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TCN Transmission News

IN-HOUSE JOURNAL OF TRANSMISSION COMPANY OF NIGERIA

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- SERVICOM Honours Ministers of Power, Perm. Sec.
- TCN Records Progress in Power Grid Reforms, Four Other Milestones for 2022 – MD
- WAPP Board Adopts Working Document, Budget for 2023

132/33kV GIS Substation, Gwarinpa

EDITIONS OF
TCN TRANSMISSION NEWS
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EDITOR'S NOTE

For the Transmission Company of Nigeria, the Year 2022 was a very busy and fruitful one, especially in the implementation of our fivefold agenda, well laid out by the Managing Director/Chief Executive Officer, Engr. Dr. Sule A. Abdulaziz and his Management team in the 2021 Management Retreat held in Uyo, Akwa Ibom State.

Significant milestones were recorded in the implementation of this agenda in Year 2022. The concrete evidence of the milestones abound in the numerous transmission and distribution projects completed or on-going across the country. These include several critical substation transformers and line projects to upscale the wheeling capacity of the grid. The Company also made significant progress deploying modern technology to increase efficiency, including the Internet of Things (IoT), Enterprise Resource Planning (ERP), and other home-grown ICT solutions to enhance its operational efficiency. It didn't come to us as a surprise, therefore, when a leading Nigerian Newspaper, Aljazirah, conferred the Award of Outstanding Contribution of Excellent Service to the Power Sector on the MD/CEO, Engr. Abdulaziz in the twilight of 2022 to crown the year.

As part of its process improvement for efficient operations, the Company launched a robust Right of Way (RoW) redress mechanism to effectively address the recurring incidence of encroachment, leading to disputes that either disrupted, delayed or in some cases outrightly stalled our project development programs. TCN Management took quantum leaps with intensive and extensive training programs, embarked upon organisation-wide which upgraded human capacity, leading to unprecedented achievements in homegrown solutions in addressing operational challenges.

Significantly, the Company also witnessed industrial peace working with the in-house unions in a very healthy environment which engendered smooth operations and growth. Similarly, the confidence building and stakeholder engagement strategies that Management introduced, led to the evolution of a harmonious working relationship and synergy among sector players that was hitherto characterized by bickering, blame game and lack of transparency.

As the prospects of a robust cross border electricity market among the ECOWAS states become more realistic, the impact of TCN on the International scene grows stronger as it continues to play a leading role in the West African Power Pool (WAPP). TCN has in place, effective strategies, (as soon as the market becomes operational), to leverage on the opportunities of the international energy trade to enlarge its foreign exchange earning capacity.

TCN's commitment to delivering on its mandate under the Engr. Abdulaziz-led Management is very much on course. However, this is not without challenges, some of which have been evidently daunting. These challenges have, however, not deterred the Company from its resolve to find lasting solutions to the issues. A good example is the thorny twin-issue of encroachment on transmission lines Right of Way (RoW) and vandalization of transmission infrastructure and facilities. Appreciable progress has been made in addressing RoW issues while the incidence of vandalization is being addressed by the joint efforts of TCN and security operatives with remarkable success.

This edition showcases a vandal apprehended by security operatives as evidence of the ongoing collaboration with stakeholders to tackle the scourge of vandalism.

We invite you to read about TCN's milestone achievements in this edition of the Magazine as put together by the Transmission News crew. You may also visit TCN's social media handles for the detailed listing of the projects.

Also highlighted is TCN's customary celebration of its staff with an END-of-the-Year Award night, where outstanding members of staff who record exceptional performance or made significant impact in various areas of the Company's processes were recognized and honored.

In the words of the MD/CEO, TCN, Engr. Dr. Abdulaziz Sule, "We set targets for ourselves, we have accomplished quite a lot and I commend you all. However, we must not rest on our oars not just yet." Wraps it all.

On this note, we serve you the December edition of the TCN Transmission News. Happy reading

Ndidi Mbah
Editor-in-Chief

SERVICOM Honours Ministers of Power, Perm. Sec.

By Jumoke Dare

Award of Honour being presented to the Hon Minster of Power, Engr. Abubakar D. Aliyu, FNSE, by the Director, Reform Coordination and Service Improvement of the Ministry of Power, Mrs. Titilayo Ageyo

The Hon. Minister of Power, Engr. Abubakar D. Aliyu, FNSE, the Minister of State, Power, Mr. Goddy-Jeddy Agba, OFR, and the Permanent Secretary of the Federal Ministry of Power, Mr. Temitope Peter Fasedemi have been conferred with the SERVICOM Award of Honour in recognition of their contributions to the Nigerian Electricity Supply Industry (NESI).

While receiving the award, the Minister remarked that the recognition alongside his contemporaries in the Ministry was a confirmation of team work, collaboration as well as cooperation from players in the industry.

Among notable achievements under his watch, Engr. Aliyu mentioned is the 700MW Zungeru Power Plant which is near completion as well as several transmission and distribution projects across the country.

The Director, Reform Coordination and Service Improvement of the Ministry of Power, Mrs. Titilayo Ageyo, in her remarks, stated that the presentation of the Award of Honour was in furtherance of the celebration of "Customer Service Week" observed by the Ministry alongside International Organisations.

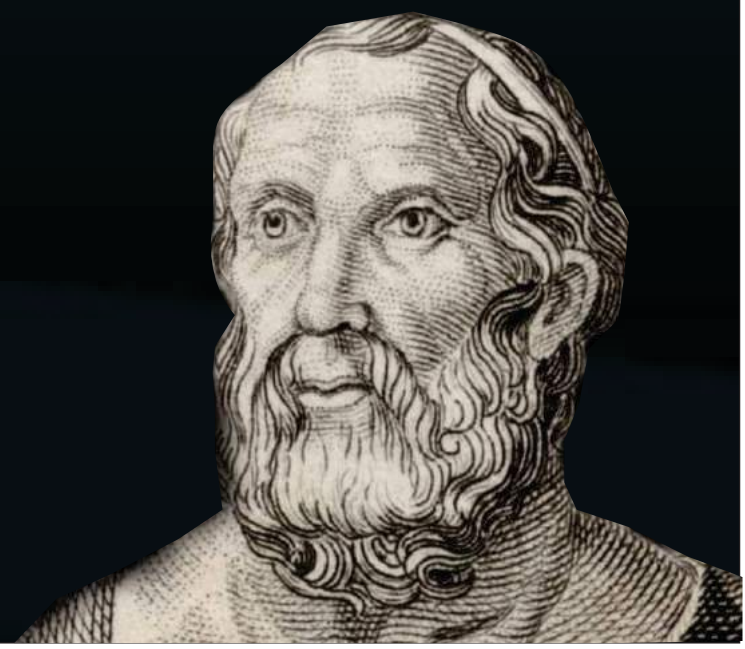
According to her, since the assumption of duty of the Honourable Ministers and the Permanent Secretary, they have achieved significant milestones in the power sector, including enhancement of sector coordination, strategies for attracting massive direct investments as well as great improvement in regulatory and supervisory functions within the sector among others.

Group photograph with Minister of Power, Engr. Aliyu Abubakar, FNSE, alongside stakeholders in the power sector during the award presentation

Quotes

The measure of a man is
what he does with power

-Plato



Engr. Dr. Sule Ahmed Abdulaz... MSE, COREN Reg, MNIM

> ... he oversees the overall supervision of the entire affairs of TCN including transmission projects initiation, transmission projects construction, transmission network operations and maintenance, system operations, market administration and human resources management, as the Chief Accountability Officer.

TCN, The Journey So Far Under Engr. Dr. Sule Ahmed Abdulaziz - Led Management

The Transmission Company of Nigeria (TCN), is the sole bulk transporter of electricity in the nation's power sector. Established by the Power Sector Reform Act of 2005, TCN is the nexus in the Nigerian Electricity Supply Industry (NESI) power sector, charged with the task of ensuring bulk transmission of electricity to distribution Load Centers as well as System and Market Operations function.

In the bid to effectively discharge this critical role, TCN Management under the leadership of the Managing Director/CEO Engr. Dr. Sule Abdulaziz, has put in place a strategic, well-articulated and systematic programme, tagged the Nigerian Grid Maintenance, Expansion and Rehabilitation Programme (NEGMERP), with short and long term objectives. The diligent implementation of this programme has fast-tracked the achievement of milestones in grid efficiency, maintenance, rehabilitation, equipment procurement and expansion.

TCN currently has the capacity to wheel 8,100MW bulk electricity on 330kV and 132kV voltage levels from the power generating plants through high tension cables and transformers to distribution load centres nationwide. The last two years of the company under the Engr. Dr. Sule Ahmed Abdulaziz led management have witnessed outstanding successes in all aspect of projects execution and operations with significant milestone achievements. Engr, Dr, Abdulaziz oversees and supervises the entire TCN, including transmission projects initiation, construction, network operations and maintenance, system operations, market administration and human resources management.

As the Chief Accountability Officer working with four Executive Directors, under two business units, the Transmission Service Provider (TSP) and the Independent System Operator (ISO), TCN is set to be transformed into a world class transmission company serving both national and international customers.

NOTABLE ACHIEVEMENTS BY TCN UNDER THE CURRENT MANAGEMENT LED BY ENGR. DR. SULE ABDULAZIZ

PROJECT DELIVERY

Project delivery has improved significantly in TCN. Achievements in this area are attributable to various strategic projects and programs embarked upon under the current leadership of the company to ensure grid expansion, stability, reliability and ultimately a more efficient transmission of bulk power in the country. Through the strategic programme code-named Nigeria Electricity Grid Maintenance, Expansion and Rehabilitation Program (NEGMERP), TCN has executed several capital projects and reinforcement projects across the transmission regions in the country.

Some of the initiatives are highlighted below:

Quick Low Hanging Fruits

TCN has fast-tracked the delivery of the following outstanding projects:

Project Title	Location (State)	Completion Date	IMPACT
Completed the construction of a brand new tower at Katampe, and also restrung the Katampe - Central Area lines 1& 2, supplying bulk power to Central Area Substation, Abuja .	Abuja	January, 2023	a. Improve welfare a nd socio - economic activities of the State b. Improve power supply to affected areas
Energized a 150MVA, 330/132/33kV Power Transformer at Ayede Transmission Substation	Osogbo	November, 2022	a. Additional 450MW is added to the grid b. Improve welfare a nd socio - economic activities of the State c. Improve power supply to affected areas
Energized the brand new 2X60MVA 132/33kV Gwarimpa Gas Insulated SubStation (GIS) at Gwarimpa	Abuja	November, 2022	a. Additional 98 MW is added to the grid b. Improve welfare a nd socio - economic activities of the State c. Improve power supply to affected areas
Energizes a brand new 60MVA 132/33kV Transformer at the itire132/33kV Transmission Substation in Lagos State	Lagos	October, 2022	a. Additional 48MW is added to the grid b. Improve welfare a nd socio - economic activities of the State c. Improve power supply to affected areas

1. Completed Projects

The following projects have been completed:

Project Title	Location (State)	Completion Date	IMPACT
Construction of 2x60MVA, 132/33kV Substation at Gagarawa	Jigawa	October, 2020	a. Additional 96MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Construction of Ikorodu-Odogunyan-Shagamu 132kV double circuit transmission line	Lagos/Ogun	May, 2021	a. Increase wheeling capacity to about 760MW. b. Improve the voltage level of the affected locations

Reinforcement of Ikeja West TS with 1x300MVA, 330/132/33kV Power transformer and its associated switchgears	Lagos/Ogun	March, 2021	a. Additional 240MW is added to the Grid b. Improve the welfare and socio-economic activities of the State.
Reinforcement of Okene TS with 1x40MVA, 132/33kV Power transformer and its associated switchgears	Kogi	April, 2021	a. Additional 32 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Reinforcement of Ogba TS with 1x100MVA, 132/33kV Power transformer and its associated switchgears	Lagos	November, 2020	a. Additional 80 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Reinforcement of Iseyin TS with 1x30MVA, 132/33kV Power transformer and its associated switchgears	Oyo	April, 2021	a. Additional 24 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Construction of 2x30/40MVA Substation at Yelwa-Yauri and 100KM of 33KV Line Kebbi State	Kebbi	June, 2021	a. Additional 24 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Reinforcement of Kubwa TS with replacement 1x60MVA, 132/33kV Power transformer and its associated switchgears	FCT	March, 2021	a. Additional 48 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Finished Reconductoring 140km Birni-Kebbi-Sokoto line 330/132kV	Sokoto	May 2021	a. Additional 150MW added to the grid. b. Replaced ACSR to ACCC conductor c. Reduced line overloading and improved bulk power supply to affected areas.
Reinforcement of Rumosi TS with 1x60MVA, 132/33kV Power transformer and its associated switchgears	Port Harcourt, Rivers State	August 2020	a. Additional 48 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Reinforcement of Yandev TS with 1x60MVA, 132/33kV Power transformer and its associated switchgears	Yandev, Benue State	March, 2021	a. Additional 48 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Reinforcement of Kumbotso TS with 1x60MVA, 132/33kV Power transformer and its associated switchgears	Kano, Katsina	April, 2021	a. Additional 48 MW is added to the Grid b. Improve the welfare and socio-economic activities of the State. c. Improve the power supply of the affected area.
Upgrade Kaduna-Jos transmission line route with new Multi-Circuit towers	Kaduna/Jos	December 2021	a. Increase the total capacity from 500MW to1500MW. b. Mando 330/132kV substation can now receive supply through two independent sources, that is either through Shiroro- Kaduna line 1 and 2 or through Jos – Kaduna 330kV line 1 and 2 this will definitely provide system stability and reliability. c. This will boost power supply and socio-economic activities in Kaduna, Jos and neighboring areas.
Upgrade of Egbin 330/132/33kV Substation with 60MVA 132/33kV power transformer	Lagos State	March 2022	a. Additional 48MW was added to the grid. b. Improved welfare and socio-economic activities of the state c. Improved power supply to affected areas.
Repairs and energizes the Katampe-Central Area 132kV underground transmission cable line – 1	Abuja	November 2021	a. Bulk transmission line redundancy b. Improved power supply to affected areas.

Installed & energised a brand new 60MVA power transformer in Gombe 132/33kV Sub-Station,	Gombe	January 2022	a. capacity of the substation has been upgraded from 125MVA to 150MVA. b. Improved welfare and socio -economic activities of the State c. Improved power supply to affected areas.
Installed and commissioned a new 33kV feeder in its Bauchi 132/33kV Substation	Bauchi	April 2022	a. Improve supply with an additional 3.5MW to Jos Distribution Company b. provides bulk power supply to the new World Bank water project
Installation of 1 X 30 MVA 132/33kV Mobile Substation at Bichi	Abuja	April 2022	a. Additional 24 MW was added to the grid. b. Improved welfare and socio-economic activities of the state c. Improved power supply to affected areas.
Installed a new 150MVA 330/132/33kV Inter-bus Transformer (IBTR) at Delta IV Transmission Substation, Ughelli, Delta	Benin	October 2022	This installation allows the bi-directional flow of power from the 330KV bus and 132 kV bus of Ughelli Power Plant, resulting in an addition of 120 MW capacity available to the Discos from Ughelli Power Plant.
Reinforcement of Itire TS with 1x60 MVA, 132/33kV Power transformer and its associated switchgears	Lagos	October 2022	a. Additional 48 MW was added to the grid. b. Improved welfare and socio-economic activities of the state c. Improved power supply to affected areas.
Installation of Ayede TS with 1x150MVA, 330/132/33kV Power transformer and its associated switchgears	Osogbo	November 2022	a. Additional 120MW was added to the grid. b. Improved welfare and socio-economic activities of the state c. Improved power supply to affected areas.
Completion of Brand New Dawaki 2 X 60 MVA 132/33kV Substations	Abuja	November 2022	a. Additional 120MW was added to the grid. b. Improved welfare and socio-economic activities of the state c. Improved power supply to affected areas.

2. Projects Funded By Multilateral Agencies

Transmission projects are capital intensive and require dependable and reliable sources of funding for their timely completion. TCN relies on fund from Multilateral Agencies through loan support backed by the Federal Government of Nigeria to finance some of its projects. These projects are executed by specialized units of the Company called Project Management Units (PMUs).

TCN currently has four PMUs, each one for a set of projects funded by each of the financing partners. These are:

A. World Bank PMU (USD486million Nigeria Electricity Transmission Project)
B. Agence Française de Development (AFD) PMU (USD170million Abuja Transmission Project) and Northern Corridor Project - $200million
C. African Development Bank (AfDB) PMU – (USD 210million Nigeria Transmission Expansion Project)
D. Japan International Corporation Agency (JICA) PMU (USD 235million Lagos-Ogun Power Transmission Project)

Under the leadership of Engineer Abdulaziz, the World Bank-PMU and AFD-PMU have made significant progress in their project delivery milestones.

3. Nigerian Presidential Power Initiative (PPI)

TCN is a key stakeholder of the Nigerian Presidential Power Initiative (PPI) as undertaken by FGN Power Company (FGNPC). The initiative aims to resolve specific existing challenges in the nations power sector and expand the capacity of the transmission and distribution networks. The PPI project also aims to upgrade the electricity network, to achieve an operational capacity of 25,000 megawatts (MW) from the current average of around 4,500 MW, through series of projects spanning three phases.

The Engr. Dr. Abdulaziz led management has provided continual support to the PPI through the dedication of TCN engineers in supporting the initiation, design and delivery of TCN related part of PPI. TCN engineers have successfully assisted the FGNPC in the procurement, delivery and installation of some replacements at critical substations in the grid. Focusing on satisfying DisCos needs, TCN has recently agreed to embark on some projects to further resolve TCN/DisCos constraints. The projects are called the Service Level Agreement (SLA) projects, because they represent TCN's commitment to better serve the DisCos. There are more than 50 DisCos/TCN interface projects in this project cohort. The projects are funded by CBN through loans provided to the DisCos. The loans are to be recovered through deductions

Upgraded multi-circuit Kaduna to Jos 330kV transmission line

from TCN Internally Generated Revenue Invoices.

4. Line Reconductoring

Several 132kV lines are aged and severely limited in capacity, TCN therefore initiated the reconductoring of some of these lines, including the reconductoring of Sixteen (16) No. transmission lines, and Seventeen (17) No. others under the Service Level Agreement (SLA) projects across the country to further reinforce the grid for optimal evacuation and transmission of bulk electricity. These include, the Ogba-Alausa 132kV Transmission line, Ikeja West Alimosho 132kV Transmission Line, Kumbotso-Hadeja 132kV SC, Kumbotso-Kankia 132kV SC, Birnin Kebbi -Sokoto 132kV Transmission Line, Ahaoda Garrain Yenagoa 132kV Transmission Line and Alaoji-Owerri 132kV Transmission line DC Line 1, among others.

