



# NEWSLETTER

## TRANSMISSION COMPANY OF NIGERIA (TCN)



- **600million Sub-Saharan Africans without electricity -Engr. Sale Mamman**
- **Improved Grid Capacity attributed to NEGMERP**
- **Light at the end of the Day**

# MINISTER OF POWER SAYS 600 MILLION SUB-SAHARAN AFRICANS ARE WITHOUT ELECTRICITY

By Eric Ene Ephraim

**A**rising from the need to provide reliable and affordable electricity in West Africa, Ministers of Power/ Energy from four ECOWAS countries met to discuss the execution of the WAPP North Core Project that would connect Nigeria – Niger – Togo and Burkina Faso.

The Ministers from the four countries met recently at the 4-day grand session of the inaugural Joint Ministerial Steering Committee (JMSC) meeting of the West African Power Pool (WAPP) on the North Core Interconnection Project which commenced on Thursday, 10th June 2021, in Abuja.

In his address at the meeting, Nigeria's Minister of Power, Engr. Sale Mamman disclosed that about two-third of the people in sub-Saharan Africa, approximately 600 million people, are without access to electricity in spite of abundant natural resources.

According to him, “the lack of reliable and affordable electricity significantly constrains economic activity and growth in these countries

and affects disproportionately the poorest segment of the population of the sub-region, which in turn, has a profound impact on health and social service delivery particularly to vulnerable groups such as elderly people, children and women”.

The Minister explained that within the framework of the priority projects under the WAPP Master Plan, the governments of Nigeria, Niger, Togo, Benin and Burkina Faso through their collaborative effort, have developed a sub-regional interconnection project referred to as the 330kV North Core Regional Interconnection Project. This he said was considered as one of the priority projects in the infrastructure program of the WAPP aimed at facilitating efficient energy trade in the sub-region, among other benefits.

Engr. Mamman who confirmed that the project has already been assented to by the ECOWAS Heads of State and Government in their approval in December 2018, of the ECOWAS Master Plan for Development of Regional Generation and Transmission Infrastructure 2019-2033, said the launch of the project in 2019 could not have come



Middle, Minister of Power, Engr. Sale Mamman

at a better time, as it was one of the key envisaged solutions for coping with the large electricity supply-demand imbalance within the ECOWAS region.

In his words, “the WAPP-North Core Regional Interconnector is seen as a game changer that could shape the energy landscape of the sub-region through effective and efficient power trade, even as the World Bank estimates that power trade within the West African Power Pool could lead to cost savings of U\$58.0 billion per year, enabling WAPP-covered countries to benefit from more cost effective hydro or gas-based imports’.

The Minister further explained that the project

On his part, the ECOWAS Commissioner for Energy and Mines, Mr Sediko Douka, expressed appreciation to the Nigerian government and TCN for hosting the Project Implementation Unit (PMU) in Abuja.

According to him, connecting the four countries by a 330kV high voltage transmission line would facilitate electricity trade, technical assistance and trade agreements in the sub-region. “This project will allow initial energy exchange of 430 megawatts (MW) which could reach 600MW in five to ten years after its launch, and could boost trade exchange which is at five percent now among the 14 interconnected countries of ECOWAS” he said.



R-L, ECOWAS Commissioner for Energy and Mines, Mr Sediko Douka, WAPP Executive Board Chairman and Ag. MD/CEO TCN, Engr. Sule Ahmed Abdulaziz, and Director CEB

will involve the construction of 875km of 330 kV and 24km 225kV transmission lines from Nigeria to Burkina Faso, through Niger and Benin with associated substations. He mentioned that the project will also include the electrification of rural communities located within a 5 km radius on both sides of the line, and the implementation of several environmental and social mitigation measures such as the execution of Resettlement Action Plans (RAP) to provide compensation for persons and communities affected by the project.

Engr. Mamman however noted that this large – scale project being financed by the African Development Bank (AfDB), Agence Française de Développement (AFD), the World Bank (WB) and the Federal Government of Nigeria, will on completion be handed over to the utility companies of the participating countries for operation and maintenance of the entire infrastructure.

Mr Douka urged the participants to work towards realising the dream project which would complement two other WAPP interconnection projects such as the 1,700km Senegal, Gambia, Guinea and Guinea Bissau and 1,300km Cote d'Ivoire, Liberia, Sierra Leone and Guinea transmission line that will help to increase access to electricity in West Africa.

Speaking also at the occasion, the Secretary General of WAPP, Mr. Siengui Appolinaire Ki, said the project was being implemented according to the new model of institutional framework for implementation developed by WAPP and the countries concerned and that the project is scheduled to be commissioned by the second half of 2023.

According to him, “The completion of the project would undoubtedly bring to reality, ECOWAS’s

dream of embedding national electricity networks in a unified regional electricity market with a view to ensuring, in the medium and long term, a regular, reliable, and competitive cost for the supply of electricity to the populations of the Member States”.

### **Heads of Utilities Meeting**

Earlier at the Meeting of Heads of Utilities of countries within the North Core project, the Minister of Power, Engr. Sale Mamman, urged all member countries of WAPP to continue to support the initiative in view of its critical importance to the achievement of the West African Power Pool (WAPP) Interconnection Project. He noted that the expected impact of the project on the member states when completed will include reduction in the cost of electricity, export of electricity from Nigeria to the three countries, growth in economic activities through improved electricity availability and affordability.

He said, “with abundant gas resources in Nigeria and the efforts of the Federal Government of Nigeria to strengthen the power sector, Nigeria has the potential to generate and export low-cost electricity to the sub-region with the adoption of competitive procurement of power within the commercial framework of the North Core Project”.

The WAPP Executive Board Chairman and Acting Managing Director of TCN, Engr. Sule Ahmed Abdulaziz, said that the Head of Utilities Meeting would enable members review the project to ensure that the participating countries will get maximum benefit. He affirmed that Nigeria is committed to the project in line with Presidential Power Initiative towards developing

a robust power sector capacity.

