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SAPP Office Construction

The SAPP successfully completed the construction of the new SAPP Offices in Harare, Zimbabwe. The relocation from the temporary offices was completed by 1 January 2021. The project completion was delayed by five months due to COVID-19 lockdown restrictions. The offices will accommodate the SAPP Coordination Centre and Project Advisory Unit staff.



SAPP Offices (Eastern view), Harare, Zimbabwe



SAPP Offices Courtyard



SAPP Offices, Harare, Zimbabwe



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Meetings, Workshops and Conferences

Finance Working Group Meeting

The Finance Working Group members met virtually on 28 January 2021 to review the 2021/22 Financial year budgets for the SAPP CC and the SAPP PAU.

Power Quality Working Group Meeting

The SAPP Power Quality Working Group held a virtual meeting on 18 January 2021. The Working Group updated the status of power quality facilities in SAPP and also discussed analysis of power quality data. It was noted that almost all utilities now have online power quality central databases.

OSC Meeting

The SAPP Operating Sub-Committee held a virtual meeting on 19 January 2021 where they discussed and approved four documents brought forward by the Power Quality Working Group and the Emergency Preparedness Working Group. OSC members also appraised each other on the status of the interconnected power systems and the impact of COVID-19 restrictions on the power systems.

Crime Prevention Working Group Meeting

The SAPP Crime Prevention Working Group held a virtual meeting on 21 January 2021. The Working Group strategized on crime prevention data collection and reporting in preparation for the main SAPP meetings to be held in February 2021. The Working Group agreed to hold another virtual meeting on 9 February 2021 to discuss the collected data from each utility.

Energy Efficient Lighting Project

The Energy Efficient Lighting and Appliances (EELA) project aims to create market and institutional conditions to enable a transformation of the sector to stimulate increased diffusion of energy efficient lighting and appliances across all sectors in East African Community (EAC) and Southern African Development Community (SADC) regions. The EELA project will bring regional support to private sector-led activities that will lead to increased use of energy efficient high-quality lighting and appliances through regional regulatory and trade harmonization interventions.

The project is funded by the Swedish International Development Cooperation Agency (Sida) and implemented by the United Nations Industrial Development Organisation (UNIDO) in collaboration with the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) and the East African Centre of Excellence for Renewable Energy and Efficiency (EACREEE).

The Project Steering Committee meeting was held on 28 January 2021 to review the project status and agree on the way forward.

PIDA Week

The PIDA Week organised by AUDA-NEPAD took place virtually from 18 to 21 January 2021. The topics covered included:

- Africa Single Electricity Market
- The Continental Transmission Masterplan
- AUDA Cyber Security Assessment Report
- PIDA Progress and Quality Label



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IRENA 11th Assembly

The 11th Assembly of IRENA took place virtually from 18 to 21 January 2021. The topics covered included:

- Panel discussion on Energy Transition for Sustainable Post-COVID Recovery
- National Energy Planning,
- Finance for Renewables,
- Renewables and Pathway to Carbon Neutrality and
- Energising Healthcare

System Planning

Review of SAPP Load Forecasting Methodology

The Final Inception report of the Review of SAPP Load Forecasting Methodology was issued on the 30th December 2020. The project is still at data collection stage and during the month under review, phase 2 and phase 3 of data collection templates were sent to SAPP members. The Consultant is in the process of assessing various software in the market which may suit the region's need for the demand forecast. The selection will rely on the data availability from SAPP member utilities.

The work scheduled for February 2021 is:

- Develop the detail of the methodologies and approach to be followed by each of the SAPP member utilities to derive the in-country forecasts.
- Develop a comprehensive description of the demand forecast model to be utilised by each of the member countries that will include the following elements:
 - Assessment of key drivers.
 - Hourly load data assimilation and load diversity.
 - Suppressed demand forecasts.
 - Assessment of new technology impacts and changed consumer behaviour; and A comprehensive

description of the process to be used by SAPP CC for the purposes of deriving the regional amalgamated forecast for SAPP, that will be used for regional planning.