5. Launch of Grievance Redress Mechanism (GRM) Strategy Booklet

Under the current leadership, TCN has embarked on aggressive digital transformation using internal home-grown solutions and vendor procured applications. This is to enhance the efficiency and effectiveness of firm-wide operations by embracing new platforms and tools, upgrading existing systems, and automating routine tasks. Key areas that are worth noting include:

i. The Upgraded NSONG Platform

Prior to assumption of office by Engr. Dr. Abdulaziz, the management of grid control was done mostly via manual logs and exchange of emails. As part of the digital transformation strategy, the TCN web-portal NSONG was upgraded to achieve transparency. The NSONG which was previously used for skeletal exchange of information was reinvigorated to enhance transparency as a key ingredient to the market which runs on TCN infrastructure (as TSP) and coordinated also by TCN (SO).

Similarly, NSONG has in-built Generator Dispatch Tool (GDT) and Distribution Dispatch Tool (DDT) for the Generators, Distribution Companies and NCC Grid Controllers to enhance seamless and transparent interaction. Through NSONG, operational and guidance instructions are dispatched to GENCOs & DISCOs, ensuring transparent and seamless communication within the Electricity Grid. All activities and interactions between stakeholders are logged in to help facilitate analysis, planning, as well as dispute resolution.

The Generation Dispatch Tool (GDT) of the NSONG is used:
a. By generators to submit their day-ahead nominations stating what they want to generate in the 24-hour period of the next day.

These nominations are used by the NCC Grid Controllers to allocate load in a transparent manner to the Distribution Companies, who equally submit their load demand in the NSONG through the Distribution Dispatch Tool.

b. Gathering quarter-hour/ hourly generation profile (MW & MVar) of the individual Generating units in all GenCos.

c. Dispatching Load Profile instructions to GenCos (free governor /increase / decrease generation) to ensure stability of the Grid.

The Immediate Gains of the GDT are:

- Timely dissemination of quarter-hour generation data by GenCos to NCC
- Monitoring of the units on free-governor or frequency response
- Elimination of errors that occur while using phone calls to obtain generation data thereby largely eliminating

Staff of TCN displaying the GRM booklet

disputes that often arise from verbal transmission of data
- Easy storage & retrieval of generation data (MW & Mvar
- Closer monitoring of generation performance
- Viewing generation history & export of records
- Greatly assist in meritorious dispatch of generating units in the grid

Similarly, the Distribution Dispatch Tool (DDT), is currently being used to give load-allocation to the DisCos and it has the following immediate gains
- Monitoring of Distribution Load profile
- Matching of DisCo load profile to Generation availability and vice versa

NSONG was built and is being maintained by the TCN ICT Department. The advantage of this for TCN, is the ability to meet the needs of the electricity sector in a timely manner. Prior to the tenure of the present management, the prevalent attitude was to overlook in-house capacity and home-grown solutions with the TCN ICT Department while waiting for the establishment of a new SCADA/EMS to implement these tasks.

It is well known that an industrial grade SCADA/EMS is the best to implement the coordination and recording of electricity flow and market data on the grid. However, the MD/CEO decided that TCN needed to meet its mandate while the procurement of SCADA was being vigorously pursued. This illustrates an almost revolutionary digital transformation, from a manual process to one that is semi-automated, accountable, and transparent.

ii. Supervisory Control and Data Acquisition System/ Energy Management System (SCADA/EMS)

After a protracted delay in commencing a new SCADA/EMS project to replace the dilapidated NEPA era SCADA/EMS system, the Management team led by Engr. Abdulaziz signed a contract for the new SCADA/EMS and Communication Systems upgrade in August 2022. The new system is being implemented by NR Electric Co. Ltd. Prior to that, the TCN Management had initiated the process of building two state of the art Control Centers in Osogbo and Gwagwalada to house the new SCADA/EMS infrastructure.

iii. Increase Grid Visibility

For effective grid management and control, it is important that the Grid Controllers at NCC view every part of the grid to accurately gauge situations on the grid and take immediate remedial measures to guarantee grid reliability. Prior to the present leadership, only 6 out of 27 generators were visible to NCC. Determined to move forward on grid visibility, TCN jettisoned the previous approach of waiting for the completion of the SCADA/EMS scheme for visibility level to increase. While they acknowledged that it was more ideal to have an established SCADA system, they also recognized that little things could be done to make great impact while waiting for the full implementation of the big SCADA. They tasked TCN Engineers to come up with a stop-gap solution to address visibility issues.

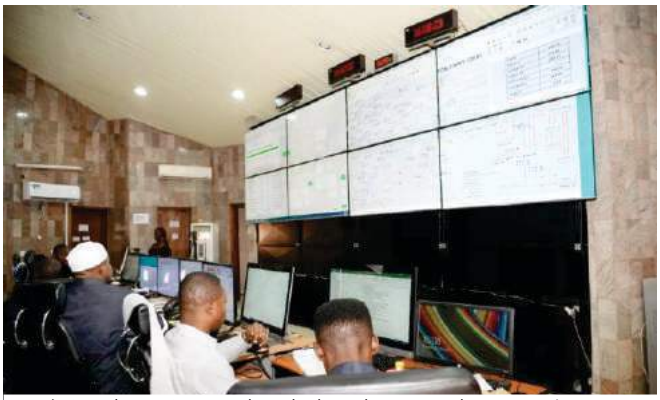
The TCN Engineers came up with an in-house design that leverages on "Internet of Things" to get data in near real time from all the generators and some substations. Currently, all the generators on the grid are visible on the grid, with a substantial amount of the substations visible to NCC. This in-house solution to the perennial visibility problem has shown that while waiting for the big idea to mature, TCN can leverage on small solutions that germinate fast and make big impacts. This stop-gap solution will be operational for grid management pending the deployment of a state-of-the-art SCADA/EMS network which has already been awarded and sponsored by the World Bank.

iv. Digitization of Old Transmission Substations

TCN has embarked on digitization of old transmission substations in its network. The digitization project is aimed at improving the automation system of old transmission substations and their connectivity with the proposed TCN SCADA System, without which the old substations would not have been able to take advantage of the new SCADA system.

v. Automated Meter Reading (AMR) and Meter Data Management System (MDMS)

Deployment of Automated Meter Reading (AMR) and Meter



NCC) Osogbo, ISO- TCN, has deployed a Network Automation System (NAS) as a stop-gap solution to SCADA/ EMS application, using Internet of Things (IoT), and Virtual Private Network (VPN) - GSM provided by telecom providers to improve Grid monitoring and transmission of data from remote substations to the NCC.

Data Management System (MDMS) for remote meter reading and data acquisition and accurate energy data for settlement preparation to achieve:

- Unrestricted access to user department 24/7 and ensure data integrity, system availability and security.
- Detect tamper events and outage occurrences.
- Calculate transformer loading from interval data and ability to read capacity from generator's meters.
- Stream and store meter data at user defined interval and monitor participants energy load in real time and publish.
- Reliable and effective communication channel with all types of meters.
- Scalable and flexible system integration with other systems (Settlement Software, SCADA etc.) for reports generation.

vi. ICT Transformational Processes

The Information and Communication Technology (ICT) Department is a support service division in Transmission Company of Nigeria, saddled with automating and digitizing the processes of TCN in line with achieving the corporate goals of the organization in a quick and effective manner. The TCN Management has leveraged on the mandate of the ICT Department to undertake several digitization projects including:

a. Procurement of Enterprise Resource Planning (ERP) Solution which is at an advanced stage. The consultancy services arrangement is fully running while the main contract funded partly by AFDB is at signing stage. The ERP project will integrate all running and proposed digital assets and applications of TCN as well as automation of other manual processes of the company.

b. Award of contract for deployment of Mini Data Center in eight regional offices - Oshogbo, Benin, Enugu, Port Harcourt, Bauchi, Kaduna, Kano, and Abuja Region which is in progress. These projects will form the sub-domain of TCN corporate infrastructural forest with nucleus at TCN CHQ.

c. Award of contract for deployment of Disaster Recovery Centers in two Regional Offices – Lagos and Shiroro Regions which is similarly in progress.
The Disaster Recovery Center will be the remote mirror of the network hub at the Corporate Headquarters, with capacity to assume and function as main hub whenever there is a failure for any reason at the Corporate Headquarters.

d. Award of contract for Deployment of Local Area Networks (LAN) in all Regional Offices, with deployment in progress. The Local Area Network will be used to avail network resources to every office and users in the regional headquarters


Live line maintenance crew at work

e. TCN Management is in the process of Deploying Closed Circuit Televisions (CCTV) in all control rooms and switch yards of TCN. The consultancy services for the project is in progress in all regions. The CCTV will ensure comprehensive and centralized surveillance of TCN critical infrastructures.

f. Similarly, TCN Management has commenced deployment of Video Conferencing equipment in all regional Headquarters of TCN and CHQ. This project has been deployed at CHQ, Bauchi, Enugu, Oshogbo, Lagos and Kaduna regions, while contract has been awarded for deployments at Port Harcourt, Shiroro, Benin, Kano and Abuja Regions. The Video teleconferencing equipment will ease the conduct of all Management and regional meetings virtually to save time and cost.

g. TCN Management is in the process of awarding contact for the provision of dedicated internet services in all regional and sub-regional offices of TCN nationwide. Award of this contract has been approved by TSP tender board following no objection approval by BPP. Provision of internet services will provide platform for integration of all Island networks in TCN into an all-inclusive Wide Area Network (WAN).

CAPACITY BUILDING

In realization of the importance of human capacity building in the successful implementation of these projects, TCN Management has not only incorporated technical trainings in the respective projects but also organized the under-listed trainings for ICT staff.

I. Advanced Technical Training for ICT staff on Palo Alto design and deployment by CLEMAD Nig. Limited in January 2022.
ii Capacity building in cloud computing by Intel Box Nigeria Ltd in February 2022.
iii. Capacity building in Cyber Security and online collaboration by Lexington Nig. Limited in February 2022.
iv. Technical Training on FM800 Data Center management by Huawei Technologies in April 2022.
v. Crisis Management and Leadership held by Capacity Development Training for Africa (CDTFA) in Dubai, United Arab Emirates in May 2022.
vi. Executive Leadership Management training by worldwide solutions in London UK -July 2022

CREATION OF CONDUCIVE WORK ENVIRONMENT

Creation of a conducive workplace as a vital tool for driving personnel to work hard together is one of the key commitments of the present Management. Management is committed towards creating a prolific and compassionate holistic work culture through swiftness in policy making and implementation.

In order to achieve this objective, several office complexes have been renovated, new modern offices have also been built in Kano Region, while that of Benin Region in Ihovbor, Owerri and Uyo Work Centers are ongoing. This is because there is the understanding that a conducive environment impacts output.

RESPONSIVE AND EXPEDIENT MAINTENANCE

i. Replenishing the Store

Today, TCN's Central Store has been fully stocked against what prevailed in the past. The lack of spare parts in-store was responsible for slow responses to apparatuses outages and long equipment downtimes. To address this, TCN procured a large number of spare apparatuses and store materials that will enable quick and efficient maintenance which will consequently reduce downtime and increase performance. A lot of the procured spare parts are already at the Ojo Store, Lagos, some have been deployed to substations nationwide while more have arrived the Nigerian ports.

The spare stock which is the highest of such in the company's history, includes 22 power (60MVA, 100MVA and 150MVA) transformers, 30 forklifts, reconditioning facilities, isolators haulage trucks, transmission switchyard spare parts, 45No. earthing transformers, Suspension Clamps, Vibration Dampers, electric scaffold mobile scissors, Armor Rods, Circuit Breakers, Current transformer, Voltage transformers, 100 tons Crane truck heads etc. This massive stock of Equipment procured under the Engr. Abdulaziz led management is to ensure significant reduction in downtime due to continuous availability of spares for planned and unplanned maintenance activities in the grid.

ii. Trace Clearing

TCN Management team undertook massive vegetation management and trace clearing of land under transmission lines which was not done for a long time in the past. This has led to significant reduction in transmission lines outages caused by grass, trees, crops and other vegetations. These actions have contributed greatly to the reduction of lines downtime and have equally contributed to grid stability.

iii. Service Reflective Tariff Mechanism and Improved Revenue

TCN, is cooperating with the regulator, the Nigerian Electricity Regulatory Commission (NERC) in implementing the Service Reflective Tariff Order and the associated mechanism operated by the System Operator and Market Operator. This cooperation has moved the industry from an opaque tariff era to one that is transparent and based on service delivered as measured by the System Operator and Market Operator Divisions of TCN.

Under the current leadership of TCN, NERC, allowed a slight increase in tariff for TCN to cover its investments and operations cost. This has led to increased revenue and more funds being made available to execute projects for the

Recently upgraded Kano regional office

Ongoing work at Benin Regional office administration block, Ihovbor

immediate benefits of the DisCos.

HUMAN RESOURCES AND INDUSTRIAL RELATIONS

I. Labour Issues

TCN has two in-house labour unions, National Union of Electricity Employees (NUEE) and Senior Staff Association of Electricity and Allied Companies (SSAEAC). Both were for a long time at logger-heads. However, within one month of assuming office, the MD/CEO and his team deployed leadership skills and managerial experience to resolve the issues behind the conflict, leading to unprecedented industrial harmony in the workplace. His policy of inclusion and non-interference in dealing with labour issues, have engendered increased level of mutual trust by the two unions, thus breaking the vicious unproductive past characterised by in-fighting among labour unions. Under his leadership, the Management team has adhered to the terms of collective agreement thus bringing to the barest minimum, the incidence of work disruption.

ii. Human Capital Development

The perennial challenge of poor staff training in key technical and operational areas in the organization were brought into focus and tackled, in order to bridge the yawning skill gaps in the workforce. The Human Resources Department had to quickly embark on strategic capacity building programs including:

i.. The continuous training of Grid Controllers and System Operators on extant rules and regulations of the Nigerian Electricity Supply Industry (NESI).
ii. Advanced Data Gathering and Manipulation for Systems and Market Data Processes.
iii. Training of all General Managers on Leadership and Management Skillsets.
iv. Procurement Skillsets Training.
v. Training of Field Engineers:
   a. Protection, Control and Metering Engineers
   b. Electrical Maintenance Department
   c. Lines (Hot & Cold Maintenance)

IMPROVED RELATIONSHIP WITH OTHER STAKEHOLDERS

The current administration of TCN has equally put an end to the constant blame game in the media between TCN and the DisCos over issues that could otherwise have been resolved amicably. He took a different approach in dealing with operational disputes choosing rather to treat DisCos not only as critical stakeholders, but most importantly as TCN customers. Various TCN - DisCos engagements were initiated, some of which were conducted under the guidance of the regulator, Nigeria Electricity Regulatory Commission (NERC) to ensure that a more conducive atmosphere for business was created.

TCN now has improved and better relationships with the DisCos and Gencos. TCN has also signed Service Level Agreements with DisCos to guarantee the commitment to service improvement.

These engagements have made TCN to pay more attention to interface challenges of the DisCos and resolving them expeditiously. TCN now has improved and better relationships with the DisCos as well as the GenCos, and has signed Service Level Agreements with DisCos to guarantee commitment to service improvement.
The obligations of the parties under Service Level Agreements will bring about the resuscitation and completion of abandoned projects or facilities which will enhance supply of power to DisCos load centres and also address interface issues.

TCN MANAGEMENT TEAM, UNDER ENGR. DR. SULE A. ABDULAZIZ LED ADMINISTRATION

Engr. Dr. Sule A. Abdulaziz – MD/CEO, TCN

Prior to his appointment as the substantive MD/CEO, Engr. Dr. Abdulaziz held the position in acting capacity. He was previously the Regional Transmission Manager of Shiroro and Abuja Regions of TCN where he superintended over various operational and managerial functions such as wheeling of power to Distribution Companies (DisCos); coordination and supervision of equipment maintenance and repairs, transmission network reliability, security and expansion; inventory and stock management, as well as fiscal responsibility and accountability of the regional offices.

His profile as an astute Project Engineer spans over 20 years with cognate experience in project initiation, planning design, coordination, administration and fund management. As a seasoned Project Engineer, he has led the initiation and development of various strategic projects in the Nigerian grid network, including: Construction of 2x30/40MVA, 132/33kV Substation at Talata Mafara; Construction of 2x60MVA, 132/33kV Substations at Keffi, Daura and Kukwaba, Kurfi,

Malumfashi, Dutsin-Ma, Kankara, Daura, Gagarawa, Lalante and Igangan; Construction of 1x150MVA 330/132kV Substation at Maiduguri and construction of 2x150MVA, 330/132/33kV Substation at Katsina.

Engr. Dr. Abdulaziz is a COREN certified Electrical Engineer, a Fellow of both the Nigerian Society of Engineers (NSE), and the Nigerian Institute of Power Engineers (NIPE). He is also a chartered member of the Nigeria Institute of Management (NIM) and the Financial Reporting Council (FRC). He holds a Master of Science in Electronic/Automation Engineering from the Technical University in Sofia, Bulgaria. Engr. Dr. Abdulaziz.

Other top members of the MD/CEOs team include:

Engr, Victor Adewumi (Executive Director - TSP)

Engr. Victor Adewumi is the Executive Director, Transmission Service Provider (TSP).

He was appointed Executive Director, TSP in September 2017. Prior to his elevation to the present position, he was the General Manager (Maintenance & Field Services), TCN Headquarters Abuja.

Engr. Adewumi holds a Higher National Diploma (HND) in Engineering from Ado Ekiti Polytechnic. He is a member of Council of Registered Engineers of Nigeria (COREN), Fellow, Institute of Corporate Administration of Nigeria (ICAD), Member, Nigerian Society of Engineers (NSE) and Member, Nigerian Institute of Management (NIM).

Engr. Maman Lawal (Executive Director - ISO)

Engr. Maman Jimoh Lawal, is the Executive Director, Independent System Operator (ISO).

He was appointed in September 2017. Before his appointment, he was the General Manager, System Operations (SO).

He Holds a Master of Science Degree (MSc) in Information Technology from NOUN and B Sc. Electrical Engineering from the University of IIorin, Kwara State. Engr. Lawal is a corporate member of the Nigerian Society of Engineers (NSE), a Registered Electrical Engineer with the Council for the Regulation of Engineering in Nigeria (COREN).

Barr. Justin Ishaya – Dodo (Executive Director HR& CB)

Mr. Justin Ishaya Dodo is the Executive Director (Human Resource & Capacity Building.

Before his new role as Executive Director (Human Resources & Capacity Building), he was the General Manger (Legal) ISO until his redeployment to the Human Resources Sub-sector as General Manager (Human Resources & Change Management) in August, 2018.

Mr. Justin Ishaya Dodo holds a Bachelor's Degree in Public Administration from Ahmadu Bello University, Zaria, a Bachelor of Laws Degree (LLB, 1989) from the University of Lagos, Akoka, Lagos and was called to the Nigerian Bar in 1990. He is a member of the Nigerian Bar Association.

Mr. Isah Dutse (Executive Director F& A)

Mr. Ahmed Isah - Dutse is the Executive Director, (Finance & Account).

