Coordination of Regional Energy Projects Preparation-Financing-Implementation Initiatives which was hosted by the SADC Secretariat on 21 October 2020. SAPP also

highlighted progress made on the project since the previous meeting that included production of the RTIFF Diagnostic Report, a Strategic Case Techno – Economic Study, a Framing Paper and Phase 1 Draft Consolidated Final Report.

The RTIFF Consultant, SAPP, SADC, the regional energy regulator, and energy Utilities held several meetings to identify technical and economic data and information, in preparation for the SADC Energy Minister's meeting which was held on 30<sup>th</sup> of October 2020.

## System Operations

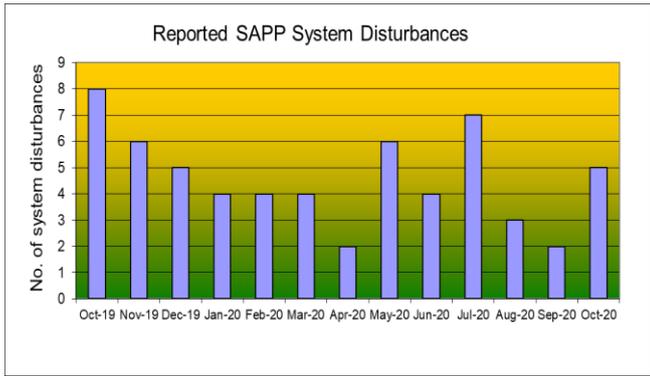
### SAPP System Disturbances

In the month of October 2020, five (5) system disturbances were reported on the SAPP interconnected power system. In the first two disturbances, HVDC system faults in DR Congo led to tripping of the 220 kV Zambia - DR Congo interconnectors on over-voltage. Loads of up to 531 MW were lost in Zambia on over-voltage. In the third one, the 400 kV South Africa - Botswana interconnector tripped when the 400 kV bus-zone protection scheme operated at Phokoje in Botswana. In the fourth one, loss of over 1000 MW generation at Inga Power Plant in DR Congo led to collapse of the southern network of DR Congo, as the interconnection to Zambia tripped on over-voltage. About 136 MW of load tripped in Zambia on over-voltage. In the fifth one, the HVDC converters tripped in DR Congo and triggered power and voltage fluctuations. The interconnection between Zambia and DR Congo tripped again on over-voltage protection. A load of about 236 MW was lost in Zambia. Further, the interconnection between Zimbabwe and Botswana tripped due to power oscillations. Refer to the figure below for an outlook of reported SAPP system disturbances in the last 12 months.



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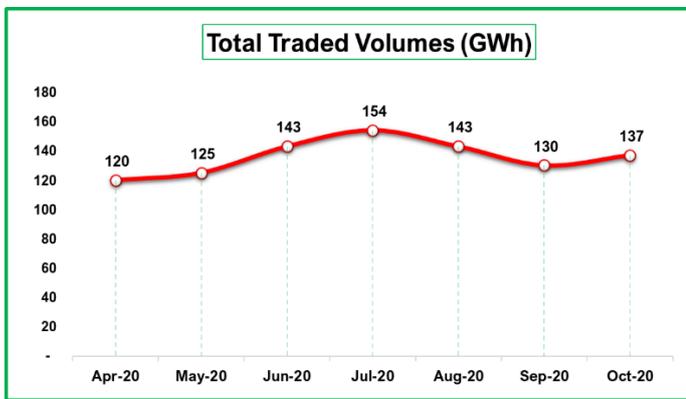




**Electricity Trading**

**Traded Volumes**

Trading on the market was higher during the month of October 2020 when compared to September 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) increased by 5% to 137 GWh in the month of October 2020, from the September 2020 volume of 130 GWh.



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

**Market Energy Prices**

**FPM Monthly Prices**

The market clearing prices for October for the non-off peak was 10 USc/kWh, same as the

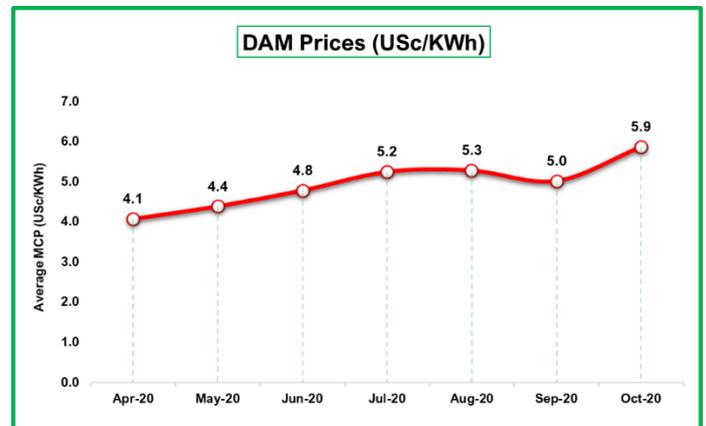
September 2020 figure of 10 USc/kWh. The price for the off-peak period increased from the September 2020 figure of 2.5 USc/kWh to 2.7 USc/kWh in October 2020.