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

The primary focus of the Part 2: Assessment of the Impact of Renewable Energy Technologies on the Operations in the Southern African Power Pool work was 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.

The major milestone for the project: "Assessment of the Impact of Renewable Energy Technologies on the Operations in the Southern African Power Pool: Part 2" for the period under review was incorporating of comments received from the member utilities on the Draft Final Report which was submitted in December 2020. The final report is expected to be issued in February 2021.

Setting up SAPP Data Management System

The major milestone for the period under review was the delivery of the Data Management System (DMS) Standard Operating Procedure (SOP), including SOP general principles for how data will be collected, verified/validated, stored, distributed, published, updated and secured. The final DMS recommendations report and specification report were delivered in January 2021. This will now pave way for the launch



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of phase 2 which is the sourcing of a company to deliver the system as per the specifications.

SAPP Transmission Maps Development

The recommended software was procured and delivered to the SAPP-CC. In the month under review the SAPP grid maps were developed/imported into the recommended software. The next deliverable for this project is training and the delivery of the final report.

SAPP Transfers Limits Updates

During the period under review the SAPP held the cross-border power transfer limits workshops for the ESKOM Control Area (11-15 January 2021) and the ZESA and ZESCO Control Area (25-29 January 2021).

Studies were completed for the ESKOM Control Area whilst for the ZESA and ZESCO Control Areas the load flow studies were completed while the transient stability studies are still outstanding. Another meeting is scheduled for 12th February 2021 where the dynamic studies will be completed.

Update on SAPP Projects

Baynes Hydro-Power Plant Project

The Project stakeholders comprising Environmental and Social experts from SwedFund, NamPower, RNT and SAPP revised and updated the draft ESIA Terms of Reference (ToRs), following a series of meetings in January 2021. Draft final ToRs will be completed and ready for approval in February 2021.

SAPP is waiting for the advance procurement approval to proceed with the process while grant documentation is being finalised.

Kolwezi – Solwezi Interconnector Project

The draft ESIAs for the Zambian and DR Congo portions have been completed. The Zambia ESIA is scheduled to be submitted to the Environmental Authority (ZEMA) at the beginning of February 2021. The DR Congo ESIA was submitted to the country authority in November 2020 and feedback is pending. The RCAP reports for Zambia and DR Congo portions are under preparation.

Mozambique – Zambia Interconnector Project

Progress on the project is picking up following end of holiday breaks and festive period. The design and modelling of the transmission line in PLS-CADD is ongoing.

1) Technical Studies:

- a) On the Zambian section of the transmission corridor work to start drilling boreholes for geotechnical assessment of soil conditions are in progress.
 - ZESCO has since handed over the site to Geotech the sub-contractor to AFRY.
 - Efforts are being pursued by SADC, SAPP and ZESCO to secure VAT exemptions for Geotech and ControLab, as the current situation requires that they pay VAT on their earning. The consultant has indicated that the situation has potential to create schedule overruns because of delayed transfer of project finances to the Zambian sub-contractors.
 - In the area of Health and Safety, ZESCO and AFRY have strengthened collaboration to ensure adherence to protocols and procedures governing works in close proximity to live High Voltage installations.
- b) On the Mozambique section of the transmission corridor progress is also picking up.



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- AFRY and the geotechnical contractor are waiting for permission to commence works along the selected transmission corridors.
- The consultants are waiting to receive a credential letter from the Environmental Authority.

2) ESIA Studies:

- On the Mozambique portion of the line, site inspections started on 18 January 2021. The delays on the Mozambique side are attributed to heavy rains caused by the tropical storm Eloise.
- Credential letters have been submitted to the Mozambique environmental authorities requesting guidance on the process and approach to undertaking the ESIA studies, in view of the fact that the studies have been on hold for a substantial period.

3) Procurement:

SAPP has shared with AFRY the Country/Grant Agreement documents in facilitating for VAT exemption of sub-contracted works in Zambia. The sub-contractors representing AFRY in Zambia are Geotech and Controlab.

Malawi – Zambia Interconnector Project

The ESIA and RCAP Terms of References have been finalised and are pending submission to the World Bank for the No Objection.