Prior to his appointment in September 2017, he served as the General Manager in the Treasury, Finance & Accounts Division of Transmission Service Provider (TSP) and Independent System Operation (ISO).

Mr. Ahmed Isah - Dutse holds an MBA – Finance from Abubakar Tafawa Balewa University, Bauchi, and Higher National Diploma (HND) in Accountancy, from Kaduna Polytechnic (Kadpoly). He is a Fellow of Certified National Accountant (FCNA), Chartered Institute of Taxation of Nigeria (FCTI) and member, Nigerian Institute of Management (NIM).

A Boss Creates Fear, A Leader Creates Confidence. A Boss Fixes Blame, A Leader Corrects Mistakes. A Boss Knows All, A Leader Asks Question.

Some Completed and Ongoing Transformer and lines Projects in TCN Regional offices

15 (Fifteen) brand new power transformers from Lagos port, Apapa to TCN Central Store in Ojo, Lagos State, for onward delivery to TCN project sites

8 (Eight) brand new power transformers from Lagos port, Apapa to TCN Central Store in Ojo, Lagos State, for onward delivery to TCN project sites

ABUJA REGION

2X60MVA, 132/33kV Gas Insulated Substation (GIS) at Gwarinpa, Abuja

Construction of brand new tower at Katampe, Abuja.

BENIN REGION

150MVA 330/132/33kV interbus transformer (IBTR) at Delta IV Transmission Substation, installed and energized

100MVA transformer in Benin sub-region.

BAUCHI REGION

60MVA power transformer in Gombe 132/33kV Substation, installed & energised

Energized 132kV Shiroro-Tegina-Kotangora Transmission line

KANO REGION

100MVA power transformer at 330/132/33kV Kumbotso Transmission Substation, Kano State.

100MVA power transformer at Dan Agundi 132/33kV Transmission Substation

2x60MVA power transformers at 132/33kV Kankia Transmission Substation, Kastina State.

100MVA, 132/33kV power transformer at 132/33kV Dakata Substation, Kano, placed on plinth

OSOGBO REGION

150MVA, 330/132kV power transformer energized at Ayede Transmission substation

75MX 330kV Shunt Reactor at 330/132/33kV Osogbo Transmission Substation

300/375MVA 330/132/33kV power transformer at Osogbo Transmission Substation

Ongoing reconductoring/upgrading of TCN Ayede-Eleyele 132kV Double Circuit transmission lines project in Ibadan.

LAGOS REGION

60MVA 132/33kV power transformer at Isolo 132/33kV Transmission Substation, installed and energised

Transformer switch gears and accessories at Egbin 330/132kV Transmission Substation

2x100/125MVA power transformers and accessories at Alagbon 330/132/33kV Transmission Substation.

Truck containing one number 100MVA transformer and accessories at 132/33kV Ijora Transmission Substation, Lagos.

Transformer accessories and switchgears in Lekki 330/132/33kV Transmission Substation

Transformer accessories in Ota 132/33kV Transmission Substation

KADUNA REGION

330kV Circuit Breaker installed at Mando 330/132kV Transmission Substation

30MVA 132/33kV Mobile Transmission Substation, Bichi

TCN Records Progress in Power Grid Reforms, Four Other Milestones for 2022 – MD

By Ndidi Mbah

R-L, ED TSP, Engr. Dr. Victor Adewunmi, MD CEO TCN, Engr. Dr. Sule Abdulaziz and ED F&A, Mr. Ahmed Isah-Dutse during TCN Management retreat in Uyo

Engr. Dr. Sule Ahmed Abdulaziz, has scored the performance of TCN high, stating that it was vigorously achieving its five (5) point agenda for Year 2022, which covers general reforms and power grid visibility.

Speaking at a three-day Management Retreat in Uyo, Akwa Ibom State, from 3rd - 5th November, 2022, Engr. Dr. Abdulaziz, lauded Management and staff of the Company for keenly driving the agenda.

Abdulaziz said; "As you all know, we started this year with an unwavering simple, realistic and definite 5-point agenda for the organization. The agenda has been thriving on ease of operation, credibility, teamwork and focus on excellence in the organization."

The TCN boss, who narrated how the organization has progressed thus far, identified milestones achieved to include; enhanced grid visibility and stability through integrated system planning using available technologies for stop gap solutions as well as enhancement of human resources development, performance improvement through staff skills optimization and training.

The other three planks of the agenda, he said, are, ensuring efficiency in project execution and management for service delivery in line with the needs of the Nigerian Electricity Supply Industry (NESI), ensuring efficient equipment maintenance for high viability and availability, and ensuring efficient prime visibility and management.

"It is my hope that we will achieve even much more as evidenced by the results recorded so far this year. I believe also that, it is a work in progress," he reiterated.

He noted that the second Management Retreat came at a very critical time in the nation's history and the NESI as Nigerians prepare to go to the polls at the turn of the next year. "So, as an organization whose operation is very critical and strategic to national economic development, we should brace up to meet the expectations of the incoming administration as professionals in the electricity industry."

The TCN head also tasked the Management team on accountability, "As we examine what we have done right, what we have to do better and our challenges." He noted that no matter how well the TCN team had performed, there was still

room to do better, always.

According to him, "We set targets for ourselves, we have accomplished quite a lot and I commend you all. However, we must not rest on our oars just yet."

He tasked the relevant departments to ensure scheduled maintenance of all transformers, especially the old ones, in a timely manner, noting that as the harmattan season intensifies, all the RTMs must ensure that weeds within 5 meters from behind the perimeter wall fencing of all substations were cleared to prevent fire set by individuals from entering into the substation.

The Governor of Akwa Ibom State, Udom Emmanuel, who was represented by Dr John Etim, the Commissioner of Power and Petroleum Development at the event, commended TCN for holding the Retreat as a critical infrastructure provider and operator.

He said, "As an organization with the important mandate to enhance electricity transmission in this country, there was need for such periodic retreats to review, evaluate and plan for the attainment of the vision, mission and objectives of TCN. He commended TCN for prioritizing its projects execution. Etim also enjoined the participants to visit the site for the 132/33kV power transmission substation with two 60MVA power transformers in Oron, which he said, the State had provided land for TCN to build a transmission line from Eket to Oron.

"This administration will continue to cooperate and collaborate with TCN to ensure the provision of stable and affordable electricity to the citizens of the state," Etim noted.

The retreat had in attendance the Executive Directors of TCN, the Regional Managers (RTMs), General Managers and other strategic members of the TCN family. Also present were the Permanent Secretary, Ministry of Power in the State, Dr Valerie Obot, and other directors from the Ministry.

R-L, ED TSP, Engr. Victor Adewumi, Perm. Sec., Ministry of Power, Akwa Ibom State, Dr Valerie Obot, Commissioner of Power and Petroleum Development, Dr John Etim, MD/CEO TCN, Engr. Dr. Sule Abdulaziz, ED F&A, Mr. Isah Dutse, and ED HR&CS, Barr. Justin Dodo, at the TCN Management retreat in Uyo, Akwa Ibom State

TCN MD/CEO Bags Aljazirah Award

By Jumoke Dare

MD/CEO TCN, Engr. Dr. Sule Ahmed Abdulaziz, Middle, flanked by Aljazirah media team

In recognition of the noteworthy achievements thus far ecorded in TCN under his leadership, a frontline Nigerian newspaper, Aljazirah has conferred an Award of Outstanding Contribution and Excellent Service to the Power Sector on Engr. Dr. Sule Ahmed Abdulaziz, the Managing Director/Chief Executive Officer of Transmission Company of Nigeria (TCN).

The media organization's team/award committee led by Ibrahim Mohammed, Editor of the national daily who represented Dr. Bassey Etuk Williams, the Managing Editor/Chief Executive Officer, Mr Femi Orishagbemi, the Secretary of the award Committee alongside Mrs. Kande Jato, Mr Sidi Yakubu and Engr Adeniyi Adejumo, presented the award to Engr. Dr. Sule Abdulaziz at TCN headquarters, Abuja on 2nd December.

Speaking during the Award presentation, the Committee Secretary said Engr. Abdulaziz was selected in recognition of his contributions to the growth and development of Nigeria's power sector and by extension, the livelihoods of Nigerians.

Mr Orishagbemi also highlighted some of the achievements of Engr. Dr Abdulaziz which earned him the award to the delight of those present at the occasion.

He noted that members of the Coalition of Civil Society Organisations who screened nominees for the award were unequivocal in their conclusion of his commitment to Project Nigeria and by extension Africa.

Also, speaking at the occasion, the Editor of the Newspaper stated that the TCN boss, had an excellent record of outstanding achievements in the power sector dating back to when he served as Acting Managing Director, R.T.M, Shiroro, Abuja Region, and as Principal Manager in the Company.

He therefore, encouraged Engr. Dr. Abdulaziz to continue with his record of hard work and dedication to the improvement of the power sector so that younger generation of TCN workers will follow his example for the overall good of the nation.

In his response, Engr. Abdulaziz appreciated the media organization for their recognition of his personal contributions and that of the Company in the improvement of the power sector and the livelihood of Nigerians.

He affirmed his commitment and that of staff of the Company to continue working for the benefit of Nigerians while noting that electricity is very important to the development of society.

WAPP Board Adopts Working Document, Budget for 2023

By Ndidi Mbah

Middle; Chairman, Executive Board of WAPP, Engr. Dr. Sule Abdulaziz

The Executive Board of the West African Power Pool (WAPP) has adopted a new work plan and budget for the year 2023.

The document was adopted at the 55th Ordinary Session of the WAPP Executive Board Meeting held at WAPP Headquarters in Cotonou, Benin Republic on Saturday, 22nd October 2022.

Speaking during the session, the Chairman, Executive Board of WAPP, Engr. Dr. Sule Abdulaziz expressed satisfaction with the 2023 working document. In his words, "I remain convinced that it was prepared in accordance with the rules by the General Secretariat and carefully reviewed by the WAPP Finance Committee."

Engr. Abdulaziz, who is also the Managing Director/CEO of the Transmission Company of Nigeria (TCN), lauded the transparent manner in which WAPP has been implementing projects of the Pool. According to him, "As with the review of the Financial Statements, where I expressed confidence in this institution and its transparent documentation, I reiterate the same sentiment regarding the 2023 Work Plan and Budget."

Engr. Abdulaziz urged member utility firms to endeavour to pay all contributions and settle all outstanding fees, in order to sustain the progress being recorded in the regional electricity project implementation. He commended President Patrice Talon, the Government and People of Benin Republic for the facilities granted to WAPP to establish its General Secretariat.

Earlier in his welcome address, the Secretary General of WAPP, Mr. Siengui KI, presented the Work Plan and Budget for the year, 2023, which focuses on key projects for implementation. He noted that the WAPP projects were progressing according to schedule but needed budget adjustments to accommodate the cost escalation of project implementation. He lauded the Donor agencies while noting the need for WAPP to explore alternative funding areas to augment utility member contributions to the Pool.

Some ongoing WAPP projects include, the Central Information Centre (CIC) project, which is at an advanced stage; the Network Synchronization project and the North Core project among others.

The high point of the meeting was the examination and adoption of the 2023 Work Plan and budget for WAPP.

Participants at the Executive Board meeting in Cotonou, Benin Republic

Abuja Feeding Scheme To Increase Transmission Capacity By 1,000MW –Minister

By Bili Kazah Akau

Minister of Power, Engr. Abubakar D. Aliyu, FNSE, Middle, flanked by MD/CEO TCN, Engr. Dr. Sule Abdulaziz during the inspection tour

The Minister of Power, Engr. Abubakar D. Aliyu, FNSE, has given the assurance that the French Development Agency (AFD), $170million loan would soon start yielding positive result as most of the six transmission substations projects being financed with the loan under Abuja Ring Project would be commissioned in no distant future.

The Minister gave the assurance on Friday, 11th November, 2022, during an inspection tour of the projects alongside the Managing Director/Chief Executive Officer, of the Transmission Company of Nigeria (TCN), Engr. Dr. Sule Abdulaziz.

Speaking to newsmen at the Wumba Substation, the Minister said, "These projects, about Six (6) of them, with associated lines and substations, are at completion stages, some are over 90 percent completed as you can see. We have started from Gwarimpa, where you saw a brand new Dawaki Substation. That substation, will be completed between November or December this year.

"It is at over 90% completion and the contractor is chasing the completion date to be able to complete and if it is completed, it will increase the capacity of the TCN by some megawatts. What they would need is enough generation. So, in all, we have six of these projects, which will increase the wheeling capacity of the TCN by over 1000 megawatts."

While expressing his satisfaction with the quality and pace of work at the project sites, the Minister pointed out that his Ministry would do everything possible to ensure the project was delivered at the stipulated time to boost socio-economic development of the nation's capital and its environs.

The Minister explained that the project was conceived in 2018 as part of the commitment of the President Muhammadu Buhari-led government to bequeath to Nigerians, improved and stable power supply.

He urged Nigerians to be patient to reap the benefits of what the Government was doing and that there has never been a time in the power sector when so many projects were undertaken and completed simultaneously as is the case in the Nigerian Electricity Supply Industry (NESI) today.

The Abuja Ring Project is a green-field project wholly funded by the French Development Agency (AFD). The project comprise five transmission substations, 330kV and 132kV transmission lines and will on completion, add 624 megawatts (MW) to the grid.

2x60MVA, 132/33kV Wumba Transmission Substation, Apo

Powers Stakeholders Charged to Develop Strategies to Resolve Grid And Market Issues

By Joy Egbase

Middle, ED ISO, Engr. Maman Lawal, flanked by GM, System Operations (SO), Mrs Nafisat Ali, GM, Market Operations, (MO), Engr. Edmund Eje, as well as representatives of DisCos

Stakeholders have been charged to develop strategies that would resolve grid and market issues plaguing the Nigerian Electricity Supply Industry (NESI).

The MD/CEO of TCN, Engr. Dr. Sule Ahmed Abdulaziz challenged participants while declaring open the 2nd 2022 NESI Roundtable Conference with the theme; 'Grid Operations and Recent Developments in the Market,' in Abuja.

Engr. Dr. Abdulaziz, who was represented by the Executive Director, Independent System Operation, (ISO), Engr. Maman Lawal, lauded participants for their commitment towards harnessing solutions that would ensure stable and reliable power supply for Nigerians. He emphasized the need for synergy and team work in a rancor free environment to enable achievement of set goals.

In his remarks, the Market Operator, Engr. Dr. Edmund Eje, urged market participants to strictly follow the Market Rules, which regulates the operation of the electricity market in Nigeria as this was necessary for proper operation in the industry.

The General Manager, Regulations, Compliance and Market Development of TCN, Mr. Ali Bukar Ahmad, in his remark, stated that the System Operators and the Market Operators were crucial in managing the electricity system in Nigeria. He highlighted the critical role played by the System Operator and Market Operator components in balancing electricity supply and demand.

The roundtable discussion featured presentations on the need for compliance with the System Operator and Market Operator guidelines in the electricity market, the use of Internet of Things and its applications in the management of the National electricity grid and update on the System Operations platform, NSONG.

Other presentations include Recent Development in the Electricity Market with regards to the ongoing Partial Activation of Contracts Dispensation, Grid Accountability Framework in the Nigerian Electricity Supply Industry and Market Development.

The three-day Conference had representatives from the 11 Distribution Companies (DisCos), the Generation Companies (GenCos), the Federal Ministry of Power, and the Nigerian Electricity Regulatory Commission (NERC).

Stakeholders Harp On The Need For Compliance With Rules And Regulations Guiding NESI

By Grace Sambe - Jauro

Regulatory and Compliance Department of the Independent System Operation Division of the Transmission Company of Nigeria (TCN), held its Maiden Regulatory Week from, 2nd – 4th November, 2022, to create awareness on the need to comply with rules and regulations guiding the Nigeria Electricity Supply Industry (NESI).

The program with the theme, "Regulations Compliance as Accelerator of Reforms in the Power Sector," was declared open on Wednesday, 2nd November, 2022 by Engr. Dr. Sule Abdulaziz, the MD/CEO of TCN who charged System Operators to be proactive in ensuring that provisions of regulatory instruments were strictly observed by stakeholders.

The MD/CEO who was represented by the Executive Director of Independent System Operation (ISO), Engr. Maman Lawal stressed the imperative for all participants to effectively key into the decisions that would be taken at the end of the Conference to enable efficient operation of the market.

In his keynote address, the Commissioner of Engineering and Performance Monitoring, Nigerian Electricity Regulatory Commission (NERC), Dr. Chidi Ike, urged stakeholders in NESI to familiarize themselves with the Grid Code requirements and comply with its provisions as it relates to their functions in order to build a sustainable and enhanced transmission network.

He disclosed that the first Grid Code was developed in 2008 to govern the day-to-day functions of the transmission system in Nigeria, and since 2008 the Code has gone through three reviews to produce the current version which accommodates and integrates emerging operational issues experienced in the field.

L-R, ED (Gas) NDPHC, Professor Stephen Ogaji, Mrs..., Ministry of Power, ED ISO, Engr. Maman Lawal, Member of TCN Board , Dr. Immaudeen Talba and GM (NCC), Engr. Balarabe Abdullahi

According to him, NERC has developed several codes, standards, regulations and guidelines aimed at guiding operators in the sector. He noted that the Grid Code and the Nigerian Electricity Supply Industry (NESI) regulations are key industry instruments that are pivotal to TCN's operations. He explained that NESI regulations stipulate standards for

construction and equipment while the Grid Code helps the System Operator in the operations of the grid.

Dr. Ike further noted that the grid was very important in NESI, and that steps have been taken, to activate the Grid Code, especially the compliance component, to ensure that it is guided by the rule and that participants play by the rules to ensure sustainability of the grid.

GM Regulation and Compliance, Mr. Ali Bukar Ahmad, during his presentation

The General Manager Regulation and Compliance in TCN, Mr. Ali Bukar Ahmad, in his presentation titled "Nigerian Electric Power Policy: The Basis for Reforms and Unbundling", explained that the reason for reform in the sector was to allow the inflow of resources for expansion, to enhance performance and effectively contribute to socio-economic development.

According to Mr. Bukar, the objectives of the policy were to meet the current and prospective justifiable economic demands for electricity in Nigeria, modernize and expand its coverage, and support national economic and social development as well as improve relations with neighboring countries.

The Workshop had in attendance Chairman of TCN's Board Sub-Committee on System, Market and Technical Operation, Dr. Imamudden Talba. It also featured presentations by the General Manager (SO), Engr. Nafisa Isa, on Grid Operation and Stakeholders Obligation, Managing Director/CEO of Nigeria Bulk Electricity Trading Plc, (NBET), Mr. Nnaemeka Ewelukwa on "Negotiation Skills and Strategies in an Unbundled System", Grid (GASS) NDPP, Prof. Stephen Ogaji on "Regulated and Deregulated systems in the Electricity Sector."