The WAPP North Core Project involves the construction of 880 Km and 330 kV transmission lines from Birnin Kebbi to Ouagadougou via Zabori and Niamey and from Zabori to Malanville respectively, with five (5) associated processing stations to enable electricity exchange between Nigeria, Togo, Niger, Benin and Burkina Faso. The cost of the project is put at USD 568.16 million and will be completed in the first quarter of 2023.

### **Experts Meeting**

Meanwhile, earlier, during the WAPP experts meeting, with development partners member utilities from the various countries made presentations on power offtake by their respective countries as part of the requirement for the North Core Project implementation.

The meeting also enabled the review of the commercial framework of the project to ensure that all utilities, market participants, and countries will get maximum benefit from the project when completed.

Expectedly, for Nigeria, the WAPP North Core project would encourage greater output from the generation companies, building of new generators specifically for WAPP, encourage trans-border electricity market across the West African Sub-Region and contribute to actualizing the WAPP mandate.

WAPP is currently carrying out various priority transmission projects in line with its Master Plan of 2019 to 2033.



*Group photograph*

# ENHANCING GRID PERFORMANCE THROUGH SCADA APPLICATION

By Gabriel N. Gandu



*Executive Director (ISO), Engr. Maman Lawal*

**T**he sustainability of a stable and reliable power grid through the injection of high-end technology is of paramount consideration to the Transmission Company of Nigeria (TCN). To this end the company has reaffirmed its commitment in the implementation of the Supervisory Control and Data Acquisition (SCADA) and Energy Management System (EMS) application which would ensure optimization of the grid in the Nigerian Electricity Supply Industry (NESI).

The Executive Director, Independent System Operations (ISO), Engr. Maman Lawal, made this known during a two-day Joint TCN, Generation Companies and Other Stakeholders Meeting on the Implementation of the New SCADA/EMS and Telecommunication Project, on Thursday, 3rd June 2021 in Abuja.

According to him, since the grid serves the entire NESI, there was shared urgency to have real time supervisory control over the grid equipment to optimize performance across the entire spectrum of the power value chain. He remarked that efficient power supply in the sector was not solely a TCN responsibility and therefore, the meeting with all necessary stakeholders in the value chain was indeed vital to achieve the set objectives of having a functional SCADA system.

He noted that the System Operator (SO), as licensed by the regulator, the Nigerian Electricity Regulatory Commission (NERC), was saddled with the responsibility of ensuring that players in NESI were committed to efficient service delivery and transparency in the sector.

Engr. Maman further stated that the advantages of having real-time supervisory control over the grid was limitless, stressing that the EMS encompassed several functionalities such as; Load Forecast Application, Basic Power-flow Studies, Optimal Power-flow Studies, Reactive Power Remediation Plans, Active Power Remediation Functionalities, as well as Voltage Remediation Functionality.

Speaking also at the event, the General Manager, Regulation and Compliance, ISO, TCN, Mr. Ali Bukar Ahmed stressed TCN's commitment in attaining 100 percent optimization of the grid. According to him, only 40 percent of the grid was feasible from the National Control Centre (NCC), which is why TCN is seeking the cooperation of other stakeholders in achieving a 100 percent visibility of the grid as enshrined in the Grid Code and the Grid connection agreement, making it possible for effective monitoring and controlling of the grid. He stated that the new SCADA equipment being procured would actualize the said goals.

He further said that there is the need for synergy in the power sector and that adherence to the Grid Code and Market Rules, is sine qua non for a smooth electricity grid. He therefore, urged all players and stakeholders to have all hands on deck



*GM, Regulation and Compliance, ISO, TCN, Mr. Ali Bukar Ahmed during his presentation*

to achieve service delivery.

In his contribution, a representative of Azura Power in Edo State, Mohammed Azhar, gave his perspective on the development assuring that his company was willing to work assiduously with TCN on achieving the implementation of SCADA/EMS on the grid. He noted that the primary responsibility of a generation company is to dispatch power to the transmission grid in accordance with the Grid Code.



*Cross section of participants*



R-L, Permanent Secretary of the Federal Ministry of Power, Mr. Williams Alo and MD/CEO TCN, Engr. Sule Abdulaziz

# IMPROVED GRID CAPACITY ATTRIBUTED TO NEGMERP – TCN MD/CEO

By Stella Ejikonye

**T**he Transmission Company of Nigeria (TCN) has attributed its successes in transmitting multiple all-time peak generation in the last six months to effective grid management and the development of key projects under the Nigerian Electricity Grid Maintenance, Expansion and Rehabilitation Program (NEGMERP).

Speaking during a briefing with the Permanent Secretary of the Federal Ministry of Power, Mr. Williams Alo in Abuja recently, the Acting Managing Director / Chief Executive Officer, TCN, Engr. S. A. Abdulaziz, disclosed that the company has recorded enviable achievements in its

operations of the power transmission system. He listed his administration's achievement to include completion of some abandoned on-going projects such as; Gagarawa 2No. 60MVA, 132/33kV Substation in Jigawa State; 100MVA Transformer at Ogba Transmission Substation, Lagos State; Installation and commissioning of 132/33kV 60MVA transformer at Rumuosi Transmission Substation in Port Harcourt, Rivers State; Installation and commissioning of 150MVA transformer at Kano; Deployment of Automatic Meter Reading System (AMR) to improve efficiency and transparency of market data administration; Secure funds for implementation of Enterprise Resource Planning (ERP) to improve internal

business processes and accountability; Creation of new work centers at Jalingo, Katsina and Uyo; Upgrading of Gwagwalada and Gomo Work Centers to Subregion; improved enforcement of Market Rules which has significantly improved TCN's revenue profile, and many more.

The TCN MD/CEO, further highlighted the network capacity of the federal government-owned public power utility, indicating that TCN has 52 units of 330kV power transmission substations nationwide with a host of 132kV power transmission stations, adding that TCN has delivered several power transmission projects nationwide from federal government appropriation, and cited the projects being

implemented through funding from multilateral donor agencies.