Zambia – Tanzania Interconnector Project

Progress on the project has been sustained and the Consultant (WSP) has indicated to complete all project works by 15 May 2021.

1) Technical Studies:

- a) Line survey works along the three transmission line corridors below have been completed:

- Pensulo-Mpika 330kV corridor
- Mpika-Kasama 330kV corridor
- Kasama-Nakonde 330kV corridor

- b) PLS-CADD Modeling was delayed due to the vast amount of geotechnical data being processed. WSP has been requested by SAPP and ZESCO to mitigate the potential schedule overruns due to the delays in completing data processing and reporting.

- c) Works on tender documents and preparation are progressing well and all documents have been structured to World Bank standard.

- d) AMC, the Geotechnical sub-contractor representing WSP has completed reports on geotechnical site investigations. The technical reports on the findings along the three transmission corridors (Pensulo-Mpika, Mpika-Kasama and Kasama-Nakonde) have since been shared with all stakeholders for reviews and harmonisation.

2) ESIA Studies: Preparation of the ESIA and ESMP reports is ongoing and completion is planned for February 2021.

- RAP: ZEMA completed revision of the draft report on 27 January 2021. Harmonisation of ZEMA comments by the consultants is ongoing and should be completed by February 2021.

3) Procurement: The ESIA Contract expires at the end of February 2021.

Regional Transmission Infrastructure Financing Facility (RTIFF)

In January 2021, the SAPP held virtual meetings with NamPower, RNT, TANESCO, ZESA and ZESCO the utilities whose projects have been identified as a priority in the context of the techno-economic and implementation readiness analysis. During these engagements, SAPP introduced RTIFF



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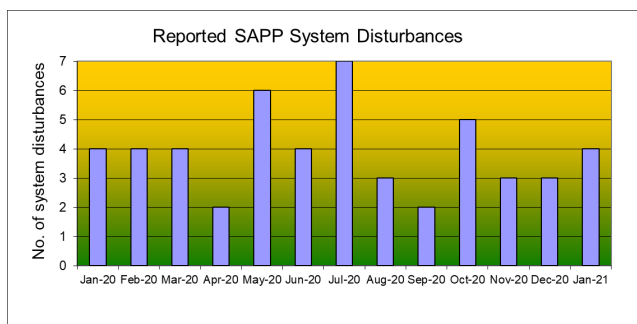


and gave stakeholders the chance to provide updated information on their projects. From these engagements, SAPP concluded that stakeholders were keen to understand RTIFF's financial mechanisms and how they could help with the development of transmission assets. SAPP expect these engagements to continue as the project moves forward.

System Operations

SAPP System Disturbances

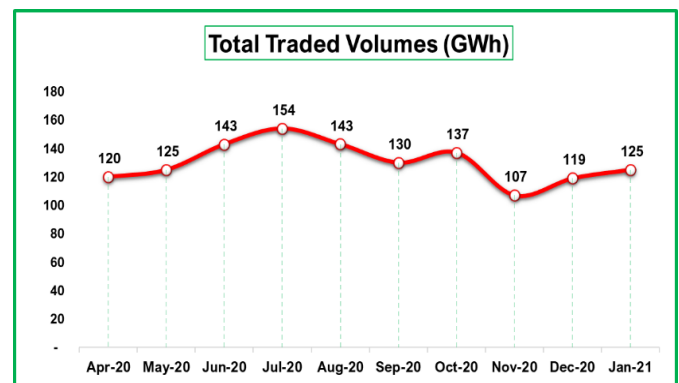
In the month of January 2021, four (4) SAPP system disturbances were reported on the interconnected power system. In the first two disturbances, the 400 kV South Africa - Botswana interconnector tripped on two occasions on distance protection due to a fault induced by birds nests. As per the design of the protection scheme, the 400 kV Botswana - Zimbabwe interconnector intertripped on both occasions. At Songo in Mozambique, the 220 kV bus coupler circuit breaker also tripped due to these disturbances. In the remaining two disturbances, only the 400 kV Botswana - Zimbabwe interconnector tripped due to earth faults triggered by adverse weather conditions. Refer to figure below for a general outlook of reported SAPP system disturbances in the last 12 months.



