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# NEWSLETTER

## TRANSMISSION COMPANY OF NIGERIA (TCN)



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# TCN EXECUTES MORE DONOR FUNDED TRANSMISSION PROJECTS

...seeks NERC's intervention to recover N270bn debts from Discos



MD/CEO, Mr U.G. Muhammed (Standing) addressing Donor Agencies at the meeting in Abuja.

By Eric Ephraim Ene

The Transmission Company of Nigeria (TCN) has said that huge power transmission projects are being executed nationwide with \$1.661 billion funds obtained from multilateral donor agencies to improve bulk power delivery in the country.

The Managing Director and Chief Executive Officer of TCN, Mr Usman Gur Mohammed who made this known during TCN and donor coordination meeting on Friday, 27<sup>th</sup> September 2019, in Abuja, said the meeting was to enable TCN brief the donors about the progress made with the funds it has so far received for the execution of various transmission projects in the country.

According to him, TCN was

making tremendous progress in strengthening and expanding the grid system. He added that part of the TCN strategies is improving in-house engineering capacity to handle projects. "We have installed 67 power transformers using in-house method of taking over projects and completing them and also helping contractors to finish their projects"

He further explained that TCN recovered 775 stranded equipment containers out of the 800 units that were left in Nigeria ports for years. Transformers installed from the recovered equipment containers by TCN engineers have upped TCN wheeling capacity from 5500MW in 2016 to 8,100 megawatts (MW) by December 2018. TCN according to him, would equally re-conductor major power transmission lines that will increase the bulk power

delivery capacity by another 3,000 megawatts.

Some of the lines to be reconducted, he stated, included the lines between Birnin Kebbi and Sokoto; Itu and Aba, as well as key transmission lines in Lagos.

Mr Mohammed who reiterated TCN's commitment of working towards self-sustainability in its operations to earn more revenue and invest more in expanding the transmission network, used the occasion to seek the Nigerian Electricity Regulatory Commission (NERC) intervention to recover N270bn indebtedness owed it by 11 electricity distribution companies for electricity transmission services it rendered to them.



According to him, the debts, if paid would enable it to offset part of the \$1.661 billion worth of loan it secured from multilateral agencies such as the World Bank, and African Development Bank (AfDB), French Development Agency (AFD) amongst others, to upgrade the national grid.

"The Discos owe TCN N270 billion cumulatively as debts. We can finance our operation and so all the loans we have been taking, we are now signing agreements with the Federal Ministry of Finance that TCN will pay the loans" said Mohammed.

He however decried the lack of investments at the DisCos' network saying they need 4.3 billion dollars to match the investments in transmission network. He said the DisCos can become viable when they are

recapitalised with the appropriate funding.

In his remarks at the occasion, the Permanent Secretary in the Federal Ministry of Power, Mr Louis Edozien said the meeting was an opportunity for TCN to brief the donors on the transmission projects it is executing with the fund.

Mr. Edozien who was represented by the Director of Transmission in the ministry, Engr. Emmanuel Nosike, said; "Before now, the transmission network has not been as it is, but the current management came up and has been doing all that you are seeing today"

The Director General of the Bureau of Public Enterprises (BPE), Mr Alex Okoh lauded TCN for exploring creative means of

raising the needed capital to invest in the critical segment of the power value chain.

He bemoaned the difficult challenges that face the Nigeria power sector and appealed to all stakeholders to approach issues in a more coordinated and harmonised manner with the aim of solving the problems.

An Energy Specialist from the World Bank which is one of the donors, Mr Mohammed Wakil, was optimistic that TCN would deliver on the projects. He however appealed for synergy amongst all value chain operators

The meeting was attended by representatives from World Bank, African Development Bank, (AfDB), AFD, JICA, Office of the Vice President, Federal Ministry of Power, BPE and others development partners.



A cross section of Donor Agencies at the meeting in Abuja

# GOVERNOR SIMON LALONG COMMEND TCN'S EFFORTS AT TRANSMISSION EXPANSION IN THE STATE

By Stella Ejikonye



**T**he Executive Governor of Plateau State, Simon Lalong has commended TCN for improved bulk electricity supply and promised partnering with it to further improve transmission infrastructures in the state.

Mr Lalong made this known recently, when he paid a courtesy visit to TCN to discuss ways of further improving power supply in Plateau state. Expressing gratitude for the first-hand information by the MD/CEO on concrete plans to improve bulk power supply, the governor assured of his earnest support in making TCN's work easier and successful in the state.