Engr. S. A. Abdulaziz, further informed the Perm. Sec of some outstanding challenges facing TCN, such as, Payment of compensation for acquisition of transmission lines Right of Way (RoW) for various projects across the country, (Finalizing some of the Financing Agreements with the donors on some of the TREP projects), several issues related to performance of DisCos that directly impact on TCN activities such as load under-utilization, weak network and improper connection of distribution transformers; COVID-19 restrictions affecting projects implementation, among others.

Engr. S. Abdulaziz concluded his briefing to the Permanent Secretary with several suggestions that would help TCN achieve its mandate of improved quality and efficient power supply to Nigerians. The way forward, according to him, include: continued collaboration with State Governments to

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**..creation of new work centers at Jalingo, Katsina and Uyo; upgrading of Gwagwalada and Gomo Work Centers to Subregion; Improved enforcement of Market Rules which has significantly improved TCN's capacity...**

address Right of Way (RoW) issues; Improved financing for federal government funded

projects across the country; Sustained implementation of projects through NEGMERP and other laudable programs of TCN in conjunction with other power sector players.

Responding to the MD/CEO's presentation, the Permanent Secretary, Federal Ministry of Power, Mr William Alo, said it was obviously clear what TCN has been doing. According to him, although the briefing is routine for all the agencies under the ministry on quarterly basis, the current briefing was imperative to acquaint him with the workings of agencies under the power ministry including TCN and its mandate of delivering bulk electricity in the power value chain. He appreciated the TCN management team and promised better synergy.



*Cross section of participants*

# NIGERIA SEEKS ROBUST INVESTMENT IN ELECTRICITY INTERCONNECTION AMONG ECOWAS MEMBER STATES

By Uloma Osuagwu



The Chairman, Board of Directors, West African Power Pool (WAPP), and Ag. MD/CEO of Transmission Company of Nigeria (TCN), Engr. Sule Abdulaziz has said that a robust interconnection system among ECOWAS member states will enhance access to electricity within the region.

Engr. Abdulaziz said this during a virtual meeting at the second edition of the West African Power and Energy Cooperation Conference (WAPECC) on Friday, June 4th, 2021, in Abuja.

He informed participants that under the framework of WAPP, Nigeria is supplying electricity to four African countries; Benin, Togo, Niger, and Burkina Faso, and is also parleying with the Chad Republic to interconnect it to

the Nigerian grid through its Northern Corridor and North Core Regional Interconnection projects.

The projects, he said, are being financed by donor agencies such as World Bank, AFD, AfDB, JICA, and EU. He cited transmission lines' Right of Way encroachment as one of the major challenges crippling the completion and kick-off of some of the projects.

On the issue of SCADA, Engr. Abdulaziz said that by December this year, "TCN will have procured the services of a contractor who will execute the SCADA project which will take 24 months to complete, meaning that by December 2023, the SCADA system will be ready and it will be able to see 100% all our network".

The WAPECC conference is a bi-

annual regional dialogue on energy, aimed at providing authoritative analysis, data, policy recommendations, and real solutions to help the Economic Community of West African States (ECOWAS) countries provide secure, affordable, and sustainable energy for all.

Participants at the programme include NEMSA DG, Engr. Peter Ewesor, MD/CEO, Nigerian Rural Electrification Agency (REA), Mr. Ahmad Salihijo Ahmad, PESD Director, African Development Bank-AFDB, Mr. Batchi Baldeh, and Mr. Luc Tanoh, Executive Senior Advisor, Cronimet Mining Power Solutions was the moderator.

# PUBLIC AFFAIRS DEPARTMENT HOLDS FIRST NATIONAL WORKSHOP

By Maimuna Isah -Ladan

**T**he Public Affairs Division of the Transmission Company of Nigeria (TCN) held its first national workshop for all Public Affairs staff in TCN recently in Abuja.

The four-day workshop with the theme “Encouraging Professionalism in Public Relations Practice in TCN,” commenced on Tuesday 2nd and ended on Friday, 4th June, 2021.

Declaring the workshop open, the Ag. Managing Director/CEO, of TCN, Engr. S. A. Abdulaziz, represented by the Executive Director Human Resources and Corporate Services, Barr. Justin Dodo, commended the workshop, saying that as Public Affairs practitioners, it is important that opportunities are provided to help staff understand industry issues better and enhance their skills for more professional output.

He observed that such workshops be sustained as it would enhance the capacity of the Division's staff, and affirmed the commitment of Management to supporting the Division by equipping it with more efficient work tools such as digital cameras, recorders, training, etc. to enable it carry out its duties more effectively.

Welcoming participants to the workshop, the General Manager, Public Affairs, TCN, Mrs. Ndidi Mbah urged participants to take full advantage of the workshop, to ensure that by the end of the programme, they are positively impacted and better poised to deliver on their jobs. In her words, “this programme is an opportunity to talk to each other and be updated on the emerging trends in Public Affairs practice”.

Mrs. Mbah noted that the meeting was also an opportunity to address areas of observable lapses on the part of the staff as well as identify areas of urgent attention and way forward.

She used the occasion to appeal to Management to create more Public Affairs Units in the Regions,

stressing the need to bring in more professional hands that will be deployed to the regions where more professional hands are required.