Electricity Trading

Traded Volumes

Trading on the market was higher during the month of January 2021 when compared to December 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 125 GWh in the month of January 2021, from the December 2020 volume of 119 GWh.



Monthly Traded Volumes (GWh) in DAM, IDM, FPM-W and FPM-M (April 2020 to January 2021).

Market Energy Prices

FPM Monthly Prices

The January 2021 average market clearing prices for the non-off-peak period was 10 USc/kWh, the same as the December 2020 figure. The average price for the off-peak period decreased from the December 2020 figure of 4.5 USc/kWh to 4.4 USc/kWh in January 2021.

FPM Weekly Prices

The average market clearing price for the peak period was lower by 51% at 9.1 USc/kWh in January 2021 from the December 2020 figure of 18.5 USc/kWh. Standard period average market clearing prices decreased from the December 2020



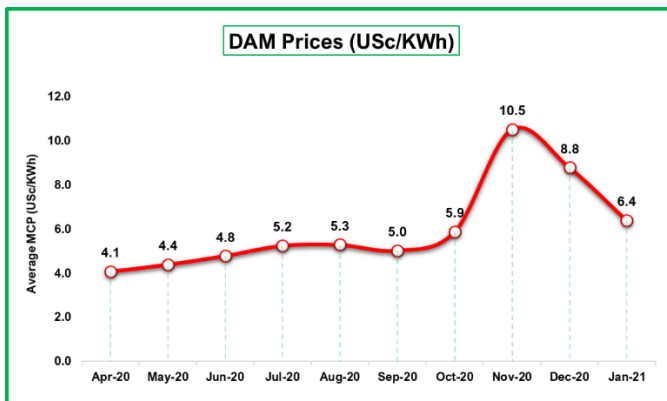
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figure of 10.5 USc/kWh to 6.5 USc/kWh in January 2021. The average off-peak market clearing price increased from 4.4 USc/kWh in December 2020 to 4.5 USc/kWh in January 2021.

Day Ahead Market

The monthly average DAM market clearing price (MCP) was lower by 16% during the month of January 2021 at 6.4 USc/kWh when compared to 8.8 USc/kWh recorded in December 2020.



Monthly Average Market Clearing Prices from April 2020 to January 2021.

Intra Day Ahead Market (IDM)

The average IDM price for the peak period for the month of January 2021 was 9.2 USc/kWh, up from the December 2020 figure of 8.2 USc/kWh. The average IDM price for the standard period decreased to 6.0 USc/kWh in January 2021 from the December 2020 figure of 6.2 USc/kWh. The average off-peak period price recorded for January 2021 was 3.8 USc/kWh, up from the December 2020 figure of 3.5 USc/kWh.

Market Revenues

A total of USD 8.2 million was exchanged on the competitive market during the month of January 2021 when compared to USD 9.8 million exchanged in December 2020. The change is mainly attributed to changes in

prices. USD 12 million was exchanged on the competitive market during the month of January in 2020.

Environmental Corner

SADC PCB Elimination Project

The Project Coordinator and participating countries focal persons convened the scheduled monthly meetings of the project virtually on 28 January 2021, to review the status of execution of activities. Also discussed was the development of the PCB Phase out plans, to which a template was provided. The phase out plans are to be developed by the end of March 2021.

Upcoming Events – 2021

DATE	EVENT
2-3 February 2021	Power Transmission in Africa Conference, Virtual
09 February 2021	Crime and Prevention Working Group Meeting, Virtual
16 – 26 February 2021	World Bank Mission on RETRADE
25 February 2021	SAPP Sub-Committee Meetings, Virtual
2 March 2021	SAPP Coordination Centre Board Meeting, Virtual
4 March 2021	SAPP Management Committee Meeting, Virtual
March 2021	SAPP Executive Committee Meeting, Virtual
7 th April 2021	Workshop 2 – Load Forecasting Methodology, TBC



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