Earlier, the MD/CEO of TCN, Mr. Usman Gur Mohammed had urged the governor to key into partnership with TCN as other state governors have done, noting that such collaboration leads to faster completion of transmission projects.

Mr. Mohammed however applauded the governor for recent efforts in resolving challenges that helped TCN complete the installation of the Markudi-Jos transmission line. He said that TCN will extend the

line to parts of Southern Plateau up to Langtan and Wase, noting that TCN was equally considering the closure of the loop up to Bauchi, so that the line can receive supply through Bauchi and Jos.

He further informed the Governor and his team that TCN, under its Transmission Rehabilitation and Expansion Program (TREP), was working assiduously to boost power supply across the country, including Plateau State. He assured the Governor that another transmission line would be constructed in addition to the existing one to boost and stabilize electricity supply in Jos and environs. He also assured the Governor that an additional 1x150MVA power transformer would be installed in Jos to augment the already existing one in Jos Substation. This, he said, would provide the necessary redundancy in the area.

The MD/CEO disclosed that TCN would soon complete the second line between Jos and Kaduna so that Jos can also receive sufficient supply through Kaduna as well as Jos-Makurdi. TCN has equally commenced the installation of three more reactors to improve voltage stability in that axis.

## INTERVIEW

### Enforcement of Nigeria Electricity Market Rules will benefit all Stakeholders - U G Mohammed



MD/CEO TCN, Mr. Usman Gur Mohammed

*The Managing Director/CEO of Transmission Company of Nigeria (TCN), Mr. Usman Gur Mohammed in this interview, at the sideline of West African Power Pool (WAPP) synchronization of power system meeting held recently in Abuja, said that the Nigerian Electricity Market can only be sustained with enforcement of Market Rules, stressing that there's no business or sustainable investment without rules. Excerpts:*

**Question: What is the significance of the WAPP synchronization meeting?**

Last year we had this kind of meeting where we brought all the utilities in West Africa especially the generators and the transmission companies to tackle the issue of frequency control. This time around, we are doing the same thing but in a different form, we are specifically looking at the generators. So WAPP has recruited General Electric (GE) to look at Free Governor Mechanism in power Generators in West Africa.

This workshop is to sensitize power generators to co-operate with GE, so that we set the generators on free governor mode, in a way that will make it easier to synchronize the three Islands across West Africa. Currently nine (9) Countries are interconnected in West Africa, the remaining five (5) countries will be connected when we complete the transmission lines from Cote d'ivoire to Sierra Leone, to Liberia and Guinea. The other line will connect Senegal to Guinea Bissau, to Mali. These lines will be completed by next

year, by then, the 14 countries will have been connected. But for power to flow from Nigeria to Senegal and from Senegal to Nigeria, we have to synchronize the systems and the synchronization process is what we are doing now.

**Question: MD, you talked about the need for a cost reflective tariff and subsidy for the synchronization and the power market in WAPP to become effective, what does that mean and what does it entail?**

Last year the Committee of Heads of States approved the 2018 Generation and Transmission Master plan for West Africa, which was done by a consultant, Mr. Tractebel. Now that generation and transmission master plan is supposed to open up West Africa by building a 330kV line and substations from Nigeria up to Senegal, and will also enable the connection between North Africa, West Africa and Central

Africa. It also approved that all the Utilities in West Africa should have a cost reflective tariff, this means they should have their revenue requirement, but tied to that is the fact that there are countries in West Africa that believe that they cannot allow cost reflective tariff to be charged. In this case, they should budget for the difference in a transparent manner. Also all utilities in West Africa should adopt competitive procurement of their services and equipments to engender a sustainable electricity market. Definitely, the market has to pay for the service that its providing.

You will agree with me that it will be difficult for Countries to budget for the entire fund required to provide electricity for the whole of West Africa, without involving the private sector, so the objective is that if you have cost reflective tariff, it will be easier for private sector participation. As at now, the only country that has fully

liberalised its electricity market is Nigeria, so for us to encourage the other countries to fully liberalise their market, they need to have cost reflective tariff, that's the reason why it was stated in the three directives that was issued to the ECOWAS Committee of Heads of States and Government which was approved on 22nd December 2018.

**Question: Do you think there is need for more laws for the power sector to work better?**

I don't think there's anything wrong with our laws. If there's any problem, I think it's with implementation. The problem is with implementation and we are working to resolve the problem with the implementation. You will agree with me that before, transmission used to be the weakest link in the power supply value chain. Today, transmission is not the weakest link, we have several completed and on going projects, and have plans to put N-1 across the country as well as resolve all problems that will make the grid a modern grid.