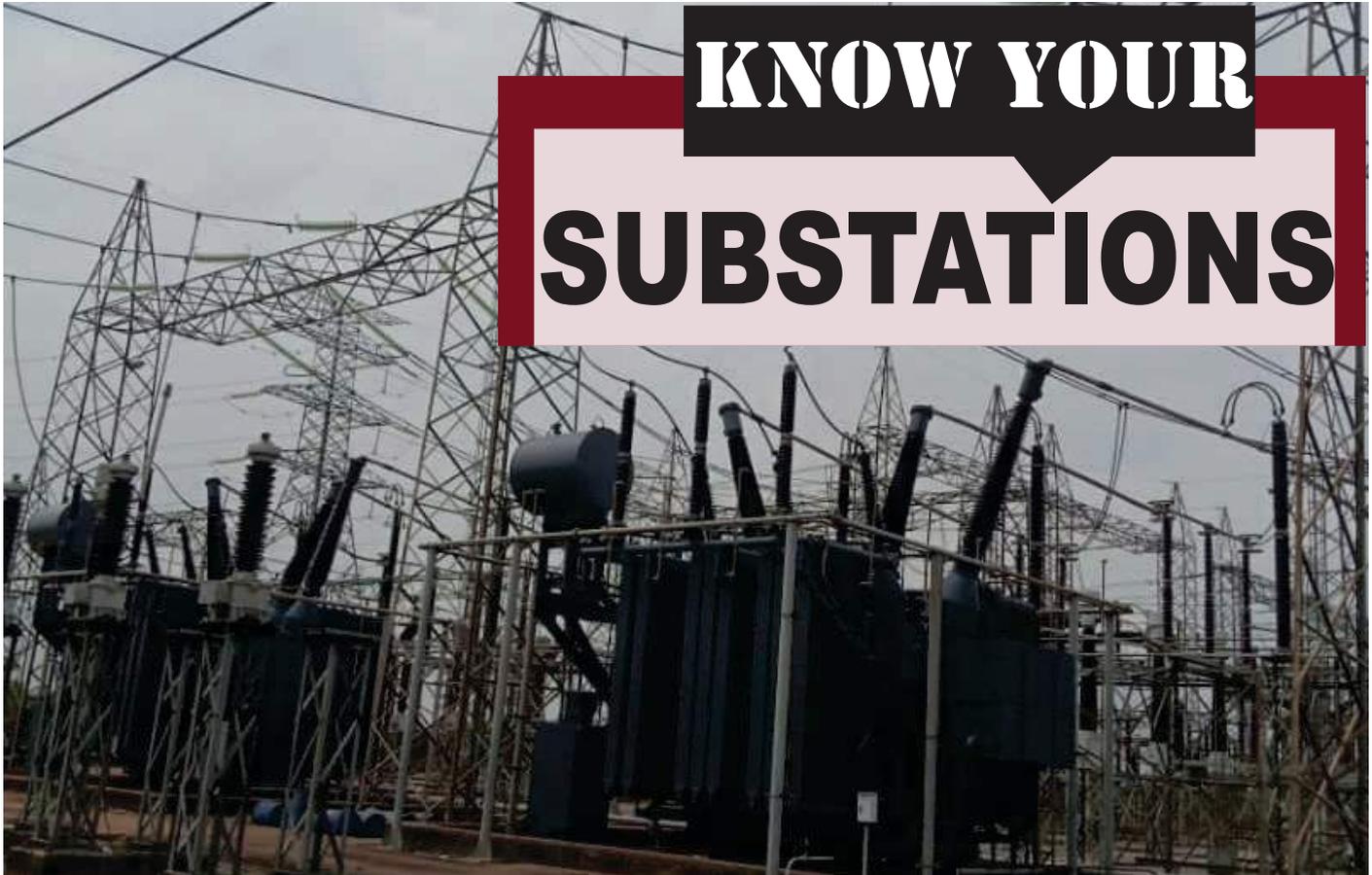
In his remarks, the GM Transmission Services, Engr. Jimi Adetola, who represented ED TSP, Engr. Victor Adewumi, commended the Division for organizing such a workshop, saying that it is necessary to strengthen internal synergy within the Division and ensure that everyone is working towards the same goal. According to him, no organization can survive without a thriving public relations unit no matter how good their product. He commended the Division for doing a good job in projecting and protecting the image of TCN, noting that there is however room for improvement especially as they are operating in such a competitive environment.

The GM (HR) ISO, Mrs. Biodun Afolabi, who represented the ED ISO, Engr. Lawal Maman, on her part, expressed the confidence that the workshop is the beginning of the remolding of the Division to ensure optimum productivity.

Facilitators from different departments of TCN lectured on various aspects of TCN operations in an attempt to bring participants up to speed on developments in the sector.



Group photograph



# KNOW YOUR SUBSTATIONS

## EGBIN 330/132/33KV TRANSMISSION SUBSTATION

**T**he Egbin 330/132/33kV Transmission Substation is located in Egbin, Ikorodu Local Government Area of Lagos State. The substation was commissioned in 1984 with 2No. 150MVA, 330/132/33kV auto power transformers.

Constructed to evacuate generated power from Egbin Power Plc, the substation has six (6No) 330kV transmission lines and two (2) 132kV lines with a total of 457km transmission line on 330kV voltage level and 38km transmission line on 132kV voltage level. The Egbin Transmission Substation supplies bulk electricity to distribution companies serving Lagos, Ogun and Edo States.

The sub-station delivers bulk electricity through Egbin-Oke/Aro line 1, Egbin-Oke/Aro line 2, Egbin- Ikeja/west line 7, and Egbin-Benin Line 8, as well as through the Egbin-Aja 330kV double circuit line and the Egbin-Ikorodu 132kV double circuit transmission line.

Prior to the substation's commissioning in 1984,

2No. 150MVA, 330/132/33kV power transformers were earlier installed in 1983, and they are still in service to date. Also, a refurbished 30MVA 132/33kV power transformer was installed and successfully commissioned by TCN engineers in January, 2021.

The 30MVA 132/33kV power transformer was installed to provide relief for the overloaded Ijede 33kV distribution line radiating from Ikorodu Sub-station. The transformer was however damaged by a high impact fault.

With the increase in population and consequent growth in demand for power off-take from Egbin Power Plc, TCN initiated the expansion of an existing 132kV busbar that would cater for additional 300MVA power transformer and also constructed a new ultra-modern 330/132/33kV control room.

Additionally, TCN is in the process of installing a new 100MVA 132/33kV transformer to increase the substation's capacity and availability of bulk supply to Ikeja and Ibadan electricity distribution



**WILLIAM ALO**  
PERMANENT SECRETARY  
FEDERAL MINISTRY OF POWER

**M**r. William Nwankwo Alo was recently appointed the Permanent Secretary, Federal Ministry of Power by the Federal Government. He is a seasoned Public Administrator with several years of experience in private and public service at the Federal and State levels.