Participants at the workshop in Abuja

Twenty-Two Power Transformers, Other Transmission Equipment Delivered To Ojo Store, Lagos

By Ndidi Mbah

Some of the new transformers at TCN Ojo Stores, Lagos

The Transmission Company of Nigeria (TCN) has delivered 22 brand new power transformers, spare parts and critical equipment to its Central Store in Ojo, Lagos. As more of the equipment arrive Lagos Port for onward delivery to the Store for subsequent installation at various ongoing project sites across the country, some would be inventoried as spares for future use.

The unissued equipment in the store were recently inspected by members of the Governing Board of TCN and Management. The massive stockpile of transmission equipment are gradually being moved to new project sites, maintenance, and upgrading of existing transmission lines and substations.

The equipment described as the highest of such ever delivered in the Company's history, comprises of 22 power transformers, haulage trucks, transmission switchyard spare parts, 45No. earthing transformers, Suspension Clamps, Vibration Dampers, Armor Rods, Circuit Breakers, Current transformer, Voltage transformers, 100tons Crane truck heads etc.

The Technical and Monitoring Committee of the Governing Board led by the Committee Chairman, Nsima Ekere, visited the Ojo Store as part of their two-day tour of Lagos Region where they inspected key power transmission substations as well as the Ojo Central Store.

After the equipment inspection, Mr. Ekere, lauded TCN for the record stock delivery to the store. His words; "We have seen loads of equipment that gives me hope that the new dawn that we have been expecting to see at TCN is here. We saw about 30 forklifts, mobile transformers, reconditioning facilities, all kinds of things, the conductors, isolators, several other equipment and electric scaffold mobile scissors among others."

These, he continued are, "all to improve the capacity of TCN and efficiency of staff in doing their work. I am convinced that the transmission grid expansion project that TCN is presently executing is ongoing, and I must also commend the World Bank and other donor agencies that are helping us with funding."

Mr. Ekere said that with the massive stock at the TCN central store, the capacity of TCN to wheel power is definitely being enhanced.

Speaking on the quantum of equipment in the Ojo Central Store, the Managing Director and Chief Executive Officer, Engr. Dr. Sule Ahmed Abdulaziz, said that most of the equipment were procured for donor funded projects supported by the World Bank, French Development Agency (AFD), African Development Bank, among others.

Engr. Dr. Abdulaziz, noted that resources have been committed by Donor Agencies, assisting the Company in its grid expansion drive. The capacity of the transformers, he said, range from 60MVA up to 150MVA.

Speaking further, he said; "We have not seen this level of massive supply of materials in TCN stores in the past, purely for network expansion and maintenance. We have 150MVA transformers which are very massive and will eventually be connected to our 330kV circuit. We have the 100MVA transformers, high-grade cranes and other equipment. It implies that the turnaround time to rectify faults when they occur and the downtime have been reduced."

He mentioned other equipment delivered to the Lagos store to include circuit breakers, isolators, aluminum conductors among others. He added that the equipment is what TCN required to ensure that the system became more stable.

Some of the newly procured transformer equipment, haulage trucks and switchyard spare parts

The projects, when completed, would further help to enhance the quality and stability of bulk supply as well as longer hours of power supply and would also ensure constant maintenance of the grid due to availability of spares. Also, expansion and prompt scheduled maintenance of the grid will ensure a more efficient and effective transportation of bulk electricity to distribution load centres nationwide for the benefit of Nigerians.

Inspection of the Ojo Stores by TCN Board members

The Journey To Achieve Functional SCADA System Begins

By Maimuna Isah- Ladan & Ogechukwu Uzor

Right, RTM PortHarcourt Region, Engr. Dr. Tom Inugonum receiving the handover note from the contractor

Right, RTM Kaduna Region, Engr. Engr. Aminu Haruna, receiving the handover note from the contractor

The journey to operational excellence is multifaceted and entails several aspects of an organization's processes. It requires detailed attention, dedication and focus on continuous improvement. The Transmission Company of Nigeria, (TCN), has been working on various aspects of its operations to enhance performance and excellence in service delivery and market operations. It also adheres strictly to scheduled maintenance and grid expansion projects using standard equipment, while observing safety measures.

It is in the quest to enhance further capacity and efficiency that TCN has continued to work hard to put in place a robust and functional Supervisory Control and Data Acquisition (SCADA). SCADA is a system that operates on coded signals over a communication channel for efficient system operations and monitoring for effective grid management.

Presently, there is an ongoing rehabilitation of SCADA Project NTP TR6C which is a World Bank financed Project under TCN, aimed at putting in place a full-scale state-of-the-art SCADA, EMS and telecommunication systems that would monitor and manage in a safe and reliable manner, the relevant electrical network as well as energy exchanges in the network.

The project which will function as a Regional Control Center would include Remote Terminal Units (RTUs) and related adaptation works at relevant substations. The major components for all Control Centres include; SCADA & amp; EMS Systems; Remote Terminal Units and Adaptation Works; Fibre Optic Cables & amp; Telecommunication Network, and with training given priority in order to effectively harness the centre.

On 25th of August 2022, TCN under the World Bank funded project, awarded a contract for the Rehabilitation of SCADA System in Transmission Network: ICB-NTP -TR6C to the JV of NARI Technology Co., Ltd- NR Electric Co. Ltd, a Chinese EPC and to be supervised by Italian Consultant; CESI S.p.A, Italy. On 13th October 2022, the JV NARI Technology Co. Ltd - NR Electric Co. Ltd, commenced the rehabilitation of SCADA in the Transmission Network of Kaduna Region.

The project implementation phases is to ensure skills transfer to TCN engineers at the Region.

The enormous benefits of the project include a functional and effective SCADA-EMS that will enable operators work more efficiently with less stress, as SCADA would monitor the electricity grid in real time and in an automated manner based on information it collects from substations within the system, thereby helping TCN meet regulatory compliance.

Earlier, while formally handing over the Kaduna network to the contractor, the Regional Transmission Manager, Engr. Aminu

Haruna, commended the efforts of the MD/CEO, Engr. Dr. Sule Abdulaziz and his management team in achieving this feat. He promised to ensure that all departments in the region were on board to ease the contractor's job.

In the same vein, the Regional Transmission Manager, Port Harcourt Region, Engr. Thomas Inugonum, officially handed over the SCADA site under his region to the contractor for the Rehabilitation of SCADA System in the Port Harcourt Transmission Network on 18th October, 2022.

The handover ceremony was carried out with TCN PMU, Port Harcourt Region, to the Contractor's representative from Nari – tech / NR Tech and Consultant's representative from CESI SpA Italy.

Kaduna Region management, with Consultant's representative from CESI SpA Italy and Nari-tech for the SCADA project

PortHarcourt Region management with members of TCN-PMU, Contractors and Consultant's representative from CESI SpA Italy and Nari-tech for the SCADA project

Experience is the hardest kind of teacher.
It gives you the test first and the lesson afterward.

- Oscar Wilde

Right Of Way Encroachment Delays FG's Plan To Add 2000MW To The Grid

By Adamu Umar & Nasir Tahir

The Minister of Power, Engr. Abubakar D. Aliyu has said that encroachment on power lines Right of Way (RoW) was delaying Federal Government's plan to add 2,000 megawatts to the grid.

The Minister stated this at Dan-Agundi Transmission Substation, when he paid a two-day working visit to inspect the power substations in the state with the Kano State Governor, His Excellency, Abdullahi Ganduje.

In his words, "One of our biggest challenges is how people are living right under passage way of our cables that transmit bulk power to various destinations."

R-L, Kano State Governor, Abdullahi Ganduje, Minister of Power, Engr. Abubakar D. Aliyu FNSE, and RTM Kano Region, Engr. Bashir Gote during the inspection of Dan-Agundi Substation, Kano State

"The Federal Government needs 10km of space to execute its project of putting additional 2,000MW to the national grid, but can't move in with equipment and reconduct due to the issue of "Right of Way" encroachment that have been taken over by stores, houses and even companies," he stated.

The Minister urged Governor Ganduje to provide passage for TCN to pass its cables so that it can complete its projects and improve power supply in Kano State.

In his response, the Governor promised to clear all encroachment on the Right of Way, to enable TCN carry out the reconductoring of the transmission line with higher capacity electricity cables.

In his words, "Kano State Government will ensure that we provide the enabling environment. The Right of Way must be cleared and there will be nothing except something designed by TCN. So, we assure you that in few days' time, you will see us in action."

While inspecting the Kumbotso Substation, the Minister maintained that the substation which is currently receiving power from Kaduna through 330kV single line was inadequate, hence Federal Government has approved the procurement of double circuit line to bring more energy aimed at improving electricity supply in the area.

"The 330kV single line provides only six hundred megawatts of electricity which is inadequate for people in the area, but when the installation of the new 330kV double quad line is completed, it would provide over 2000MW of electricity."

At the 330/132/33kV Rimin Zakara Transmission Substation, Engr. Aliyu stated that the work at the substation has been completed. He said efforts were being made jointly with the Kano State government to resolve the Right of Way issue that has been delaying the project.

The Minister also visited the Zawaciki 1MW interconnected solar grid under Rural Electrification Agency (REA) that can supply power to 100 households. He said the project is part of the Federal Government's drive towards renewable energy sources.

TCN Decries Dumping of Refuse Under Power Lines

By Olasehinde Tosin & Okpanachi Biricks

Dumping of refuse on roadsides, drainages, rivers and other unauthorized spaces is unarguably one of the challenges that authorities in Nigeria have been contending with in their bid to keep the environment clean, prevent the spread of diseases and tackle incidents of flooding.

Unfortunately, the Transmission Company of Nigeria, TCN, is also battling the same issue in its bid to provide stable electricity supply to consumers across the length and breadth of Nigeria. This is because, some residents in areas hosting installations of the Company like transmission lines, towers, substations and others assets have turned the open spaces under and around the facilities to refuse dumps, oblivious of the likely consequences of their actions.

As part of its bid to curb such practices and to create awareness on their dangers while working assiduously to provide reliable electricity supply to Nigerians, the Management of Lagos Region of TCN recently went round to inspect some of its towers whose base have been turned into refuse dumps and under lines that are now dump sites.

The TCN team inspected towers 61 to 62 of Ojo/Agbara 132kV line, towers 536-537 of Ikeja-West/Akangba 330kV line, tower 78 along old Ota/Papalanto 132kV line and Ota/Ogba/Papalanto 132kV line. The area around all the inspected facilities have virtually been turned into refuse dumps by the host communities.

Senior Manager (Lines), Akangba Sub-Region, Engr. Kuye O.E. who decried the degenerating state of some of the tower bodies, specifically towers 61 and 62 along Ojo 132kV Transmission Substation, beside a fruit market, noted that the inhabitants of the area have been warned many times against using the transmission line route and tower bases as their refuse dumps, but they have refused to heed the warning.

At the site of tower 536-537 of Ikeja-West/Akangba 330kV line located in Ejigbo Area in Lagos, Engr. Kuye spoke extensively on the dangers of turning the areas around TCN facilities into refuse dumps.

According to him, refuse set on fire by the installation can cause the legs of transmission towers to buckle, and collapse and may even pull-down other towers along the transmission lines route, causing untold damage to the line. He noted that the Lagos State government has an important role to play in assisting the eradication of the illegal activity.

At the Papalanto Sub-Region, Senior Manager (Lines), Engr. Olatunji lamented that the 133kV tower 78 along the old Ota/Papalanto and Ota/Ogba/Papalanto 132kV lines route have been turned into active dumping grounds for refuse disposal with the result that engineers have been unable to access the tower for maintenance or repair works.

At an instance, he said that it took two hours to access the tower for repairs due to refuse dump which has led to the corrosion of the towers: "The refuse dumped under the lines route and tower base is corroding the tower parts. We had to notify management on the need to do something fast about corrosion control to save the tower and discourage the dumping of refuse under the lines," he said.

The Engineer further explained that earlier in the year, a fire incident between towers 2 and 3 affected the tubular poles that serves the Ogba/Papalanto 133kV line. "It took the combined efforts of two fire fighting trucks before it could be put off. The fire which was avoidable, spread quickly because of the dirt around the towers, some of which include flammable items, he said.

Heaps of refuse under TCN transmission line in Lagos State

What was clear at the end of the visit was that turning of sites of TCN facilities and installations to refuse dumps has become a nightmare for TCN management and that efforts to stop residents had been futile. TCN is however not relenting as it continues to seek a lasting solution to the menace.

Heaps of refuse at the site of tower 536-537 of Ikeja-West/Akangba 330kV line located in Ejigbo Area in Lagos, in Lagos State

Anti-Corruption and Transparency Unit (ACTU) Inaugurated in TCN Lagos, Kano and Kaduna Region

By Okpanachi Berikis

Chairman, ACTU-TCN, Mr. Isah Lawal delivering his opening remarks during the inauguration in Lagos Region

In furtherance of its constitutionally assigned responsibility of fighting corrupt practices in all Ministries, Departments and Agencies (MDAs) of the Government, the Independent Corrupt Practices and Other Related Offices Commission (ICPC), has continued to inaugurate Anti-Corruption and Transparency Unit (ACTU) in government-owned institutions.

Presently, many agencies and parastatals of Government across Nigeria, including the TCN all have ACTU units. The Lagos Region of TCN joined the train on Tuesday, 29th November 2022 with the inauguration of TCN Lagos ACTU by a representative of ICPC, Mr. Emmanuel Nwaobilor.

in his welcome address, the General Manager, Lagos Region, Engr. Mojeed Akintola reiterated the importance of ACTU in an organization and commended TCN for entrenching it in the system.

Speaking, Chairman of ACTU-TCN, Headquarters Chapter, Mr. Isah Lawal listed the ills of corruption and why it should be combated. He stated that corruption undermines revenue-generating capacity, weakens fiscal regime, discourages foreign investments and increases the cost of governance.

He emphasized the need for corruption to be properly checkmated by embracing the right processes and promised that the Management of TCN will do everything within its power to support the efforts of ACTU of Lagos Region to enable it perform optimally.

The chairman, urged every staff of the organization to allow the TCN ACTU handbook serve as a guide to them for identifying possible loopholes in their work places.

The highlight of the events was the inauguration of the Anti-corruption unit by Mr. Nwaobilor.

The newly inaugurated members of the Anti-Corruption & Transparency Unit (ACTU) in TCN Lagos Region were; Engr. Adeshina O.A (Chairman) Mrs. Atiyota Chioma, Mr. Ujani Edwards, Mr. Bamgbose Tosin, Engr. Sanusi J.A, Mr. Odegbesan Quadri. O., Mr. Aransiiola Olatunji. A., Mr. Nasiru Baba Attah and Mrs. Olasehinde Tosin.

In the same vein, ACTU units were inaugurated in Kano and Kaduna Regional offices of TCN on the 7th and 8th September, 2022, respectively.

Members of ACTU-TCN Headquarters that were present during the inauguration are; General Manager, Audit and Chairman, ACTU-TCN, Mr. Isah Lawal, the Senior Manager Legal, Barr. Adama Mohammed, Senior Manager, Finance and Accounts, Mr. Okoro Raymond, NUEE representative, Mr. Godfrey Abbah, as well as staff and management of TCN Lagos Region.

Members of TCN-ACTU, Lagos Region

Members of TCN-ACTU, Kaduna Region

Members of TCN-ACTU, Kano Region

NEMSA Commends Synergy Between TCN Ayede Sub-Region and IBEDC

By Tracy Kadiri

MD/CEO NEMSA, Engr. Tukur Tahir Aliyu , and AGM Ayede Sub-Region, Engr. Aderogba during the inspection tour

The MD/CEO, Nigerian Electricity Management Services Agency (NEMSA), Engr. Tukur Tahir Aliyu recently flagged off the monitoring exercise of the interface point between the Transmission Company of Nigeria and Ibadan Electricity Distribution Company in Ayede Sub-Regional office of TCN.

Speaking during the visit, Engr. Aliyu said that the TCN/DisCos interface point is the connection between TCN's 132/33kV Transmission Substation and the DisCos injection Substation at the Distribution end.

He noted that the monitoring task force was inaugurated by the Minister of Power, Engr. Dr. Abubakar Aliyu, FNSE, on the 5th August 2022, to carry out the monitoring of TCN/DisCos interface points. This, he said, means checking load power flow synergy between TCN 33kV feeder lines and Distribution lines.

Explaining further, Engr. Tukur remarked that based on the discussions he had with both TCN and the Distribution team, there had been improvements in synergy compared to what he noticed during his visit about two years ago.

He said both teams now pay more attention to Technical issues, adding that this was important because technical issues cannot be overlooked in the effort to achieve a smooth power flow between the Transmission and Distribution ends.

Also, while on an inspection tour at the Ayede 132kV Transmission Substation, he applauded TCN on the general improvement of the equipment and switchyard. "Comparing this visit with my last visit, I have seen a lot of improvement, and cleanup, especially at the 132kV Substation," he said.

He further urged both teams to intensify efforts in carrying out joint inspection on feeder lines in their area of coverage, adding that during such joint inspections, challenges will be discovered and the team can also jointly proffer solutions to the challenges. This he said, will give room to the emergence of solutions which would generally improve power supply in the country, especially within Ibadan Metropolis.

Management of TCN Ayede Sub-Regional Office and NEMSA task force officials

SERGI France Trains TCN Engineers on Maintenance of New Fire Protection Technology

By Stella Ejikonye

TCN engineerers installing a new fire protection system at Katampe 132kV Substaion, Abuja

As part of efforts to protect its critical facilities, the Management of Transmission Company of Nigeria (TCN), recently installed a new fire protection system manufactured by SERGI FRANCE, at the company's Katampe 132kV Substation in Abuja.

Following the installation, Management of TCN and SERGI FRANCE also organized training for TCN engineers on how to effectively utilize the new technology to avert transformer explosions and fire outbreaks in the substations.

Speaking during the training, the representative of SERGI FRANCE, affirmed that the technology was a proven solution for prevention of transformer explosion. He added that the technology has been adopted by South Africa and other African countries because of its reliability and contributions to the stability of the network.

The core function of the technology, he said, includes helping to increase resilience of critical infrastructure, improve/ prevent industrial risks and environment pollution.

Speaking during the training, the AGM (TS) Apo Subregion, Engr. Musa Shuaibu, disclosed that the new technology was effective and that it helped in tackling a recent surge at the Katampe 132kV Substation.

He noted that the use of the new fire protector technology was valuable to TCN. He disclosed that the device was a mechanical protector attached to the transformer to prevent it from exploding from fire outbreak and that the contractor would adequately train TCN engineers on the equipment.

The fire protection device is a preventive technology and with its implementation in TCN system, it is believed that the equipment will help ensure the stability of the transmission Network.

Group photograph of SERGI France officials and TCN staff at the 132/33kV Katampe Transmission Substation, Abuja

Ministry Of Power Holds 5th NACOP In Abuja.

By Stanford Nneji

Permanent Secretary, Ministry of Power, Mr. Fashedemi Temitope,

The improvements made in the power sector since the enactment of the Electricity Power Sector Reform Act (EPSR) in 2005 and the Road Map for the Power Sector in 2010, were being undermined by issues like gas constraint, Right of Way, vandalism, non-cost reflective tariff among others.