Now, as we are fixing transmission, efforts should also be made to ensure that we fix distribution, which is now the biggest challenge in the sector. Looking at generation, I don't think generation is a problem in Nigeria. Yes, we have issues of gas which will be solved once the liquidity problem in the power sector is resolved. The main problem is on the implementation, and this Government is doing everything to ensure that in implementation, all past mistakes, and the issues that we had are corrected.

**Question: Is the market**

**operator of TCN playing the regulator's role by enforcing discipline in the electricity market?**

You know NERC is a regulator, isn't it? And am sure NERC has not complained that what we are doing is wrong. You can see clearly what we are doing, when you say we are enforcing Market Rules, it means that they are very enforceable. Is there any way you can have a sustainable investment without rules? There's no way, you have to have rules and it has to be obeyed. So, the Market Rules explain how the

reality, for the Market to function properly and be able to attract investment, people need to do the right thing. For your information, the Market Rule is one of the ruling documents governing the power sector. Others are the EPSR Act of 2005 and the grid code and you have to enforce them all, they work together and there is no conflict between the market rule, the grid code and the act. So, we enforce the Market Rule according to how it's supposed to be enforced and I believe that with the enforcement, we



MD/CEO, TCN Mr U.G Mohammed addressing pressmen after the WAPP meeting in Abuja.

market is to be governed, and inside TCN, you have what is called the MARKET OPERATOR. Market Operator is in charge of the operation and functioning of the market, and if the Market Operator cannot enforce the rules and ensure that everybody plays according to the rules, there is no way we can have a sustainable market. Efforts are being made to ensure that market participants play by the rules and that the market becomes sustainable.

Of course, clearly, we are empowered by law, if not, they would have taken us to court. In

will soon see so many benefits because there are things people have taken for granted in the past, which will stop. Also, they will stop doing things discretionally because they would have to play according to the rule.

NERC is a regulator, and nobody will work in the sector without NERC. Let me give you an example, in the market rule section 74 and sub section A and D states that if the market operator has



discovered that there is a Disco for example, who cannot meet its obligation under the market rule, the market operator is supposed to petition NERC that the disco is incapable of fulfilling his responsibility in the market. In this case, they will enforce what is called “business continuity regulation” against the Disco.

All these rules are rules that NERC enforces and whatever we are doing, we inform and report to NERC.

**Question: How does the sector benefit from this Market Rule enforcement regime?**

The 100% invoice payment that we are enforcing now, ensures that discos comply and pay what the market specifies. The beneficiaries of the payment to the service provider is the TSP, ISO, NERC and NBET. They are all beneficiaries, so that's how it is. The balance on operational expenses of NERC, at the end of the year, goes to rural electrification.

So you see, every body benefits if we do the right thing. What is Rural Electrification supposed to do? Rural Electrification would take care of those people in the rural areas where they may not be able to pay for electricity like other people in the city. So this is how the market should be, enforcement of the market rules will not only benefit TCN, but the whole market.

**Question: Are more Discos going to be sanctioned?**

If they break the rules, they will be sanctioned. The market operator is administratively in TCN, but operationally, is independent according to the market rule. But I can tell you any market participant who breaks the market rule, including TSP will be sanctioned by the market operator.

**Question: A recent report says that the AGF recently petitioned TCN against Phase 3 telecoms, what do you have to say about this?**

Well, if you also look at that report that alleged that the Attorney General stated that TCN had violated the law, you would notice that they are not recent happenings. They were part of the inquiry that the AGF wrote requesting us to explain certain things to him, to enable him understand the issue, which people from phrase 3 published as if it's a new statement that came from the Attorney General. We have checked and have found that there is no need for us to respond to it and that is why we did not come up with a rejoinder. The Attorney General has been fully briefed.

Presently, the phrase 3 issue is actually in court. The company took TCN to court even though the contract has arbitration clause, which means that they are not supposed to go to court.