Mr. William Nwankwo Alo began his career in Public Service with Enugu State Civil Service as an Administrative Officer. He was moved to Ebonyi State where he served in various Ministries until he rose to the rank of Chief Administrative Officer. He was later appointed a Permanent Secretary and served in the Office of the Head of Service Ebonyi State, Ministry of Commerce, Industry and Mineral Development, Ministry of Lands, Survey and Housing, and Ministry of Education.

In 2013, Mr. William Alo transferred his service from the Ebonyi State Government to the Federal Government of Nigeria, and he was posted to the Federal Ministry of Interior. In December 2015, the President of the Federal Republic of Nigeria,

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# PERMANENT SECRETARY

## FEDERAL MINISTRY OF POWER

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His Excellency, Muhammadu Buhari appointed him a Federal Permanent Secretary in Economic Affairs Office, (Office of the Secretary to the Government of the Federation), Ministry of Niger Delta Affairs.

Prior to his present appointment as the Permanent Secretary Ministry of Power, he earlier served as Permanent Secretary, Ministry of Special Duties, (Office of the Secretary to the Government of the Federation), Federal Ministry of Labour & Employment, Ministry of Special Duties & Inter-Governmental Affairs.

He holds a Ph.D. in Peace & Conflict Resolution (in view), a Bachelor of Arts (B.A Hons.) in Government/Education, and a Post Graduate Diploma in Public Relations.

He is a Fellow of the Chartered Institute of Administration and Member, Institute of Corporate Administration.

# IMPROVEMENT IN TCN'S WHEELING CAPACITY YIELDS POSITIVE RESULTS

The robust rehabilitation and expansion program embarked upon by TCN to boost the wheeling capacity of the national grid has started recording significant results. The Independent System Operator, the TCN licensee charged with the responsibility of system operation of the national grid has revealed a record eight (8) all-time peak power evacuations within three quarters between August 2020 and March 2021 (a period of eight months).

This feat marks a significant improvement on



TCN's performance in power evacuation in the past 10 years.

Previously, in the defunct PHCN and the TCN, peak power generation was usually recorded once in a year with some years having no record of increase in power generation and transmission on the national grid.

This peak performance include 5377.8 megawatts (MW) all-time peak recorded on August 1, 2020, which again rose to a new all-time high of 5,420.30MW on August 18. The third all-time peak power generation of 5,459.50MW occurred on October 28, 2020 which was efficiently transmitted through the nation's bulk power transmission grid.

Following immediately after the previous peak, the power grid again attained another all-time peak energy generation of 5,520.40MW on October 30, 2020 which surpassed the previous

one by 60.90MW.

The incremental power on the grid continued in early 2021 when the grid witnessed peak transmissions in quick succession recording an enhanced power generation of 5,552MW on January 6 which further increased to 5,593.40MW on February 25. The next three days being February 28, 2021, the national grid again recorded another all-time peak energy of 5,615.40MW, rising past the previous record by 22MW.

As at March 1, the 8th peak of 5,801.60MW was recorded, surpassing the previous peak by 186.20MW.

Within the same period under reference, TCN transmitted a new Maximum Daily Energy of 116,891.14 megawatts hour (MWH) on February 26, 2021 surpassing the previous value of 116,121.42MWH recorded on February 25, by 769.72MWH.

While this enhanced performance is significant and a welcome development for the NESI, credit must be attributed to improved collaboration among stakeholders in the value chain. In spite of the feat so far recorded, TCN is not resting on its oars as Management is determined more than ever before to bring about incremental improvement in its wheeling capacity by completing its ongoing projects. Aside this, TCN has also continued to initiate new projects that will further improve efficiency and effectiveness of the national grid.

# TCN MANAGEMENT PLAYS HOST TO MAINSTREAM ENERGY SOLUTIONS LIMITED AND QUEST ELECTRICITY LIMITED OVER SUPPLY OF ELECTRICITY TO MAIDUGURI

By Stella Ejikonye

The Management of TCN recently hosted a delegation of the joint venture of Mainstream Energy Solutions Limited and Quest Electricity Limited, prospective buyers of the Yola Electricity Distribution Company (YEDC) at its headquarters in Abuja.

The exploratory meeting was to discuss the impediment to steady supply of power within the Yola DisCo franchise area, especially Maiduguri, the Borno State capital and environs, due to intractable security situation in the North East and to chart the way forward.

The Mainstream/Quest delegation led by Mr. Omatseyin Ayida, the Chairman of the Investment Committee and also the team lead in the bid for acquisition of YEDC expressed concern over the complexity of the DisCo, arising from the activities of insurgents which has negatively affected the business prospects of YEDC. Mr. Ayida also disclosed that his team has for some time been in discussion with the Bureau of Public Enterprises over these concerns and that their visit to TCN was to further explore collaborative opportunities regarding electricity transmission to Maiduguri on a sustainable basis in line with the Buhari administration's resolve to improve power supply across the country.

Earlier, Mr Ayida had said that his team has in its search for extra power for Yola axis, equally engaged other stakeholders such as the Government of Borno State as well as the NNPC in respect of the planned embedded thermal plant and other renewable sources such as solar power.

The Ag. MD/CEO of TCN, Eng. Sule A. Abdulaziz acknowledged the challenge posed by activities of insurgents against transmission installations within the YEDC franchise area but also assured the team of TCN's commitment to the urgent restoration of electricity supply to Maiduguri with the repair of the 330kV tower that was brought down by the insurgents. He disclosed that the Ministry of Power under the leadership of the Hon. Minister, Engr. Sale

Mamman, was spearheading the new 330kV line project that would ensure increased supply to the area.

Throwing more light on the situation, the Executive Director, Transmission Service Provider (TSP) Engr. Victor Adewumi emphasised the enormity of the damage to TCN installations and also highlighted the efforts of Management to speedily restore supply whenever an interruption occurred due to the activities of insurgents or vandals. He stated that the frequency and regularity of attacks on towers as well as the cost of constant repairs has frustrated Management strategy of mobilizing in-house engineers to undertake restoration work. Management, he explained, has adopted a more deliberate approach in dealing with the issue in order to minimise waste of resources.