The Permanent Secretary, Ministry of Power, Fashedemi Temitope, mentioned this at the opening of the fifth edition of the National Council on Power (NACOP) in Abuja. He said the challenges have led to illiquidity in NESI and consequently inadequate power to meet demand.

He stated that NACOP was to this end, organised to stimulate the interest of stakeholders at all levels of the government and private sector.

The 5th NACOP, with the theme, 'Sustaining and Improving Electricity Supply through the Power Sector Value Chain for Socio-economic Growth' will aid in generating ideas for the formulation of sustainable policies and initiatives that would help improve service delivery in NESI.

Mr. Fashedemi explained that the Council is expected to design an action log to track the implementation of the decisions and directives at the meeting and ensure policy initiatives that will improve sustainable power supply within the shortest possible time.

In his words, "It should fast track government's effort in diversifying the energy mix, promote renewable energy sources from solar, wind, biomass, hydros and coal to power, increase electricity access to unserved and underserved pre-urban, rural areas or areas with difficult terrains as well as strengthen the existing partnership in the sector," he said.

Mr. Fashedemi noted that, given Nigeria's enormous energy resources, creating an enabling environment is a critical component in the realisation of the 30:30:30 target which seeks to make available 30GW of electricity by year 2030 with 30 per cent of the energy mix coming from renewable energy sources.

Addressing participants, the Managing Director and Chief Executive Officer (MD/CEO) of TCN, Engineer Dr. Sule Ahmed Abdulaziz, said that TCN has made significant improvements in the grid, by implementing the Nigeria Electricity Grid Maintenance, Expansion and Rehabilitation Programme

(NEGMERP). Under the NEGMERP, new substations such as 2x60MVA, 132/33kV substations at Gagarawa, Wudil, Ukpilla, Daura, and Bichi Mobile Station were all completed.

"A lot of old substations have been reinforced with new transformers and associated switchgear, the recent ones being the installation of 60 MVA in Itire, Lagos State and 150MVA in Ayede, Oyo State, November 2022. Old transmission lines are also being reconductored.

The MD/CEO noted that TCN has made milestone achievements, but that inspite of these, the issue of vandalism and encroachment on the transmission lines Right of Way (RoW) has continued to pose a challenge to the grid.

MD/CEO TCN, Engr. Dr. Sule Abdulaziz giving his opening remarks

In attendance were the representatives from Nigerian Electricity Regulatory Commission (NERC), Nigerian electricity Management Services Agency (NEMSA), the World Bank among others.

Cross section of participants

NAPTIN Hosts Delegates of African Power Utilities

By Jumoke Dare

Participants at the workshop

The National Power Training Institute of Nigeria (NAPTIN) recently played host to delegates from Association of Power Utilities of Africa (APUA) for the Train-the-Trainer Workshop for African Network of Centers of Excellence in Electricity (ANCEE) in Abuja.

The Director–General, NAPTIN, Mr. Ahmed Nagode, while welcoming the delegates commended APUA for the opportunity to host the Workshop and extolled the good working relationship between them through the Transmission Company of Nigeria (TCN).

According to him, "APUA has also created opportunities in building human capacity in technical and management fields within member utilities including Gender Mainstreaming Training on Budget Management and Train-the-Trainers Workshop.

Mr. Nagode used the occasion to express appreciation to the Director-General of APUA, Engr. Abel Didier Tella for recognising NAPTIN as a Centre of Excellence (COE) under the APUA project of African Network Centre of Excellence in Electricity (ANCEE) in 2017.

Speaking at the event, the Permanent Secretary, Federal Ministry of Power, Mr Temitope Peter Fashedemi, represented by the Director, Human Resources Management, Mrs Victoria Adeosun, commended APUA for the giant strides made in building capacity of staff of power utilities in Africa and the active role given to NAPTIN under the initiative of ANCEE.

He stated that ANCEE project was an intercontinental initiative sponsored by African Develpoment Bank, (AFDB) and French Development Agency, (AFD), under APUA to improve the performance of the electricity sector and intensify regional exchange through technical and managerial capacity building in various fields.

In his words, "This aims to promote the development and integration of the African electricity sector, the dissemination of best practices of management, the exchange of experience and know-how, mutualised training of staff, as well as joint exploitation of energy resources based on a 'win-win' approach for all members."

He further assured the organizers and all the participants that Nigeria, through NAPTIN was open to more collaboration and partnership, as a Centre of Excellence (COE) of APUA and West African Power Pool (WAPP) with both local and international linkage.

The Director-General of APUA, Engr. Abel Tella represented by Mr Jemai Hichem disclosed that the implementation of the continental initiative provided for a series of exchange of experience and policy of skills and, if necessary visit to exchange experiences and capitalise on good pedagogical practices within the network.

According to him, "APUA has always worked for the realization of African integration and the experience of exchange of knowledge, know-how and especially know-how, in a word, of exchange of skills, is a part of a broader framework of South-South cooperation, where the youth who carry the hope of Africa standing is called to play the leading role."

Suspected Vandal Of TCN Tower in Okada Apprehended

By Abdulbaqi Abdulrahman


The vandalised tower

One of the major challenges of TCN is the vandalisation of its towers and cables. To solve this lingering problem, the management of regional TCN offices in troubled zones, are collaborating with local vigilante groups in the communities to monitor installations and prevent vandalism of the assets.

This initiative has begun to pay off as one of the suspected vandals was apprehended in Okada tower with vandalised angle irons on Friday, 7th, October 2022, by community youths and members of the vigilante group.

The suspect, Osasenaga Osarenren was apprehended by Ofunwegbe community youths in possession of a sack load of angle irons, which he claimed was found on his father's palm tree farm, but the youths were not convinced and took him to Iguobazuwa police station.

When the matter was reported to the Benin Regional office, a team of System Lines and Public Affairs Officers went to Okada to investigate the source of the angle irons and found that it was cut off from tower 169, Ihiovbor/Okada 132kV line of the Ihiovbor work center.

The vandal was handed over to the Benin State CID for further interrogation and the suspect will soon be charged to court.

The aprehended suspect


Vandalised angle irons

TCN Fetes Its Own At End-of-the-year Award Night ....MD/CEO Urges Staff to Be Proactive

By Uloma Osuagwu

L-R, MD/CEO TCN, Engr. Sule Abdulaziz, ED TSP, Engr. Victort Adewumi, ED ISO, Engr. Maman Lawal and ED HR, Barr. Justin Ishaya

The Managing Director and Chief Executive Officer of Transmission Company of Nigeria, (TCN), Engr. Dr. Sule Abdulaziz, has commended staff of the company for their resilience in maintaining and enhancing the grid system capacity to meet bulk electricity needs of customers across the country in the outgoing year.

Engr. Abdulaziz gave the commendation while delivering his opening remarks at the TCN's End-of-the-Year Awards Night held on 1st December, 2022, in Abuja to recognize achievements and contributions of the staff to the success of the company in the outgoing year.

The year, according to the TCN helmsman, was a fruitful one for the company with many transmission lines and substation projects completed while several others were ongoing. He expressed joy at the fact that most of the projects were executed in-house by TCN engineers, who he described as the best stock of engineers in the power sector in the country.

He listed some of the projects the Company has completed to further strengthen the grid during the course of the year. One of the projects was the 132kV GIS substation project at Gwarimpa, which is part of the Abuja Ring Project. He said the project which was completed recently has already been energized for use.

The TCN boss added that other projects under the Abuja Ring project are at various stages of completion. He equally added that the reconductoring projects being executed across the country under the Service Level Agreement (SLA) aimed at further reinforcing the grid for optimal evacuation and transmission of bulk electricity, was another major project of the Company.

Engr. Abdulaziz noted that TCN was also able to secure grid visibility by successfully deploying a stop gap network automation solution designed by the company's in-house engineers for real-time grid monitoring and operations at the

National Control Center (NCC); the company commenced the use of NSONG PORTAL which is now the only source of exchange of operational data, load forecast and reports, amongst others in 2022.

The TCN boss added that the Company achieved another laudable milestone in its history with the delivery of 22 brand new power transformers, spare parts and other critical equipment which were delivered to its Central Store in Ojo, Lagos State.

He revealed that while some power transformers have been deployed for use at some of the ongoing substations projects,' others will be kept for future upgrade and maintenance works.
Engr. Abdulaziz who also commended the staff for their resilience in ensuring effective maintenance and operation of TCN's transmission system and enhanced capacity to meet the bulk electricity needs of customers across the country, disclosed that the management of the company took steps to bridge skill gaps and enhance set skills of staff at various levels through training and retraining during the year.

He also noted that workers exiting the TCN workforce within the next two years also attended pre-retirement training to adequately prepare them for the next phase of their lives.

He however, disclosed that while the achievements are commendable, they didn't come without challenges. He listed illiquidity in the electricity market, system disturbances occasioned by a sudden drop in generation as a result of disruption in gas supply to power stations, vandalism of transmission lines, soil excavation near transmission towers, as some of the challenges that the TCN and its partners in the sector contended with throughout the year.

Engr. Abdulaziz, however, urged the staff to continue to work together with a clear understanding of the overall goal and responsibility of the company in the face of the challenges by constantly looking for ways to improve revenue capacity and capability to deliver on TCN's mandate.

While lauding some of the Awardees for their outstanding performances in their various sectors in the year, the TCN boss reiterated Management's commitment to play its own part in continuing to explore ways of improving staff confidence by ensuring the provision of positive incentives to boost morale and confidence in the TCN family.

The annual event featured presentation of awards in various categories to staff across all departments in TCN Corporate Headquarters, Regional, and Sub-Regional offices. Two 'Very Outstanding Awards of the Year' were presented to the General Manager, Transmission (TSP), Kaduna Region, Engr. Aminu Haruna and the General Manager, (ISO) National Control Center (NCC), Engr. Abdullahi Balarabe respectively.

Award for the best staff of the year, 2022, was presented to AGM (T) Abuja Sub-Region, Engr. Ahmed Musa Shuaibu.

MD/CEO TCN, Engr. Dr. Sule Abdulaziz and ED ISO, Engr. Mamman Lawal, in a group photograph with TCN engineers presented with Certificate of Commendation for the Modeling and deployment of Grid Accountability framework in NESI

TCN Management Assures SSAEAC of Sustained Industrial Harmony

By Zainab A. Shehu

The Management of Transmission Company of Nigeria (TCN) has assured the National Executives of Senior Staff Association of Electricity and Allied Companies (SSAEAC) of its readiness to support and cooperate with the Union in every area to sustain the prevailing atmosphere of industrial peace and harmony in the Company.

The Managing Director and Chief Executive Officer of TCN, Engr. Dr. Sule A. Abdulaziz gave the assurance during the Joint Advisory Committee meeting on Wednesday 4th October, 2022, in Abuja.

He reiterated that TCN Management will not relent in ensuring that the issues of staff welfare were addressed with all seriousness as part of efforts to reposition the company for higher productivity.

He disclosed that the TCN Board of Directors had approved the confirmation of some Assistant General Managers (AGMs) and General Managers (GMs) to fill existing vacancies and letters had been released to that effect.

Regarding the operations of the Company, Engr. Abdulaziz, explained that, tremendous progress has been made through the systemic implementation of its flagship program; the Nigerian Electricity Grid Maintenance and Rehabilitation Program (NEGMERP) which aims at expanding grid network through diligent implementation of well-planned network expansion projects which includes; Government and donor-funded projects.

He further stated that priority has been given to maintenance and the provision of spares in stores to ensure that the grid was stable while expansion programs were on-going. He highlighted progress made in the execution of the French Development Agency (AFD) projects under the Abuja Feeding Scheme, which he said had reached advanced stage with some components to be delivered before the end of 2022.

Despite these achievements, the MD/CEO remarked that TCN was facing enormous challenges especially with the ugly trend of increased vandalisation and insecurity, which were hindering operations and maintenance nationwide. He also listed persistent system disturbance occasioned by shortage of gas supply to power generating companies, as part of the challenges that required urgent solution.

He went on to express TCN's commitment to fulfilling its role in the Nigerian Electricity Supply Industry (NESI) in a sustained manner and appealed to the staff to remain committed to their duty.

Responding on behalf of the Union, the President General of SSAEAC, Comrade Chika Benedict, applauded the cordial relations between TCN Management and SSAEAC and assured that TCN workers would continue to live up to expectations within the atmosphere of industrial harmony.

TCN Management and SSAEAC after the meeting

Oluewu Oyo and Saki Transmission Projects to Boost Power Supply

By Tracy Kadiri

Ag. AGM (T), Ayede Sub-Region,Engr. T. A Aderogba and his team on an inspection tour to the ongoing 132/33kV Oyo Transmission Substation project in Oluewu Oyo State

Osogbo Region of Transmission Company of Nigeria (TCN) is set to add a new 132/33kV substation to its existing network of 18No. 132/33kV transmission substations in its coverage area.

The new substation is being constructed at Oluewu community, Oyo Town under the Ayede Sub-Region. The Acting Assistant General Manager, Transmission, Ayede Sub-Region of TCN, Engr. T. A Aderogba and his team recently inspected the ongoing Oyo Transmission Substation project in Oluewu to ensure standard and timely project execution.

Speaking during the visit, Engr. Aderogba noted that the project will boost power supply in Oyo Town which is presently getting its supply from Iseyin a distance of about 50 kilometers from the town and traversing through difficult terrain and vegetation which sometimes affects bulk transmission.

The new project which will be the first transmission substation in Oyo town, will feed neighboring towns like Fiditi, Awe, Ogbomoso and Jobele, and attract lots of investors who will take advantage of improved quality and voltage of power supply to Oyo Town and environs, he said.

Engineer Aderogba noted that presently, the project was about 90 percent completed as all technical aspects like the switchyard and control room equipment had been installed. The non-technical aspects of the project such as building of staff quarters and walk way were ongoing.

He disclosed that work had begun at the proposed 2x60MVA 132/33kV Substation site in Saki Local Government with the official handover of the fenced substation site to the contractor.

On completion, the 2x60MVA 132/33kV Saki project will improve quality of electricity supply to neighboring towns such as Saki, Igboho, Kishi, and Oke-mesi-ipole. "For some years, Saki gets supply from Iseyin which is about 81kilometers away, and that has been responsible for the poor quality of electricity supply in the area, the new project will solve that problem," he said.

Saki is the food basket of Oyo State and the new project will boost economic activities in the town as the expected improvement in power supply would further attract more investors to the area.

TCN Seeks Media Collaboration in Tackling Challenges in Power Sector

By Zainab A. Shehu

The Managing Director/Chief Executive Officer of Transmission Company of Nigeria (TCN) Engr. Dr. Sule A. Abdulaziz has called on media practitioners to ensure that information put in public domain about the nation's power sector are correct.

The TCN MD/CEO made this call at the second edition of the Power Correspondents Association of Nigeria (PCAN) 2022 Annual Workshop.

Engr. Dr. Abdulaziz who was represented by the General Manager System Planning and Development of TCN, Engr. Kabir Adamu, said the importance of giving correct information in public enlightenment and information dissemination cannot be over emphasized.

He explained the centrality of TCN to electricity supply in the country, noting that the national grid comprises Generation, Transmission and Distribution, and that if any segment of the value chain goes down, the whole system will collapse.

"Transmission operates at the middle of the value chain, it provides transportation service to the GenCos, delivering their product to the distribution companies who convey it to the end consumers", he further said.

He noted that the Nigerian power sector operates a contract-based market. In his words, "TCN typically has a contract to evacuate generators at interface points. There are clear contracts on what the generator is supposed to deliver at each interface point, this is also guaranteed in terms of power evacuation to distribution load centres. Once evacuation contracts are activated, TCN is responsible for evacuation of that power plant based on the contract terms."

On transmission capacity, Engr. Kabiru explained that TCN carries out the stimulation of the grid to determine its wheeling capacity which is an internationally accepted practice. TCN, he said wheeled 5,801MW of electricity around June last year, the highest capacity so far wheeled through the national grid. He expressed the confidence that the transmission system has the capacity to wheel much more generated power to Nigerians.

Speaking on on-going TCN projects, Engr. Kabiru said that several substation, transformer and lines projects were on-going nationwide and that TCN is equally engaging distribution companies to ensure proper alignment to boost power supply. Speaking on other efforts by TCN to stabilize the grid, he said

Cross section of stakeholders representatives in the Nigerian power sector

that TCN is using a stop gap solution for now until it can deploy full scale SCADA that will cover the entire country and give the National Control Center full visibility to efficiently control the system for a more seamless operation.

In his goodwill message, the Managing Director, Azura Power Company, Mr. Edu Okeke, noted that no society ever develops without power and that as an essential commodity, it is very important that Nigeria gets its power situation right.

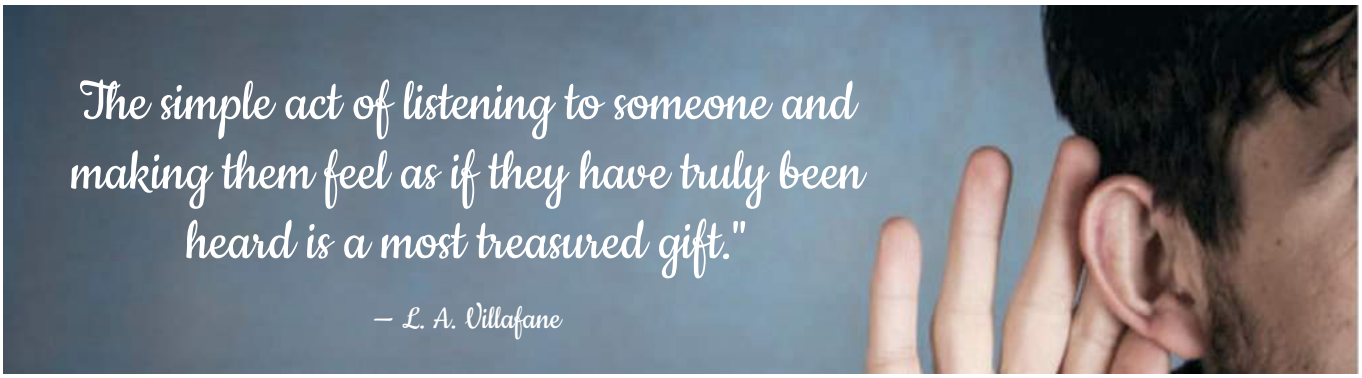
He urged the energy correspondents to also educate Nigerians on what the government and power sector players are doing to solve the country's energy problem.

The workshop held under the theme: "Stable Electricity - Exploring A Contract Based Market in Nigeria," brought all the stakeholders in the power sector together. Presentations centered on the current issues and developments in the nation's power sector.