There are several pronouncements by judges that cases that have arbitration clause should not be

subjected to litigation in court. But they decided to go to court. For your information, we cancelled those agreements on the basis of the clauses in the agreement which they failed to comply with. Such as failure to pay a concession fee during the 15years contract. In total, they were supposed to pay Forty Million dollars, one paid only two million dollars while the other one paid 3.5 million dollars. Meanwhile, they have used the asset for twelve years as at the time we cancelled. The cancellation was the last resort because we had several meetings with them to get them to do the right thing, but they refused. Recently, we advertised for the procurement of fiber optic wherein we would put communication, OPGW in critical lines across the network showing clearly that the two companies failed to invest in the network. The concession agreement stated clearly that they should invest in the network and make it available to TCN to use it also for SCADA. A functional SCADA is necessary for a stable grid in Nigeria. For us to have a functional SCADA, we must have good communication backbone. The companies did not invest in the network as required by the contract and so we cancelled the contract and they have gone to court.

*When You Can't Control What's Happening,  
Challenge Yourself To Control The Way You Respond To  
What's Happening. That's Where The Power Is*



# COMMUNIQUÉ

*Communiqué issued at the end of the 6th meeting of the Nigerian Electricity Regulatory Commission with Nigerian Electricity Supply Industry stakeholders on September 9, 2019 at Eko hotels, Victoria Island, Lagos*

The 6th Meeting of the Nigerian Electricity Regulatory Commission (NERC) with the Nigerian Electricity Supply Industry (NESI) Stakeholders held on September 9, 2019 at the Eko Hotel, Victoria Island, Lagos.

The Chairman of NERC, Prof. James Momoh, provided an overview and status of current industry events. He reported the implementation of the 2016-2018 Minor Review of the Multi Year Tariff Order (MYTO) and Minimum Remittance Framework for 2019 as a major defining event for the industry and highlighted the expectations and targets to be met by the DisCos. These include accelerated meter roll-out through the Meter Asset Provider Scheme, improved collection efficiency, improved customer care standards, achievement of ATC&C Loss Reduction targets and compliance with Performance Agreements

The Chairman highlighted areas of present focus which include the procurement of Spinning Reserves, implementation of Merit Order Dispatch and resolution of Interface Issues & Challenges. He also reported on the recent workshop of the Commission on Voltage Stability Control and Compensation Analysis and the Public Consultations on the Capping of Estimated Billing, Distribution Franchising and Competition Transition Charge.

Following extensive deliberations, the following actions were agreed:

1. The Commission together with all stakeholders in NESI shall hold a meeting with the Financial Reporting Council on September 20, 2019 to discuss the implementation of IFRS 9 & 15 after which a new

date for the submission of the 2018 Audited Financial Reports will be communicated to all licensees.

2. A Workshop on ATC&C and Energizing Power Quality shall be hosted by NERC as a follow-up to the Voltage Stability Workshop in order to close observed gaps in the cost-benefit analysis carried out during the Workshop on Voltage Control.

3. Customer Satisfaction Surveys shall be carried out by the Commission as a third party verification thus strengthening data integrity in the NESI.

4. NERC shall set up a Committee to work out the deficiencies identified on data collection from DisCos and a review carried out by the Performance Managers of DisCos.

5. NERC shall dispatch a team to verify and validate the progress of implementation of interface resolutions reached between TCN and the DisCos. Any challenges that are specific to the implementation of Interface Agreements between TCN and DisCos shall be escalated to NERC and a timeline communicated by the Commission within which the challenges will be addressed.

6. NERC shall investigate the discrepancies between energy received as reported by MO and NBET. The Commission shall continue to monitor critical feeders in real time in order to check the inconsistencies of energy received and dispatched to consumers by DisCos.

7. The need to finalise on the procurement of Spinning Reserves was re-emphasised and the meeting agreed that TCN shall consult with

GenCos for the procurement of Spinning Reserves and report back to the Commission within one week.

8. GenCos highlighted the challenges in the market and it was agreed that the Commission shall convene a dedicated meeting with them to discuss their issues with respect to payment for generated capacity, gas supply obligations and applicable exchange rates.

9. The Commission raised concern with the abysmal level of the implementation by DisCos of their Customer Enumeration, and Meter Roll-Out targets under the MAP Scheme and cautioned that enforcement action will be taken against non-compliant DisCos. It noted that only 26,000 customer meters had been installed under the MAP Scheme since its inception on May 1, 2019, emphasising that it is the responsibility of the DisCos to meter their customers and directing that DisCos take appropriate measures, including calling up the Performance Bonds entered into with MAPs if need be, to ensure that metering targets are met.

10. The Commission raised concern about verified incidences of load rejection by DisCos and cautioned against this practice, failing which appropriate enforcement action will be taken by the regulator.