Engr. Adewumi also assured the team that with increased collaboration with security agencies and the State Government, work will soon resume on the damaged towers if security improved. He further revealed that Government, in collaboration with NNPC, had planned the installation of 50MW generation plant at Baga road in Maiduguri.



Group photograph

# LIGHT AT THE END OF THE DAY



By Obimdi Obi

It is easy to understand why electricity customers engage in endless emotional outbursts when power supply fails them and yes, they have the right to be upset by power failure especially when the weather is hot and when you need electricity to get one or two things done, also at the end of the day when you simply need to relax.

Electricity service in the nation, we must admit, still has a long way to go, which explains why, when one loses supply while cooking, watching television or poring over your books or documents, you feel temporarily disoriented as light suddenly becomes darkness. The reaction is almost spontaneous, almost by impulse you are disgruntled and may just want to punch electricity providers in the face!! With electricity supply, the only language acceptable to consumers of electricity is not the sound of our voice as providers but the sign language of light shining from their bulbs and the cooling air from fans and air conditioners. It is a marriage with consumers with expectation of “good and better” not “for worse”.

We understand, of course, that Light is power and the springboard for development, the soul of everything about life. As part of electricity service

providers in the power sector value chain, that also know the place of electricity supply in our own lives as consumers of electricity, TCN places a huge importance on efficient and effective transmission of electricity and are certainly doing all we can to ensure that all generated power is efficiently and effectively transmitted to distribution load centers nationwide.

For TCN and other players in the value chain, there is no hiding place. Its either light is on or off. Even in the darkest nights, electricity announces itself, there is therefore no hiding place for inefficiency. It is as if everything about life depends on electricity supply and maybe it does, in a lot of ways.

Because electricity is easily the most essential and the most sought-after service, almost competing with air in terms of necessity, everywhere in the country, every village, every hamlet cries out for power connection. And the entire power sector workforce really is on the edge always bracing up to the challenges in spite of the myriad of challenges we face. The level of necessity has made electricity work a 24/7 job to ensure customers satisfaction.

True, electricity enhances life. But life itself has its ups and downs. Either as individuals or organizations we are not spared these challenges of life, electricity and its providers are not exempt.

The sector has been operating against a number of odds including vandalism, obsolete equipment, excavation and natural causes such as erosion, very difficult terrains among others. However, the Transmission Company of Nigeria is not giving up, but is rehabilitating old substations and lines, building new ones to further expand the grid, installing brand new transformers to increase the substations capacity to meet N-1 criteria, looping of radial transmission lines to ensure areas can be back fed through alternate routes, among others.

It is certainly not yet uhuru, but giant strides have been made and is being sustained with several ongoing and completed projects and specifically the consistent intervention programmes by the Federal government. Today, it may look like a herculean task but I believe that TCN can, and will continue to gradually increase power supply to electricity consumers nationwide and will consequently attain efficient and reliable power supply comparable with any worldwide.



What is life's principle?

10% of life is made up  
of what happens to you.

...90% of life is decided by  
how you react...

# FOCUS ON **ABUJA REGION**



Abuja Regional Office

## **COVERAGE AREA**

The Abuja Region of TCN comprises three Sub-Regions namely: Abuja, Ajaokuta and Gwagwalada.

The Region has four (4) No. 330/132kV and Fourteen (14No.) 132/33kV substations. The substations have a total wheeling capacity of 3,303.5MVA made up of 1386MVA on 330/132kV level and 1,917.5MVA on 132/33kV level. The operation of the Region covers Abuja, Nasarawa, Kogi, parts of Edo, Niger and Kaduna States. It interfaces with the Abuja Electricity Distribution Company (AEDC).

## **PROJECTS**

The Region has completed several projects while many others are ongoing, including installation works in three substations located in Kogi State, the construction of the Obajana Substation which comprises two (2No.) 150MVA, 330/132kV capacity transformers and two (2No.) 60MVA, 132/33kV transformers in Ajaokuta; work is also simultaneously ongoing on the 120MVA capacity Ayingba Substation which will host two (2No.) 60MVA, 132/33kV power transformers, and the 120MVA capacity Kabba Substation, where two

(2No.) 60MVA, 132/33kV power transformers are nearing completion.

The “Abuja Transmission Ring Scheme” is of significant importance to TCN's rehabilitation and expansion programme targeted at improving transmission capacity of the national grid. It is a donor funded project financed by the French Development Agency which is entirely a Green Field Project made up of five new substations and a new 330kV transmission line into Abuja through Lafia.

Below is a summary of Abuja Ring Project;

## **LOCATION**

## **PROJECT**

New Apo	Construction of about 172km of new 330kV double circuit line from Lafia 330kV Substation (new) to the proposed Apo 330/132/33kV substation.
Old Apo	Construction of about 7km new 132kV double circuit line from New Apo 330/132/33kV Substation.

Old Kuje	Construction of 35km new 132kV double circuit line from New Apo 330/132kV Substation to the proposed Kuje 132/33kV 330/132/33kV Substation.
WestMain Lugbe	Construction of 29 km new 132kV double circuit line from the proposed Kuje 132/33kV Substation to West Main (Lugbe) 330/132/33kV Substation.
New Apo	Construction of new 330/132/33kV substation at New Apo to be equipped with two (2No.)150MVA, 330/132/33kV transformers including 6x132kV line bay and two (2No.) 132kV line bay extension at Old Apo 132kV Substation.
West Main	Construction of new Lugbe 330/132kV Substation at West Main (Lugbe) to be equipped with two (2No) 150MVA, 330/132kV transformers and three (3No). 60MVA.132/33kV transformer (with 132kV outdoor GIS Switchgear) including two (2No) 330kV line bay, four (4No) 132kV line bays.
Wumba Lokogoma	Construction of new 132/33kV substation at Wumba/Lokogoma to be equipped with 2Nos. 60MVA, 132/33kV transformers, two (2No) 132kV line bay including from New Apo to Wumba/Lokogoma.
Gwarinpa	Construction of new 132/33kV GIS substation at Gwarinpa to be equipped with two (2No.) 60MVA 132/33kV transformers.