GM System Planning and Development, Engr. Kabiru Adamu delivering MD/CEO TCN's speech at the workshop

Also present at the workshop were; the Chairman, Nigerian Electricity Regulatory Commission (NERC) represented by the General Manager, Public Affairs, Dr, Usman Arabi, The Executive Secretary representing GenCos, Dr Joy Ogaji and some members from the Abuja Electricity Distribution Company (AEDC).

Cross section of Participants during the workshop in Abuja



Photorama
Ministry of Power


Minister of Power Engr. Abubakar D. Aliyu, FNSE, presenting 50MW generating licence to NNPC Limited for the Maiduguri Emergency Power Project (MEPP) meant to generate electricity for the Borno State capital and its environs.


Inauguration of the project steering committee of Makurdi Hydro Power Plant, by the Honourable Minister of Power Engr. Abubakar D. Aliyu, FNSE, The project which is set to be the biggest hydro power plant in West Africa, will generate 1,650 megawatts.


Delegations from China Renewable Energy Engineering Institute led by the Deputy Director General of the Institute Mr. Gu Hongbin. paid a courtesy call on the Honourable Minister of Power Engr. Abubakar D. Aliyu, FNSE. The visit aims to further promote Nigeria-China energy cooperation; through research and capacity building

Photorama

TCN Internal Audit Division in a two-day Conference themed: Re-transforming the Internal Audit Function For Effective Delivery. The Conference was organized principally to look at ways of improving audit practice and strategically repositioning the Internal Audit Division for effective delivery in the realization of TCN mandate.

The Human Resources and Corporate Services Division (HR & CS), officially inaugurated its Learning Hub in TCN Corporate Headquarters, Abuja. The HR Learning Hub attempts to address skill gaps among new HR staff in TCN and raise the bar of professionalism in HR practice.

The MD/CEO, TCN, Engr. Dr. Sule Abdulaziz represented by the Regional Transmission Manager for Port Hacourt, Dr. Tom Inugonum, speaking at the 11th Practical Nigerian Content Forum, themed "Deepening Nigerian Content Opportunities in the Decade of Gas" where industry players discussed untapped local content opportunities in the power sector that can impact energy security in Nigeria.

Photorama

ED TSP, Engr. Victor Adewumi, in a meeting with the traditional ruler of Okphe-Ukpi of Ivinone kingdom, Fugar, Edo State, HRH (Engr.) Emmanuel Ogah, on ways to connect the spare 33kV feeder bay at Etsako substation, Edo State, to enable more bulk supply to the area.

The Management team from TCN, led by the GM, Engineering, Engr. Shehu Abba-Aliyu visited the Governor of Plateau State, Governor Simon Lalong, CON, in his Office in Jos after inspecting ongoing works on the Pankshin 132kV transmission line project in Jos

Students from Educare Academy, Kaduna, visited the Kaduna Regional Office of TCN, where they learnt about the role of each stakeholder in the power value chain and specifically, TCN's role in the sector.

Students from Star Academy, Kano, at Kumbotso 330/132/33kV Substation, Kano, where they learned about TCN's role in the sector and need for safety around transmission installations.

Force Majeure Declaration and Reporting Procedures

By Ali Bukar Ahmed, GM, Regulation, Compliance

FORCE MAJEURE CONCEPT AND ORIGIN

The concept of force majeure originated in French Civil Law and it is today an accepted standard in many jurisdictions that derive their legal systems from the Napoleonic Code. In law systems, such as those of the United States and the United Kingdom, force majeure clauses are acceptable but must be more explicit about the events that would trigger the clause.

Force majeure conflicts with the concept of "pacta sunt servanda" (Latin for "agreements must be kept"), a key concept in civil and international law with analogs in common law. It is not supposed to be easy to escape contractual liability, and proving that events were unforeseeable, for example, is difficult by design.

The world is becoming aware of natural threats that we were previously ignorant of, such as solar flares, asteroids, pandemics, extreme weather conditions and volcanoes, Corona virus and Ebola fever. We are also developing new human threats, such as riots, vandalization, sovereign sanctions, physical & cyber, nuclear, and biological warfare capabilities. These have raised questions about what is and is not foreseeable in a regulatory and legal sense.

FORCE MAJEURE GENERAL DEFINITION

Force majeure is a French term that literally means "greater force." It is related to the concept of an act of God, an event for which no party can be held. It is a clause that is included in contract/agreement to remove liability for unforeseeable and unavoidable catastrophes that interrupt the expected course of events and prevent participants from fulfilling obligations.

The definition of "force majeure" generally includes "risks beyond the reasonable control of a party, incurred not as a product or result of the negligence of the afflicted party, which have a materially adverse effect on the ability of such party to perform its obligations." For a force majeure provision to be successfully invoked, three factors need to be considered:

(1) Whether the event falls under one of the listed force majeure events in the contract

(2) Whether the event was unforeseeable and could not be mitigated

(3) Whether performance is impossible or impracticable

"Force Majeure" can generally be defined as the occurrence of an event or circumstance ("Force Majeure Event") that prevents or impedes a party from performing one or more of its contractual obligations under the contract, if and to the extent that the party affected by the impediment ("the Affected Party") proves:

- That such impediment is beyond its reasonable control
- That it could not reasonably have been foreseen at the time of the conclusion of the contract
- That the effects of the impediment could not reasonably have been avoided or overcome by the Affected Party.

ORGANIC COMPOSITION OF FORCE MAJEURE

- Must be captured in the agreement, contract or industry document relating to the business.
- Must be officially communicated
- Must be timely
- Change must be reported
- Cessation must be communicated immediately
- Nature of the event must be stated clearly
- Duty to Mitigate. Action taken must be reported

ANTHROPOGENIC FORCE MAJEURE

Market Rules 46.8.4(g) Where the Force Majeure Event relied upon by the System Operator or the Market Operator or a Participant, is a strike, lockout, restrictive work practice or other labour disturbance, the settlement or resolution thereof shall be within the sole discretion of the System Operator or the Market Operator or the Participant, as the case may be, involved in such strike, lockout, restrictive work practice or other labour disturbance and nothing in Rule 46.8.4(f) above shall require the System Operator or the Market Operator or the Participant to mitigate or alleviate the effects of such Force Majeure Event.

NATURALLY CAUSED FORCE MAJEURE

- Acts of God, including lightning, earthquake, fire, flood, landslide, unusually heavy or prolonged rain, accumulation of snow or ice or lack of water arising from weather or environmental problems; provided however, for greater certainty
- Plague and epidemic.

NATURE OF FORCE MAJEURE EVENT

Impossibility or impracticability

(1) An unexpected intervening event to have occurred,

(2) The agreement between the parties assumed such an event would not occur.

(3) Such an event made performance impossible or impracticable, as applicable.

The French law requires no less than three criteria to be satisfied before an event can be considered one of force majeure: Unpredictable, uncontrollable and external

CONSEQUENCES OF FORCE MAJEURE

A party successfully invoking this force majeure is relieved from its duty to perform its obligations under the agreement/contract and from any liability in damages or from any other contractual remedy for breach of contract, from the time at which the impediment causes inability to perform, provided that the notice thereof is given without delay.

If notice thereof is not given without delay, the relief is effective from the time at which notice thereof reaches the other party. Where the effect of the impediment or event invoked is temporary, the above consequences shall apply only as long as the impediment invoked impedes performance by the affected party.

Where the duration of the impediment invoked has the effect of substantially depriving the contracting parties of what they were reasonably entitled to expect under the contract, either party has the right to terminate the contract by notification within a reasonable period to the other party. Unless otherwise agreed, the parties expressly agree that the contract may be terminated by either party if the duration of the impediment exceeds 120 days. (Not part of our force majeure)

WHAT DOES NOT WARRANT FORCE MAJEURE

The lack, insufficiency or non-availability of funds shall not constitute a Force Majeure Event.

An act of the System Operator or the Market Operator effected in accordance with these Rules shall not constitute a Force Majeure in respect of a Participant.

An act of a Participant effected in accordance with these Rules shall not constitute Force Majeure in respect of the System Operator or the Market Operator.

The TSP, or the System Operator or the Market Operator shall not, for the purposes of this definition, be considered a governmental, administrative or regulatory agency or authority.

WHO HAS THE RIGHT TO DECLARE FORCE MAJEURE

Market Rules 46.8.4(d)

Where the System Operator or the Market Operator intends to rely on a Force Majeure Event, it shall give notice of Force Majeure Event to Participants and shall post notice thereof on the Website as soon as is reasonably practicable but in any event within 2 Business Days of the date on which the System Operator or the Market Operator becomes aware of the occurrence of the Force Majeure Event.

Market Rules 46.8.4 (e)

Where a Participant invokes a Force Majeure Event, it shall give notice to the System Operator or the Market Operator of the Force Majeure Event as soon as reasonably practicable, but in any event within 2 Business Days of the date on which the Participant becomes aware of the occurrence of the Force Majeure Event.

WHEN CAN MO/SO OR PARTICIPANT PROCLAIM FORCE MAJEURE

When the adverse effects of which could not have been foreseen, prevented, overcome, remedied or mitigated in whole or in part by the party through the exercise of diligence and reasonable care and includes, but is not limited to, acts of war (whether declared or undeclared), invasion, armed conflict or act of a foreign enemy, blockade, embargo, revolution, riot, insurrection, civil disobedience or disturbances, vandalism or acts of terrorism.

When the event is beyond the control of the party.

When it undermines the capacity of the party to fulfil its obligation.

FORCE MAJEURE INVOKING PROCEDURE: NOTICE MUST BE PASSED ON TO THE OTHER PARTY

Market Rules 46.8.4(c) Neither the System Operator and/or the Market Operator, nor any Participant, shall not rely on a Force Majeure Event unless they have given notice of the Force Majeure Event in accordance with Rule 46.8.4(d) or 46.8.4(e), respectively.

FORCE MAJEURE INVOKING PROCEDURE: MUST BE TIMELY

Market Rules 46.8.4(d)

Where the System Operator or the Market Operator intends to rely on a Force Majeure Event, it shall give notice of Force Majeure Event to Participants and shall post notice thereof on the Website as soon as is reasonably practicable but in any event within 2 Business Days of the date on which the System

Operator or the Market Operator becomes aware of the occurrence of the Force Majeure Event.

Market Rules 46.8.4(e)
Where a Participant invokes a Force Majeure Event, it shall give notice to the System Operator or the Market Operator of the Force Majeure Event as soon as reasonably practicable, but in any event within 2 Business Days of the date on which the Participant becomes aware of the occurrence of the Force Majeure Event.

FORCE MAJEURE INVOKING PROCEDURE: IT MUST BE DETAILED

The notice shall include particulars of:
(i) The nature of the Force Majeure Event;
(ii) The effect that such Force Majeure Event has on the System Operator or the Market Operator's performance of its obligations under these Rules or the Grid Code.
(iii) The measures that the System Operator and the Market Operator have taken, or propose to take, to alleviate the impact of the Force Majeure Event.

Which notice shall include particulars of:
(i) The nature of the Force Majeure Event
(ii) The effect that such Force Majeure Event is having on the Participant's performance of its obligations under these Rules or the Grid Code.
(iii) The measures that the Participant has taken, or proposes to take, to alleviate the impact of the Force Majeure Event.

FORCE MAJEURE INVOKING PROCEDURE: MUST SUBMIT MITIGATION ACTION TAKEN

Market Rules 46.8.4(f)
Subject to Rule 46.8.4(g), where the System Operator or the Market Operator or a Participant invokes or relies on a Force Majeure Event, it shall use all reasonable endeavors to mitigate or alleviate the effects of the Force Majeure Event on the performance of its obligations under these Rules and the Grid Code.

FORCE MAJEURE INVOKING PROCEDURE: EVENT OCCURRENCE MUST BE COMMUNICATED TO THE OTHER PARTY(IES)

Market Rules 46.8.4(h)
Where the System Operator and/or the Market Operator invoke or rely upon any Force Majeure Event, they shall as soon as practicable post on the Website, a notice of any material change in the information contained in the notice referred to in Rule 46.8.4(d) above or in any previous notice issued and posted pursuant to this Rule 46.8.4(h).

Market Rules 46.8.4 (i)
Where a Participant invokes or relies upon any Force Majeure Event, it shall as soon as practicable, notify the System Operator and/or the Market Operator of any material change in the information contained in the notice referred to in Rule 46.8.4(e) or in any previous notice issued pursuant to this Rule 46.8.4(I).

FORCE MAJEURE INVOKING PROCEDURE: ANY MATERIAL CHANGE OF INFORMATION MUST BE REPORTED

Market Rules46.8.4 (h)
Where the System Operator and/or the Market Operator invoke or rely upon any Force Majeure Event, they shall as soon as practicable post on the Website, a notice of any material change in the information contained in the notice referred to in Rule 46.8.4(d) above or in any previous notice issued and posted pursuant to this Rule 46.8.4(h).

Market Rules 46.8.4(i)
Where a Participant invokes or relies upon any Force Majeure Event, it shall as soon as practicable, notify the System Operator and/or the Market Operator of any material change in the information contained in the notice referred to in Rule 46.8.4(e) or in any previous notice issued pursuant to this Rule 46.8.4(I).

FORCE MAJEURE INVOKING PROCEDURE: EVENT CESSATION MUST BE REPORTED

Market Rules 46.8.4 (j)
Where the System Operator and/or the Market Operator invoke or rely upon any Force Majeure Event, they shall post on the Website, a notice of the cessation of the Force Majeure Event and of the cessation of the effects of such Force Majeure Event on the System Operator and/or the Market Operator's performance of their obligations under these Rules and the Grid Code.

Market Rules 46.8.4(k)
Where a Participant invokes a Force Majeure Event, it shall give notice to the System Operator and the Market Operator of the cessation of the Force Majeure Event and of cessation of the effects of such Force Majeure Event on the Participant's performance of its obligations under these Rules and the Grid Code.

WHAT MUST NOT CONSTITUTE FORCE MAJEURE

(I) The lack, insufficiency or non-availability of funds shall not constitute a Force Majeure Event.

(ii) An act of the System Operator or the Market Operator effected in accordance with these Rules shall not constitute a Force Majeure in respect of a Participant.

(iii) An act of a Participant effected in accordance with these Rules shall not constitute Force Majeure in respect of the System Operator or the Market Operator.

(iv) The TSP, or the System Operator or the Market Operator shall not, for the purposes of this definition, be considered a governmental, administrative or regulatory agency or authority.

FORCE MAJEURES IN DIFFERENT INDUSTRY DOCUMENTS OR AGREEMENTS/CONTRACTS

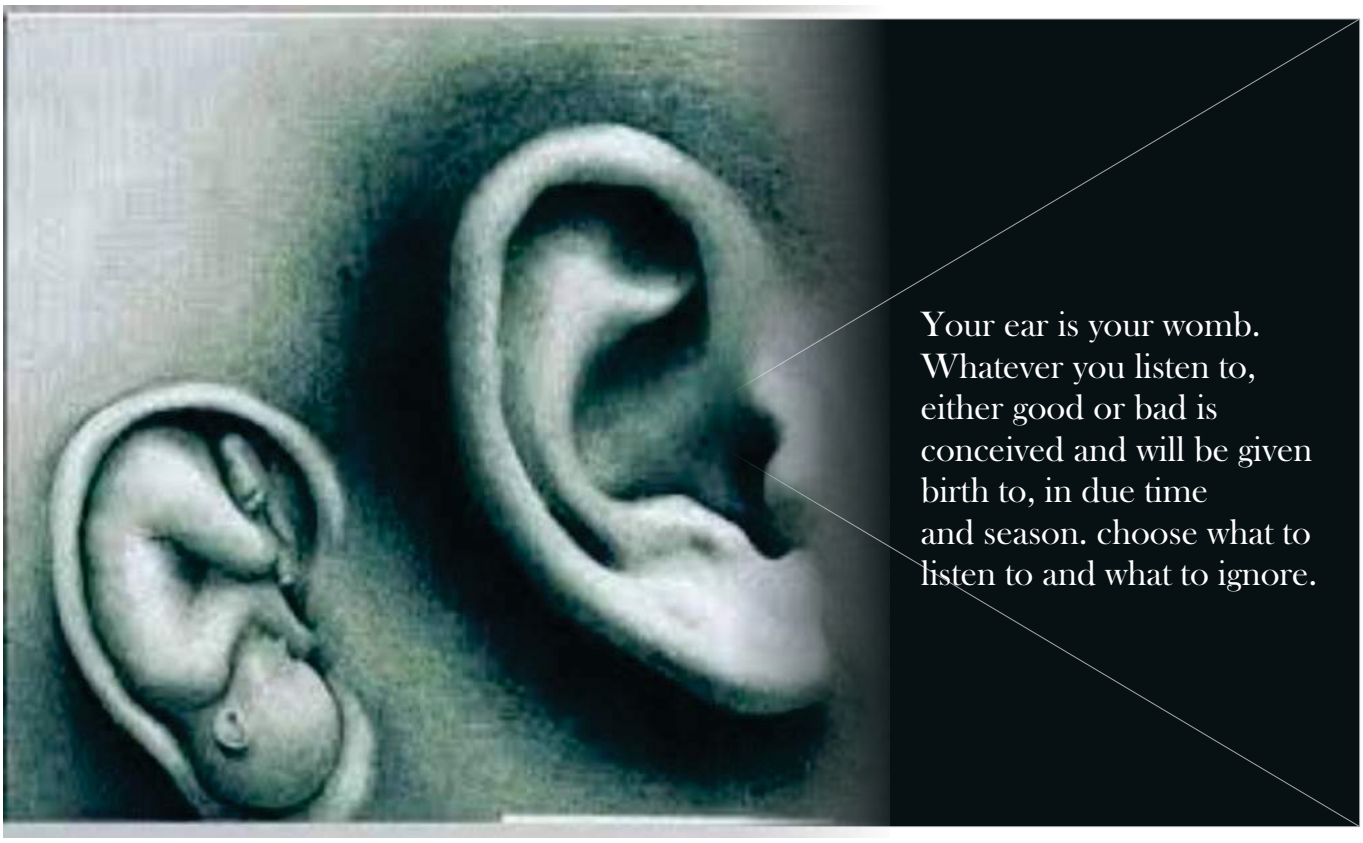
Market Rules 46.8.5(b)

In the event of an inconsistency between the liability, indemnification and Force Majeure provisions of these Rules and the Grid Code, and the liability, indemnification and Force Majeure provisions of any such agreement as is referred to in Rule 46.8.5(a), the liability and indemnification provisions of Rules 46.8.2 and 46.8.3 and, where applicable, of any other Rule of these Rules or Section of the Grid Code, and the provisions of Rule 46.8.4 shall prevail to the extent of the inconsistency.

NON-PERFORMANCE BY THIRD PARTIES

Where a contracting party fails to perform one or more of its contractual obligations because of default by a third party whom it has engaged to perform the whole or part of the contract, the contracting party may invoke Force Majeure only to the extent that the requirements under the agreement is established both for the contracting party and for the third party.

*This situation was not envisaged in the Market Rules or the Grid Code.



Voulez-vous apprendre le français?

Do You Want to learn French?