**FPM Weekly Prices**

The average market clearing price for the peak period was lower by 22% at 9.1 USc/kWh in October 2020 from the September 2020 figure of 11.7 USc/kWh. Standard period average market clearing price decreased from the September 2020 figure of 7.0 USc/kWh to 6.8 USc/kWh in October 2020. The average off-peak market clearing price increased from 2.8 USc/kWh in September 2020 to 2.9 USc/kWh in October 2020.

**DAM Prices**

The monthly average DAM market clearing price (MCP) was slightly higher during the month of October 2020 at 5.9 USc/kWh when compared to 5.0 USc/kWh recorded in September 2020.



Monthly Average Market Clearing Prices from April 2020 to October 2020.

**IDM Prices**

The average IDM price for the peak period for the month of October 2020 was 8.2 USc/kWh, up from the September 2020 figure of 6.9 USc/kWh. The average IDM price for the



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standard period increased to 5.8 USc/kWh in October as compared to the September 2020 figure of 4.9 USc/kWh. The average off-peak period price recorded for October 2020 was 2.6 USc/kWh, up from the September figure of 2.3 USc/kWh.

### Market Revenues

A total of USD 7.8 million was exchanged on the competitive market during the month of October 2020 when compared to USD 6.7 million exchanged in September 2020. The change is mainly attributed to changes in traded volumes and changes in prices. USD 16.1 million was exchanged on the competitive market during the month of October in 2019.

### Environmental Corner

#### Project Environmental Management

The SAPP engaged the African Development Bank and the World Bank on continued capacity building requirements for the ESC, to enhance sustainability by aligning to the Multilateral Development Bank environmental and social safeguard requirements.

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

With the participation of the ESC members, the following topics were selected for consideration for the African Development Bank Environmental and Social Safeguards workshop, scheduled for 3<sup>rd</sup> November 2020:

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

#### SAPP ESC World Bank Virtual Training Programme on Social Safeguards

The World Bank will undertake a follow-up capacity building workshop, a continuation to the training that was held at Mount Grace in Magaliesburg, South Africa in November 2019. This workshop will be rolled out over several days but with shorter hours and is anticipated to held in December 2020. The Workshop will focus on Grievance Redress Mechanism (GRM) and stakeholder engagement. The ESC will be engaged on specific topics relating to the proposed subjects of discussion.

#### 30th African Hydro Symposium 2020

The SAPP Environmental Subcommittee participated in the 30<sup>th</sup> African Hydro Symposium (AHS) Conference, hosted by the AHS Secretariat - Kafue Gorge Regional Training Centre (Zambia) virtually. The opening ceremony was graced by the Minister of Energy, in the Government of the Republic of Zambia Hon. Matthew Nkhuwa – MP. The Conference took place from the from the 7<sup>th</sup> to 8<sup>th</sup> October 2020.

The Conference attracted delegates from countries including, Austria, Switzerland, South Africa, Liberia, Zimbabwe, Australia, Ghana, Croatia, Egypt, Namibia, Kenya, Czech Republic, DR Congo, Norway, United Kingdom, Nigeria and Zambia.

Presenters during the virtual conference made presentations relating to the following topics:

- Hydro Plant Operations Best Practices
- Hydropower Plant Maintenance Practices, Upgrades, Refurbishments and Fitting
- Monitoring and Evaluation of Hydropower Plant Performance.



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- Capacity Building and Technology Transfer for Sustainable Hydropower Development and Use
- Hydropower Projects Financing
- Refurbishment and Commissioning of New Hydropower Plants
- Feasibility Studies for New Hydropower Plants
- Erection and Commissioning of New Hydropower Units
- Environmental Management
- Strategic Planning and Hydropower Development

### Upcoming Events – 2020

DATE	EVENT
3 November 2020	African Development Bank Environmental and Social Safeguards for the ESC, <b>Virtual</b>
13 November 2020	SAPP Power Quality Working Group Meeting, <b>Virtual</b>
24 November 2020	SAPP OSC Meeting, <b>Virtual</b>
24 November 2020	2 <sup>nd</sup> AUC-IEA Ministerial Forum - <b>Virtual</b>
26 November 2020	Validation of Policy Paper and Roadmap & Discussion on AfSEM Governance Coordination & Strategic Planning Meeting – <b>Virtual</b>
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>



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