### **IN-HOUSE CAPACITY**

Transformer installation, and major repairs on equipment have been successfully carried out by TCN in-house engineers within Abuja Region. For instance, TCN engineers successfully repaired the 162MVA 330/132/33kV power transformer at Ajaokuta 330kV Main Substation, replaced 330kV circuit breaker and its associated equipment which has been commissioned.

In Kubwa, the company's engineers successfully installed and energized a brand new 60MVA 132/33kV power transformer. The transformer has 33kV feeders -the Dam, Dawaki, and Deidei feeders



and all of them are in circuit carrying a cumulative load of 21MW. Also, in Katampe, Karu, and Keffi Substations among others, in-house engineers installed 60MVA transformers which are currently in circuit.

### **VANDALISM**

There have been incidents of vandalism of high-tension transmission lines in the Region. The most recent is that of two spans of the Shiroro-Katampe 330kV transmission line, which was, however, repaired under 48hours by in-house engineers and the circuit restored. The miscreants also vandalized the Gwagwalada-Apo Line 132kV transmission line which was also repaired by TCN in-house engineers.

The Minna-Suleja, Kubwa-Suleja and Apo-Kubwa 132kV Lines, were vandalized at various times and were all restored by in-house engineers. In an attempt to tackle the issue of vandalism, a team was constituted comprising the NSCDC, TCN lines men and local vigilante to patrol the lines 24/7. Their efforts are paying off as vandalism has reduced drastically on that axis.

### **ENCROACHMENT**

There have been observed cases of encroachment on transmission lines route; many structures have been built under the transmission lines Right of Way (RoW), ignoring the inherent danger. Culprits claim that the land belongs to them, even as the government will not give any individual or group Certificate of Occupancy (C of O) on land under TCN Line. For new lines, land owners are paid off before the project commences.

The Region has approximately 450 staff with Engr. Ali Ibrahim Sharifai as the Regional Transmission Manager.

# SERVICE LEVEL AGREEMENT REGULATORY BASIS: A SYNOPSIS

By Ali Bukar Ahmed

## General definition

Service Level Agreement (SLA) is a documented agreement between a service provider and a customer that identifies both the services required and the expected level of service.

## What is Service Level Agreement (SLA)?

Within the context of TCN, SLA means an Agreement between TCN and the Distribution Company (DisCo) which sets out terms and conditions for adequate and reliable service delivery to end-users of electricity.

It is essentially a performance-based regulated agreement between TCN and DisCos to enhance the quality of service and product delivery to customers through strict adherence to obligations and compliance with the ruling documents in the NESI. It deals mainly with interface issues between TCN and DisCos to enhance compliance with regulatory instruments to avoid regulatory sanctions and penalties.

## Key Components of an SLA:

### Service Level Specification (SLS) and Service Level Management (SLM)

#### Service elements: These include:

- The specifics of services to be provided (and what is excluded).
- Conditions of service availability,
- Standards such as time window for each level of service (prime time and non-prime time may have different service levels, for example),
- Responsibilities of each party, escalation procedures, and cost/service tradeoffs.

#### Management elements: These include:

- Definitions of measurement standards and methods,
- Reporting processes,
- Contents and frequency,
- A dispute resolution process,
- An indemnification clause protecting the customer from third-party litigation resulting from service level breaches (this should already be covered in the contract, however), and

- A mechanism for updating the agreement as required.

This last item is critical; service requirements and vendor capabilities change, so there must be a way to make sure the SLA is kept up to date.

## Why Service Level Agreement?

An SLA is needed for the following reasons among others:

- Creates certainty of parties' obligations by specifying terms under which efficient and effective services are to be provided.
- Ensures compliance with rules, regulations, codes, manuals, etc.
- Lack of teamwork and proper coordination between TCN and DisCos.
- The blame game between TCN and DisCos.
- Priority differences between TCN and DisCos.
- Lack of adherence to the ruling documents.
- Low system reliability standard.

## SLA Obligations in Regulatory Instruments in the NESI

The NESI is a regulated industry with rules, regulations, technical codes, and standards that specify acceptable standards and levels of performance for operators, service providers, and consumers in the industry. These regulatory instruments which are domiciled with NERC the industry regulator, and also stakeholders, include, the Electric Sector Reform Act 2005 (EPSRA) the Grid Code, Distribution Code, Metering Code, Health and Safety Code, and the Nigerian Electricity Supply and Installation Standards (NESIS), and the Market Rules.

The Distribution Code is a regulatory instrument that contains the day-to-day operating procedures and principles governing the development, operations, and maintenance of an effective and well-coordinated and economic distribution system. It is the Distribution Code that sets the standard operational processes and performance levels for the Distribution Companies.

The Grid Code on the other hand is a regulatory instrument that contains proceedings for the management of day-to-day operating procedures and principles governing the development, operations, and maintenance of an effective and well-coordinated and economic transmission system under both normal and abnormal conditions.

The Metering Code is a regulatory instrument that contains the day-to-day operating procedures and standards to ensure that modern accurate metering systems with reliable communication facilities are deployed across the industry's production and supply chains to measure and record energy production and utilization.

The NESIS Regulations provide for construction standards that cut across the industry value chain of generation, transmission, and distribution.

Health and Safety Code – Safety in the electricity industry is the responsibility of everyone that produces, transports, supplies, and uses electricity. The Health and Safety Code places the responsibility on every operator and user of electricity to handle it in such a way that the safety of persons and equipment is guaranteed.

Examples of obligations created by the different codes and standards include the following:

**(a) Distribution System Failure: Distribution Code 3.4.4.**

Interruptions to the power supply in any part of the Distribution System lasting for more than two hours due to breakdown in any part of the Distribution System may be termed as a Distribution System Failure.

**(b) Outage Coordination and Scheduling - Grid Code 22.3.1.**

The System Operator and Users and TSP shall establish schedules for inspection and preventive maintenance of their Generation, Distribution, Transmission, protection, control, communication, and other Auxiliary Equipment. These maintenance and inspection schedules shall be coordinated to ensure an Equipment Outage pattern that shall not violate Power System Reliability and minimize customer disturbance.