ENGLISH	FRENCH
French Internet Vocabulary	
the hardware	– l'équipement informatique
the computer	– l'ordinateur
the laptop	– l'ordinateur portable
the cable	– le câble
to charge	– recharger
the keyboard	– le clavier
the mouse	– la souris
the printer	– l'imprimante
compatible	– compatible
wireless	– sans fil
the software	– le logiciel
to install	– installer
the click	– le clic
the menu	– le menu
the folder	– le dossier
the file	– le fichier
to save	– sauvegarder
the bug	– le bug
offline	– déconnecté
to drag	– faire glisser
internet	– Internet
the browser	– le navigateur
the link	– le lien
to load	– se charger
the blog	– le blog
the virus	– le virus
the pop-up	– le pop-up
online	– en ligne
to download	– télécharger

Sober Musings

One cold night a billionaire man met an old poor man outside, who's been living outside almost all his life. " don't you feel cold being outside, and not wearing any coat?" The billionaire asked.

"I don't have it but I got used to that," the poor man replied. The rich man told him to wait he was going inside his house to get him a coat. The poor man got so happy and said he will wait for him. The billionaire man got inside his house and got busy there and forgot the poor man. In the morning he remembered the old poor man and that he said he was going to get him a coat, he went and searched him from where he left him, but unfortunately he found him dead because of cold but he left a note.

"When I didn't have any warm clothes , I had the power to fight the cold because I was used to that. But when you promised me to help me, I got attached to your promise and that took my power of resisting." The poor man wrote the note after waiting for so long for him to come with the coat, before he died. The billionaire man got so sad and blamed himself for not keeping the promise he had made to the old poor man, but it was already too late, the old man was already gone.

Note: Before you make a promise to anyone, make sure you fulfill it. Making a promise to someone is like giving them new hope especially when they have lost it and accepted the way things are.

Culled from the net

FOCUS ON

PortHarcourt Region

PortHarcourt Regional Office

Coverage Area

The Port Harcourt Region of Transmission Company of Nigeria, TCN, was created in June, 2007 out of Enugu Region. The region covers two states in the South-East (Abia and Imo) and four states in the South-South (Akwa Ibom, Bayelsa, Cross River and Rivers), making a total of six (6) states.

It comprises four (4) Sub-regions and two Works Centres which are; Aba Sub Region, Calabar Subregion, Afam Subregion, Port Harcourt Subregion, Owerri Works Centre and Uyo Works Centre.

The Region interfaces with Port Harcourt Electricity Distribution Company (PHEDC) and Enugu Electricity Distribution Company (EEDC). The region has eight (8) No. 330/132kV substations including the largest switching station in Nigeria located at Ikot Ekpene and eighteen (18) No. 132/33kV Substations. These Substations collectively have a wheeling capacity of 3,318.8MW.

The Region exports/imports bulk electric power to and from the grid through the T4A Onitsha-Alaoji 330kV Transmission line, F1A and F2A Afam-Alaoji 330kV Transmission lines 1 and II, Odukpani-Ikot Ekpene 330kV Transmission lines I and II and Ikot Ekpene – Ugwaji 330kV lines I, II, III, and IV.

Staff Strength

Port Harcourt Region has a total number of 235 staff, with Engr. Dr. Thomas Inugonum as the Regional Transmission Manager, (RTM), and Engr. Mike Nwagu as the Regional Operations Manager (ROM).

Projects

To achieve TCN's vision to transmit electricity in the most efficient and effective manner, many projects have been completed in Port Harcourt Region whilst others are ongoing. Some of the recently completed projects include:

COMPLETED PROJECTS	
Location	Projects
Port Harcourt Sub-Region	Installation of 100MVA 132/33kV Transformer in Port Harcourt Main.
	Perimeter fencing in the Regional office, Calabar, Afam and Owerri Sub-Regions
	Rebuilding of Elelenwo vandalized transmission lines,
	Extension of 1 cct (Zz) of 132kV Omoku D/C transmission line from (Zz) Port Harcourt main 132/33kV TS-Z4 (Port Town)
Afam Sub Region	Rehabilitation of D07 diameter on 330kV Switchyard in Afam 5
Calabar Sub-Region	Rehabilitation of 75MX Reactor at Adiagbo
Uyo Work Center	Installation of 75MX Reactor at Ikot Ekpene
Aba Sub-Region	Installation of T2 33kV Circuit breaker in Aba

Other ongoing as well as proposed projects within the Region include:

WORLD BANK ONGOING PROJECT	
Location	Projects
Port Harcourt Main	Expansion of 33kV Switchyard (3 outgoing feeders)
	Installation of 100MVA 132/33kV transformer
Port Harcourt Sub-Region	Construction of 24- room office accommodation

TCN IGR ONGOING PROJECTS	
Location	Projects
Uyo Work Centre	Upgrading of Itu 132kV Substation (BF)
	Construction of office accommodation at Uyo Work Centre
Calabar Sub-Region	Construction of office accommodation at Calabar Sub-Region
	Construction of 2x60MVA 132kV Substation at Ugep (GF)
Aba Sub-Region	Construction of office accommodation at Aba Sub-Region
Owerri Work Centre	Construction of office accommodation at Owerri Work Centre
Afam Sub-Region	Construction of new 132kV control building in Afam 1-3
	Construction of new 330kV control building in Afam 5
	Rehabilitation of D07 diameter in Afam 5
	Construction of 330kV control building in Afam 4

TCN-DISCO SLA ONGOING PROJECTS	
Location	Projects
Port Harcourt Sub-Region	Rehabilitation of To2 60MVA 132/33kV transformer at Elelenwo TS
	Construction of 1x60MVA 132/33kV transformer bay at Rumuosi TS

VANDALISM

Port Harcourt Region is one of the hot spots for vandalism. A recent and major incident occurred on April 8th, 2022, when the T104 Odukpani/Ikot Ekpene line was vandalized. This led to major outage for over two weeks in Akwa-Ibom and some parts of Cross River States.

TCN promptly mobilized to the site of the incident and reconstructed the tower as well as reinforced other tower whose members were equally affected. Afam/Onne 330kV DC lines, Towers T19, T20, T21, T22 were also recently vandalized. The towers and lines have since been completed and energized.

In April, 2022, the Owerri/Ahoada 132kV D/C lines T212, T213, T216, T218, T202, T199, T204, T210, T211 and T 217, were vandalized, tower members vandalized have also been replaced. Also in July, 2022, Afam IPP/Elelenwo 132kV DC Lines T40, T43, T52, T143 were vandalized, while the Afam IPP/Elelenwo 132kV DC Lines T42, T51, T46, T54 were equally vandalized in October, 2022.

There is also the challenge of erosion by Tower 18 along the Owerri/Ahoada 132kV Transmission line, caused by excavation of laterite around the tower base.

Engr. Dr. Thomas Inugonum RTM, PortHarcourt Region

Engr. Mike Nwagu, ROM, PortHarcourt Region

ENCROACHMENT

TCN Lines Right of Way (RoW) is heavily encroached in Port Harcourt Region, people have built illegal structures on transmission Right of Way and at the base of transmission towers. These encroachment sites include, but not limited to;

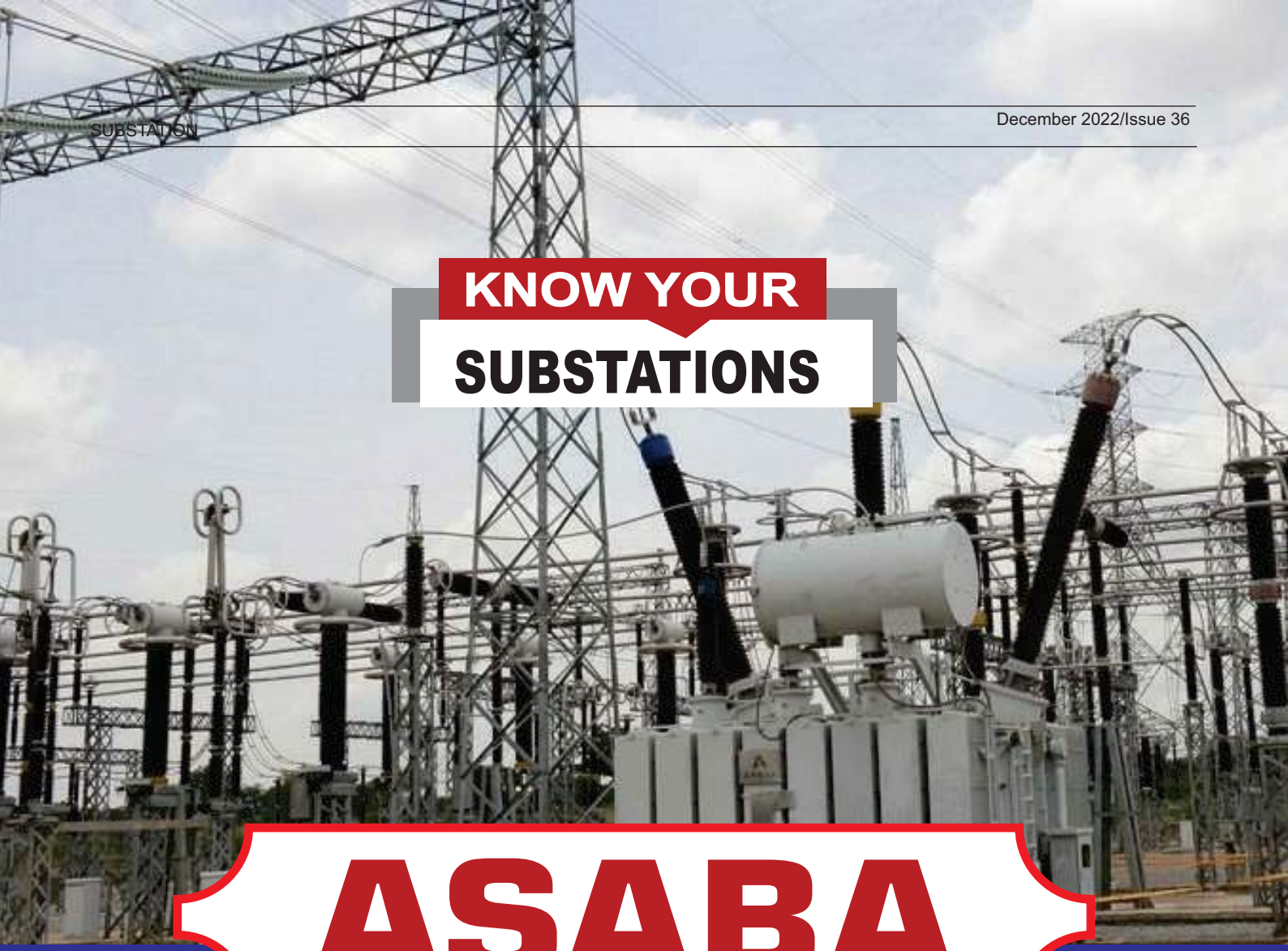
Afam/Alaoji 132kV DC lines; Tower T1, T2, T3 and T4 – building encroachment.

Afam/Alaoji 132kV DC lines; Towers, T50, T52, T53 – oil bunkering

Afam/Alaoji 132kV DC lines; Towers, T67 and T68 – sand mining

Afam/IPP 132kV DC lines; Towers T1, T2, T3 to T9 – building encroachment.

It is hoped that with the recent inauguration of the committee for Monitoring and Reduction of Encroachment on Right of Way of TCN projects, this menace will be curtailed and eventually eliminated.



KNOW YOUR

SUBSTATIONS

ASABA

330/132/33kV TRANSMISSION SUBSTATION

The need to situate a substation in Asaba arose out of the requirement for sustained bulk electricity supply within Delta State and its environs, hence, the creation of a 330/132kV Transmission Substation in the capital city, Asaba.

The Asaba 330/132/33kV Transmission Substation is located in Ibusa area of Asaba, Delta State. The project which was funded by the Federal Government in collaboration with the Worldbank was completed and commissioned in 2015.

Commissioned by a former Minister of Power, Mr Raji Fashola, the Asaba Substation had an initial capacity of 240MW comprising of 2X150 MVA, 330/132/33kV and 2X60MVA 132/33kV transformers.

In January of 2020, TCN increased the capacity of the substation with the installation of a 300MVA 330/132/33kV transformer, which replaced a faulty 150MVA 330/132/33kV transformer in the substation, bringing the current capacity of the substation to 360MW.

The Substation interfaces with Kwale and Okpai Generation Companies and receives its supply from Benin-Onitsha 330kV transmission lines for onward transmission to Benin Electricity Distribution Company's (BEDC) load centers, through 6 number outgoing feeders which covers Onitsha Headbridge, Asaba Township, Ogwashi-uku town, Isele-uku town, and two industrial feeders that supplies bulk power to General Steel Mill (GSM) and Eastern Metal companies.

Management Commends Human Resources Divison

By Zainab Shehu

ED, HR& CS, Barr. Justin Dodo during the conference

The Human Resources Division has proved its capacity in handling TCN staff issues and have also ensured that its staff are constantly updated to enable them offer professional HR service delivery that aligns with the new TCN.

The MD/CEO TCN, Engr. Dr. Sule Abdulaziz, made this known during the Maiden Edition of the Human Resource Conference with the theme; "Managing People Effectively, a Comprehensive Review of HR Policies and Practices in TCN" on 25th October, 2022 at the Army Resource Centre, Abuja.

In his keynote address, the MD/CEO who was represented by the Executive Director (HR & CS), Barr. Justin Ishaya Dodo, said that the success of every company is determined by the calibre and skills of its management to drive the work force towards achieving its goals and objectives.

He added that the Conference was an opportunity for the division to learn, and relearn contemporary professional HR practice that would help close up skill gaP and move TCN's human capacity in the right direction.

In his remark, the General Manager, HR, Malam Dahiru Gabdo, explained that the Conference was meant to be an avenue for exchanging ideas and for TCN HR staff to acquaint themselves with colleagues, form new networks as well as broaden their knowledge on HR matters.

Being the First HR conference in the history of TCN, Malam Gabdo said the theme was apt because of the diverse policy initiatives across work locations in TCN. According to him, the Conference was meant to ensure uniformity and compliance in application of HR policies so to ensure that practitioners assert their relevance in their work locations.

He said, "We all know that for a HR practitioner, to assert relevance in work locations, you need to be knowledgeable in HR policies, you need to be computer literate, be able to manage and analyse data bases, and be disciplined. You cannot assert your relevance if your establishment returns are not correct, and records are not updated."

The President and Chairman of the Governing Council of the Chartered Institute of Personnel Management of Nigeria (CIPM), Mr Olusegun Mojeed, stressed the need for TCN to prioritize effective human resource management in its operations.

He posited that TCN's mission to transmit electricity in the most efficient and effective manner and its vision to be one of the leading electricity transmission companies in the world can only be actualized if driven by effective management of its greatest resource; the People, who are also the primary source of an organisation's competitive advantage.

"Evolving HR policies and practices are the means through which the organisation's people can be deployed to gain this competitive advantage," he said.

The three-day Conference which featured presentations from professional guest speakers includes, Effective Communication, Leadership and Organisational Transformation as well as ways to deploy emotional intelligence to achieve work life balance.

In-house Engineers At Work

TCN engineers installing 330kV Circuit Breakers at the Ikeja-West 330/132kV Transmission Substation, Lagos

TCN engineers installing 132kV Bus Isolators on 60MVA Transformer T2 at the Isolo 132/33kV Transmission Substation, Lagos State

TCN in-house maintenance crew, Port Harcourt Region, replacing faulty red phase 33kV Circuit Breaker pole on UST feeder, at Port Harcourt Town Transmission Substation.

Harmonic Study And Analysis in TCN

INTRODUCTION – Harmonic wave distribution study and analysis is an activity performed to determine harmonic disturbance levels and filtering requirements within a facility and to determine if harmonic voltages and current are at acceptable level.

Harmonics are periodic non-sinusoidal waveform which can be represented as the summation of a sinewave having an integer multiple of the fundamental frequency. If there is a superposition between the fundamental frequency wave and the harmonic frequency wave, a distorted wave is formed so that the waveform is no longer sinusoidal.

WHAT GENERATES HARMONICS?
The main source that generates harmonic waves is non-linear loads. Non-linear loads are designed to save the use of electrical energy and be more efficient because they use semi-conductor component that can be adjusted using time. However, on the other hand the use of semi-conductor components also causes interferences in the form of distortion of current and voltage signals that flow back into electrical power system. This disturbance is known as Harmonic.

SATURABLE MAGNETIC EQUIPMENT
There are various saturable magnetic equipment that causes harmonic problems such as:

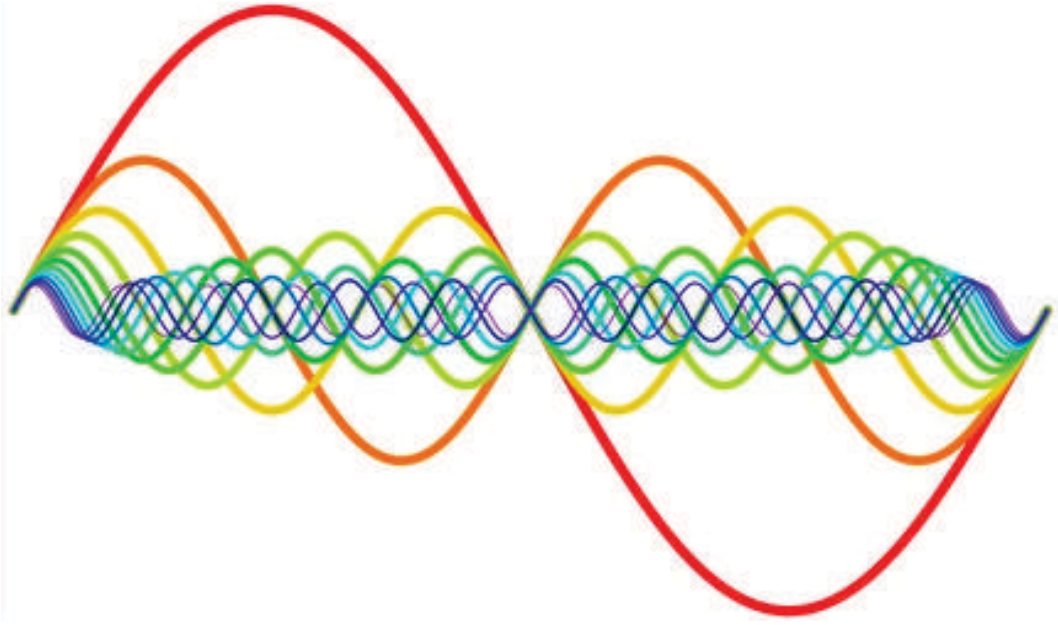
1. Rotating Machines: Rotating Machines like induction motors may act as sources of the third harmonic currents

when they are operating in abnormal or overloaded conditions.