**(c) Planning and Co-ordination - Grid Code 22.3.2.**

The System Operator shall coordinate all Outage plans for the Users and TSP, on an annual basis. These plans shall be ready by October of every year. The System Operator shall then be responsible for performing pertinent Reliability studies to ensure the secure operation of the Power System during the Outages as have been agreed in the annual Outage plans.

**(d) Distribution Network Operator and Directly Connected Customer Obligations- Grid Code 22.3.6.**

Each Distribution Network Operator shall act in accordance with Good Utility Practice in planning their circuit Outages. Each Distribution Company (and Directly Connected Customers where relevant) shall furnish (SO) by 1st of August of each year the following information:

(a) Load in MW not to be available from any Connection Point.

(b) Identification of Equipment and /or Apparatus at the Connection Point where there will be an Outage

(c) Period during which a circuit at or near a Connection Point will be unavailable with Start-date and Start-time and End-date and End-time.

**(e) Users Involvement in Data Collection - User's data - Grid Code 7.3.1.**

The System Operator shall require Users to provide data and information as detailed in Appendixes 6 and 7 regularly, for the System Operator in conjunction with the TSP to undertake the planning and development of the Transmission System following international standards. Information received for this purpose shall be treated as Transmission System planning data.

**(f) Discriminatory Tariff in the EPSRA as SLA Provision EPSRA 76(2):**

Prices for the activities referred to in subsection(1) of this (Act 2005) section shall be regulated according to one or more methodologies adopted by the Commission for regulating electricity prices and such tariff methodologies shall (2d) give to consumers economically efficient signals regarding the cost that their consumption imposes on the licensees business.76(4):

Notwithstanding subsection (2) of this section, the Commission shall have the authority to establish tariff methodologies that reflect the terms and conditions of a contract between licensees and one or more eligible customers.

**(g) Customers Bands in the SLA and the EPSRA**

**76(5):** Notwithstanding subsection (2)(e) of this section, in establishing tariff methodologies the Commission may differentiate among consumers based on differences in total electricity consumption, the periods on which electricity is consumed, load factors, power factors, voltage levels, location within the country and other such criteria as may affect the cost of providing a service and may allow a lifetime tariff for some consumers.

Above represents only a few examples of very copious provisions in the regulatory instruments that create SLA obligations. Generally, SLAs are detailed and attempt to cover large grounds across the spectrum of provisions specified in the governing documents.

To underscore the importance of SLA in the operations of TCN within the NESI, a two-day workshop titled “MYTO ORDERS AND THE ROLE OF REGIONAL OPERATIONS MANAGERS AND NATIONAL CONTROL CENTRE IN THE IMPLEMENTATION OF THE SERVICE AGREEMENT” was organized for Regional Managers to acquaint them with the regulatory requirements of SLA and the need for them to take responsibility for its implementation in order to avoid incurring loss of revenue to the Company.

Participants at the Workshop which held on June 2, 2021 in Abuja were Regional Transmission Managers (RTMs) from Transmission Service Provider (TSP) and Regional Operations Managers (ROMs) from Independent Systems Operator (ISO) arms of TCN. The Executive Directors in charge of TSP and ISO, Engr. Victor Adewumi and Engr. Maman Lawal respectively took turns to address the Regional Managers honing in the significance of SLA to the overall objective of making TCN a world-class power transmission utility that focuses on resource optimization and optimum performance.

Speaking, the General Manager, System Operations Engr. Nafisat Ali emphasized the need for engineers to acquire the requisite skills and to sharpen existing ones and to improve performance within the system so as to increase productivity and to minimize losses due to penalties for non-observance of SLA.

The Regulation and Legal team in TCN had earlier in the year, visited every region of the company nationwide to educate them on TCN's obligation in the

entire power sector service providers, their role in ensuring that TCN is not faulted with penalties and their implication on the operations of and finance/ remuneration of TCN.



L-R, ED ISO, Engr. Maman Lawal, ED TSP, Engr Victor Adewumi and GM Engineering, Engr. Geoffrey Nwokoye



A section of participants during the workshop



A section of participants during the workshop

# WAPP IN PICTURES

## Inaugural Joint Ministerial Steering Committee meeting of the West African Power Pool on North Core Interconnection Project



(Middle), Nigerian Minister of Power, Engr. Sale Mamman, flanked by the Minister's of Energy from Togo, Niger, Benin and Burkina Faso



(R-L), ECOWAS commissioner for Energy & Mines, Douka Sediko, Ag. MD/CEO TCN, Engr. Sule Abdulaziz, and Mr. Agneke Thomp, representing Director/CEO CEB



Cross section of participants



Ministers of Power/Energy from Nigeria, Togo, Niger and Burkina Faso and Heads of power utilities from the four countries

## Preparatory meeting for the 1st Joint Ministerial Steering Committee



L-R, Ag. MD/CEO TCN, Engr. Sule Abdulaziz and Secretary General, WAPP, Mr. Appolonaire KI



Cross section of participants

# WAPP IN PICTURES

## Meeting with Head of Utilities and Stakeholders on the implementation of WAPP North Core Interconnection Project



L-R, Ag MD/CEO TCN, Engr. Sule Abdulaziz, Minister of Power representative, Engr. Nosike Emmanuel and WAPP Secretary General, Mr. Siengui Appolinaire KI



Cross section of participants



TCN team at the meeting



Group photograph

## Preparatory meeting for the 1st Joint Ministerial Steering Committee



Cross section of participants



Group photograph

# RETIREMENT



*Middle, Engr. John Oluwakoya, AGM Design CHQ*



*Mr Mansoor Ogunmola, Manager (Civil Works), CHQ*



*Mrs Esther Ikemba, AM (Sec), CHQ*



*Middle, Mrs Cecilia Apelehin, AM (Sec), CHQ*

## Wedding Bells



*Mr. Emmanuel Sidi, Officer I (system operator) and his wife*



*Mr. Umar Abubakar Officer II (Electrical), and his wife*



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