2. Ballasts of discharge lamps: The discharge lamps are, Mercury vapour, High-pressure sodium, fluorescent lamps and dominant sources of the third harmonic currents.
3. Transformer Harmonics: Transformers creates Harmonics when they are overexcited. In addition, the transformer inrush current may contain some even harmonics, but the duration is rather limited.
4. Generator Harmonics: Voltage Harmonics are created from the synchronous generator due to the non-sinusoidal distribution of the flux in the air gap. Selection of suitable coil-span factor (also called "Pitch factor") can significantly reduce the voltage harmonics from the generators.

Power Electronic Devices:
There are various power electronic devices that causes harmonic problem such as:

- Variable Frequency Drives (VFDs) used in fans and pumps
- Switched Mode Power Supplies (SMPs) used in instruments and personal computers



- High Voltage DC transmission Station (HVDC)
- Static VAR Compensator
- Uninterruptable Power Supply System (UPS)
- Battery Charger System
- Flexible AC Transmission Systems (FACTS)

WHY AND WHEN TO DO A HARMONIC STUDY?

Harmonic Analysis is required when the amount of non-linear load is large (usually more than 25% to 30% of the total load on the bus or system) and there is a possibility to increase, or there has been a power quality problem on the systems. Often the capacitor bank is added without considering the resonance, so the study is needed as a corrective step.

The frequent damage to power system components can also be the reason for conducting a harmonic study.

- Avoids damage due to excessive harmonic currents in transformers and capacitor banks.
- Ensures sensitive electronic equipment will not malfunction due to excessive harmonic voltage distortion.
- Satisfies the utility's voltage and current harmonics distortion requirement.

OBJECTIVE OF HARMONIC STUDIES

The standard list following situations that may necessitate a harmonic study.

1. To comply with IEEE Std 519 which defines the current distortion limits a user should meet at the point of common coupling (PCC) with this utility.
2. To evaluate impact on the system due to utility voltage harmonic distortion specified in IEEE Std 519.
3. To plan and stimulate a system expansion where significant non-linear loads are added or where a significant amount of capacitance is added.
4. To design a new facility or power systems where the load flow, power factor compensation, and harmonic analysis are considered as one integrated study.

BENEFITS OF HARMONIC STUDIES

Reasons and benefits to conduct harmonic study and analysis on Industrial and Commercial Power System includes:

- Benchmark existing system and collect data to calibrate the model by measuring the existing system with a well-defined test plant.
- Identify location, type and magnitude of harmonic sources in the system.
- Simulate impacts of their harmonic sources on system voltages and currents.
- Study harmonic penetrations to the system
- Calculate voltage and current harmonic distortions on each individual frequency and total harmonic distortion (THD).
- Check if there exist any violations in harmonic voltage and current distortion levels.
- Calculate other harmonic indices and compare them to the standard or code limitations.
- Investigate if the system has parallel or series resonance conditions.
- Design Harmonic filters and test harmonic filters
- Test transformer phase shift and analyze its effects on harmonic current cancellation and harmonic distortion deduction.

Test other harmonic mitigation designs and performance.

STEPS FOR HARMONIC ANALYSIS IN INDUSTRIAL SYSTEM

The following summarizes the steps normally required for a harmonic study in the industrial environment.

1. Prepare a system one-line (single line) diagram
2. Gather equipment data and ratings
3. Obtain the locations of non-linear loads and the generated harmonic currents.
4. Obtain from the utility company the relevant data and harmonic requirement at the PCC. These includes the following:
   - Minimum and maximum faults levels or preferably system impedance as a function of frequency for different system conditions.
   - Permissible limits on harmonic including distortion factors and I-T factor.
5. Carry-out harmonic analysis for the base system configuration by calculating the driving point impedance loci at the harmonic source buses as well as at all shunt capacitor locations.
6. Compute individual and total harmonic voltage and current distortion factors and I-T values (If required) at the point of common coupling.
7. Examine the results and eventually, go back to step 1 or step 3, depending on whether the network data or only the parameters of the analysis need to be modified.
8. Compare the composite (fundamental plus harmonic) loading requirements of short capacitor banks with the maximum rating permitted by the standards IEEE Std 18[tm] has defined the following operating limits.
   - Continuous operating voltage 110% of the rated voltage
   - rms Crest voltage ≤ 12 times the rated rms voltage.
   - kVar ≤ 135% of the rated kVar
   - Current ≤ 180% of the rated rms currents.
9. Relocate the capacitor or change the bank rating if they are found to exceed their ratings.
10. Add filters if the harmonic distortion factors and I-T values at the PCC exceed the limit imposed by the utility.

REFERENCE; IEEE 3002.8 – 2018

TCN Organises Safety Awareness Training in Benin Region

By Rufus Imafidon

The Management of Transmission Company of Nigeria (TCN), has vowed to eliminate all forms of accidents that could result in loss of equipment and human life especially from ignorance/negligence by field officers of the Company. This was the resolution at a two–day intensive awareness workshop held in Benin Region of TCN from October, 24th to October 25th 2022.

Declaring the workshop open, the General Manager (Transmission), Benin Region, Engr. Isaac Okpe, congratulated participants for the opportunity to attend the program designed by Management to educate its workforce, with focus on System Operators, Maintenance and Safety Officers in the field.

The Facilitator of the program and General Manager, Health, Safety and Environment, TCN Corporate Headquarters, Mr. Cephas Kangeh stressed the need for participants to adhere strictly to the standards of Occupational Health and Safety Operation in TCN. He emphasized the need to pay attention to safety rules and regulations to significantly avert accidents that could have occurred on a daily basis in the fields.

According to him, safety in TCN was everybody's business. He identified various safety issues that TCN staff needed to pay attention to in order to avoid or prevent accidents on the job. He cautioned staff to make use of protective equipment, be disciplined, always listen to colleagues' complaints whenever there was need and to also pass useful safety information to their colleagues in the field while discharging their duties.

He noted that in the past, TCN Management spent money to replace burnt equipment and had to pay compensation to families of staff who died as a result of negligence or lack of adherence to safety procedures/codes of TCN operations.

TCN Management, he said, has taken cognizance of such accidents and has continued to educate field officers on the need to be safety conscious in the discharge of their duties. According to him, where one was well informed, hazards could be eliminated. "We should be mentally and emotionally equipped to do jobs in the field. Knowledge is power, accidents are caused by ignorance," he admonished.

Safety Helmet

Safety Boot

Safety Handglove

Wedding Galore

Engr. Damien Enekwachi, Officer I,
(System Operator), Abuja Region and his wife

Engr. Usman Ibrahim, Officer I,
(PC&M), Kano Sub-Region, and his wife

Engr. Mustapha Abdullahi, Officer I, (Elect),
Jalingo Works Centre and his wife

Mr. Ojo Olawale Francis Officer IV (MVD). CHQ and his wife

Mrs Grace Ayo, Daughter of Mr Dada Oroele,
Officer IV (MVD) and her husband

Mr Aliyu Usman, Staff IV (Regional Operation Coordinator)
Bauchi Region and his wife

Retirement

Mr. Okechukwu Dim, General Manager, (Corporate Planning), CHQ

Mr. Saidu Nuhu, Principal Manager, (HSE), Bauchi Region

Mrs Ayeni Adenrele Oluwatoyin, Senior Manager, (Secretary), Lagos Region

Mr Vanghan Innocent Adeyemi, Manager (Elect. Mtce) Ikeja West Sub-Region

Mr Adesunloye Rowland, Assistant Manager (Electrical), Akangba Sub-Region

Mrs. Lydia Jummai Cyrus, Officer II, (HR&CS), Kaduna Sub-Region

Mr Fatuase Adewumi Samuel, Officer II (MVD) Egbin Sub-Region

Mr. Ibrahim Hamza, Officer II (MVD), Bauchi Region

The Making and Evolution of an Electricity Market:

Unpacking The Nigerian Electricity Bill, 2021

By Ivie Ehanmo

Part 2: Revamped Institutional Framework for the Nigerian Electricity Supply Industry

Continued from last edition

In the first part of the multi-part series that unpacks the Electricity Bill, 2021, the subject of National Electricity Policies and Plans was expounded alongside the scope for States to participate in value chain activities in areas covered by the national grid.

In this second part, the revamped institutional framework as detailed within the Bill will be highlighted alongside the implications for the industry in terms of the ability to attract the much needed investments into NESI or otherwise, in a bid to educate readers on the process, evolution and dynamics of electricity markets.

One of the key objectives of the Bill is to provide an ideal legal and institutional framework leveraging on the modest gains of the privatisation phase of the power sector in Nigeria to accelerate growth in power generation capacity and increased investment in new technologies that would enhance transmission and distribution of generated power.

In this vein, the Bill makes provision for various institutional stakeholders in NESI.

The Minister of Power

The Minister's key responsibility is the determination, formulation, and monitoring of Government policy for NESI, and in carrying out its objectives, the Bill assigned specific functions to the Minister including:

- General supervision over the affairs and operations of the Commission and agencies established under the Bill by giving general and specific policy directions on overall system planning and coordination.
- Advise the Federal Government on all matters pertaining to NESI, subject to prior consultation with the Commission.
- Promote local content development in NESI.
- Promote Gender Mainstreaming in the design and implementation of electricity projects and programmes.
- Negotiate and execute international electricity agreements with other countries, international organizations, etc., on behalf of the Federal Government and in consultation with the Commission, etc.

Whilst the inclusion of the promotion of gender mainstreaming in the design and implementation of electricity projects is a welcome development and a recognition of the role women play in the energy industry, such inclusion must be implemented strategically and should not serve as a 'feel good' inclusion just on paper.

To this end, various measures can be explored and put in place to strategically embed gender mainstreaming in electricity projects and the industry at large as well as **Development of a National Gender Policy as was implemented in Burundi through their National Gender Policy (2012-2025)**.

Although there is an existing National Gender Policy (2006) in Nigeria, alongside the National Gender Policy 5-year Strategic Framework (Implementation Plan), 2008-2013, implementation has been a key challenge, as such policies have been devoid of an enabling legal framework to give sufficient backing to adequate implementation.

In Burundi for example, the Constitution exists as the primary guarantor of the country's gender approach. The 2005 constitution establishes a 30% minimum quota of women in the government in the National Assembly and in the Senate. The revised electoral code of 2009 extends the quota to communal councils and administrators.

In addition, the Government of Burundi in 2016 promulgated a new law on Gender Based Violence to protect victims, witnesses and other persons at risk. Burundi clearly depicts clear measurable and actionable steps that have been taken by

their government to promote gender inclusion. This has not been the case in Nigeria as the National Assembly on the 1st of March 2022, during the proposed constitutional bill amendment, failed to pass the five (5) Gender Bills making specific provisions for women in the Constitution.

Formulation of a Gender Action Plan as was done in Botswana in their 2011 Gender Action Plan (GAP), the National Action Plan to Integrate Gender Issues in Energy Access (PANGE) in Senegal, etc., thus depicting a clear plan of action for gender inclusion in the energy industry. Incorporation of gender-sensitive indicators within the monitoring and implementation stages for projects in the industry, etc.

For more gender related developments, particularly the intersection between gender and energy access for women, please look out for the 'Gender & Energy Lens' series commencing shortly.

Regarding the role of the Minister in supervising the affairs and operations of the Commission, it is advised that such supervision remains arm's length to guarantee regulatory independence, which is a key antecedent in attracting investments into the sector. Based on a recent study assessing and ranking the level of ministerial influence across Sub-Saharan Africa, hinged on four key areas (regulatory governance, licensing, power procurement, and dispute resolution), Angola ranked the highest as the Minister in addition to undertaking a supervisory role, is responsible for the grant of licenses and executes concession agreements for power procurement. On the other end of the spectrum, Zimbabwe ranked the lowest in terms of the level of ministerial influence, with the involvement of the minister restricted to one of a supervisory role within regulatory governance. Bringing it home, Nigeria's ranking was medium, given the Minister's supervisory role in regulatory governance and power procurement activities.

The National Assembly

The National Assembly based on the provisions of the Bill is vested with oversight responsibility over NESI through its respective Committees on Power in the Senate and House of Representatives, which is to apply regardless of the supervisory powers of any government Ministry or government owned enterprises such as the Nigerian Bulk Electricity Trader (NBET), the Transmission Company of Nigeria (TCN), or any other entity in which the government has not divested its equity holdings. **This clearly vests the National Assembly with 'overarching' powers which may be viewed as being excessive, given the intention of the Bill, if passed into law.**

The powers of the National Assembly are all-encompassing and impose investigative powers that extend to the affairs of any ministry, department, agency, person in charge of the preceding entities, or government owned enterprise in NESI. The Bill also vests the National Assembly with the power to procure evidence or summon for defence of any allegation. It is questionable as to the capacity of the National Assembly to undertake quasi-judicial functions as the legislative arm of government. The role of the National Assembly should ideally be limited to its Inquiry role and should not extend to undertake a function that may be best handled by the judiciary.

In addition, the National Assembly based on the Bill has the power to review budget estimates proposed by any ministry or government-owned enterprise or any other entity operating in NESI, of which the government is yet to divest its equity holdings. This would by inference include majority of the successor companies that have been privatised with the government holding a percentage interest in the applicable respective entities.

Nigerian Electricity Regulatory Commission (NERC or the Commission)

The powers of the Commission have been expanded by the provisions in the Bill, which is a commendable development in ensuring that the regulator takes the lead in driving industry activities across the electricity value chain. In addition to its existing powers under the Electric Power Sector Reform Act [EPSRA] (2005), the Commission is vested with the power and responsibility to: (i) ensure a phase-wide development of a competitive electricity market across the applicable market stages, (ii) issue directives and measures to ensure the gradual development and smooth operation of the various stages of the market, (iii) promote the development and utilization of renewable energy services and increase the contribution of renewable energy to Nigeria's energy mix, (iv) promote gender mainstreaming and local content requirements within the Nigerian Electricity Supply Industry (NESI), etc.

Questions of law based on an order or decision of the Commission are now to be reserved for determination by the Electricity Disputes Appeal Tribunal established under the Bill, as opposed to the High Court as contained in EPSRA.

Hydroelectric Power Producing Areas Development Commission (HYPPADEC)

The Bill established the HYPPADEC charged with the responsibility of managing ecological menace to the operation of dams for hydroelectricity generation. This is a

welcome development, given the contribution of hydro to the country's overall energy mix.

Rural Electrification and Renewable Energy Agency

The Bill provides an added layer of responsibility to the Rural Electrification Agency (REA) that exists within the EPSRA. The Bill in addition to rural electrification, vests the agency with the promotion of renewable energy development in the sector which is indeed a welcome development especially considering global energy transition debates. It is a step in the right direction that the Bill makes provision for the promotion of the productive use of renewable energy to allow for strategic development and utilization of renewable energy sources, thus serving as a panacea for attracting investment into the sector.

Given the general lack of awareness regarding the workings of renewable energy, the Bill mandates the REREA to undertake public education for renewable energy production and consumption. The REREA is mandated to also oversee, manage, and execute the funding of the Rural Electrification and Renewable Energy Fund with an expanded scope to accommodate renewable energy projects and programs. Contributions to the Fund are anticipated to be payable by eligible customers and licensees at a rate not exceeding 5% of the cost of electricity procured by eligible customers from non-renewable generators or as determined by the Commission.

Interestingly, the REREA is to advocate for carbon tax to disincentivise the sale of fossil fuels and encourage reliance on renewable energy which will trigger the gradual transition to clean energy.

Nigerian Electricity Management Services Agency (NEMSA)

The inclusion of NEMSA in the Bill may be viewed as a 'win' for NEMSA, given the previous debates that revolved around the conflicting roles of NEMSA and the Commission in relation to the establishment of technical standard and specifications. The Bill has clearly delineated the role of the Agency as being responsible for carrying out electrical inspectorate services for NESI and enforcing all statutory technical electrical standards and regulations as published by the Commission and other relevant statutory bodies. In addition, the agency is vested with the functions of enforcing compliance with technical standards and safety requirements, enforcing the conditions for installation of meters for the transmission systems and distribution networks and supply of electricity, monitoring compliance levels with the technical regulations, standards, and specifications used in NESI.

Concluding Remarks

Although the powers of the Commission have been increased significantly, thus depicting industry support for greater independence of the regulator, and the rural electrification agency has been ascribed with the additional responsibility of the management of renewable energy within the industry. One may wonder the need for the added institutional layers within the Bill, which may be interpreted as a ploy to factor all stakeholder interests in NESI to the detriment of the industry. If not properly managed and monitored, given the likelihood of multiplicity/duplicity of functions and activities across the value chain.

Key Takeaways

The role of the Minister in supervising the affairs and operations of the Commission should remain at arm's length to guarantee regulatory independence, which is a key antecedent in attracting investments into the sector.

The inclusion of the promotion of gender mainstreaming in the design and implementation of electricity projects is a welcome development and a recognition of the role women play in the energy industry, such inclusion must be implemented strategically and should not serve as a 'feel good' inclusion just on paper.

The capacity of the National Assembly should be restricted to law making as the legislative arm of government and hence, should not undertake quasi-judicial functions that may be best handled by the judiciary.

It is a step in the right direction that the Bill makes provision for the promotion of the productive use of renewable energy to allow for strategic development and utilization of renewable energy sources, thus serving as a panacea for attracting investment into the sector.

WORD SEARCH PUZZLE

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REGULATIONS AND COMPLIANCE
INDUSTRIAL RELATIONS
POWER SYSTEM PLANNING
LEARNING AND PERFORMANCE
FINANCE AND ACCOUNT
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Comrd Umar Nasir
Kudos to tcnnigeria.
Keep up the work,
2023.
Is a year of progress.
A year of many projects across the 10 Regions of TCN indeed, we are very happy to have this management team with their leadership style and managerial techniques.
Engr. Dr. Sule Ahmed Abdulaziz, MD/CEO OF TCN, the fact is that u and ur mgt team have done a lot in improving bulk electricty. We say thanks u for the good work.

Like Reply Hide 4 w Edited

Raphael Uchenna Offia Emea
These men work tirelessly behind the scene unnoticed. May God protect them now and always.

Like Reply Hide 2 w

Etoniekwu Charles
TCN have done marvellosly well in safety training for TCN staffs, they should ensure that all other region benifit well with this exercise , to enable staff to be safety culture. Good bless this present TCN board , God bless Nigeria.

Like Reply Hide 12 w

Altruistic @AdamAdamsyc22 · Jan 20
Replying to @TCN_NIGERIA @ConnectEnugu and 2 others
Hello TCN I have been seen some good works and the effort to revive Electricity in Nigeria by providing heavy duty transformers to various sub stations, I would ask when would you provide to Damaturu or Potiskum substations. Thank you

Top fan
Maiwada Adamu
Good development to our city of Kano state . Thank you World Bank and TCN

Like Reply Hide 2 w 2

Happy new year

TRANSMISSION COMPANY OF NIGERIA

TCN

Together, lets further strengthen the nation's grid

Welcome to year 2023 !

14, Zambezi Crescent, Maitama, Abuja.

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