11. The CBN cautioned that the disbursement of the NGN600b intervention fund is premised on an accountability framework which hinges heavily on the performance of DisCos and should be reflected in improved collection efficiency and revenue remittance. The CBN also reaffirmed its support to the Commission that enforcement action be taken against defaulting Operators.



# TCN ACQUAINTS JOURNALISTS WITH RUDIMENTS OF TRANSMISSION OPERATIONS TO ENHANCE NEWS REPORTING

By Kazah Bili Akau

The Transmission Company of Nigeria (TCN) engaged energy correspondents in a 2-day field workshop aimed at enhancing their understanding of the power sector, to engender a more accurate reportage of TCN activities and the power sector in general.

The workshop, which took place in the Shiroro Region of TCN in Minna, Niger State, exposed energy correspondents sourced from different media outfits to power equipment and facilities, appropriate terminologies, and specifications of various equipment. The training also gave them firsthand practical understanding of the different stages in the power sector value chain.

While declaring the workshop open, the Assistant General Manager (Public Affairs), Mr. Clement Ezeolisah, expressed delight that TCN is conveying the needed awareness to journalists to aid them in news reportage and urged participants to go the extra mile by studying other relevant documents that would further help them acquire in-depth knowledge of the

sector.

He said that the reform of the power sector in line with the EPSR Act 2005, brought about private ownership of generation and distribution companies, while the government retained ownership of TCN. There has however been a general misunderstanding of the roles each of these sub-sectors play, evidenced by the obvious erroneous reports by some newspapers. This he said, prompted TCN to organise the workshop.

The Assistant General Manager (Transmission), Shiroro Region, Engr. B. O. Salau, who was one of the resource persons, while conducting the pressmen round Shiroro Hydro Power generation facility owned by the North-South Power Company Ltd, educated them on the mechanics of hydro power generation, including the free governor control mechanism used to control high frequency in the grid occasioned by dynamics of power demand.

During the workshop, Engr. Salau gave detailed rudiments of electric power generation and

transmission. He explained the delineation points of Genco/TCN/Disco, stating types of transformers involved, zones of protection as well as substation equipment and their functions.

The Senior Manager, System Operations, National Control Center, Osogbo, Engr. Emmanuel Umoh Casmier and the Senior Manager (SO) Katampe Substation, Engr. Ojo Thomas Oladeji, spoke on the processes involved in meeting real-time supply-demand balance, power supply system in Nigeria as well as grid management and control, they equally provided clarifications on various situations that could cause system collapse.

While making clarification on the issue of ramping down generation companies, Engr. Oladeji explained that the national grid does not possess the qualities of a battery and therefore cannot store power, therefore, decisions to ramp down, he said were due to reduction of load demand from the distribution side which causes an increase in frequency in the grid and that this is done automatically by the Free Governor.



TCN Management Shiroro Region Led by AGM (Transmission) Engr. E.O. Salau conducting Energy Correspondents around the Control Room in Shiroro Transmission Station during the training workshop



# TCN ENGINEERS COMMENCE UPGRADE OF ILE-IFE TRANSMISSION SUBSTATION

By Omideji Kayode

In-house engineers of Transmission Company of Nigeria (TCN), Osogbo Region, have commenced the technical works and installation of accessories of a 60MVA transformer required for the upgrading of the 2X30MVA, 132/33kV Power Transformer at Ile-Ife Transmission Substation, Oyo State.

The General Manager (Transmission), Osogbo Region, Engr. Olaniyi Oladele disclosed this recently in his office recently, while speaking to reporters on-going transmission projects in the Region.

Engr. Oladele, stated that the upgrading of Ile-Ife Transmission Substation, when completed, will add 1 x 60 MVA to the existing 2X30MVA, 132/32kV power transformer, thereby increasing the stations installed capacity to 120MVA.

He said “in order to achieve this goal, a task team of seasoned engineers, technologists, and technicians were put together to work on the transformer, pending the completion of the Primary 132kV Line Bay and the expected 4- Circuit Secondary Line Bays on 33kV voltage level”.

He added that the task team was also expected to install the earthing transformer and carry out oil

filtration on the existing 2x60MVA power transformers.

“The economic importance of this power project cannot be over emphasized when successfully completed, most especially to the University Community of Obafemi Awolowo University (OAU), the Ile-Ife mini steel plants and many other Small and Medium Enterprises (SMEs) within and outside Ile-Ife town”, he said.

The upgrading of the Ile-Ife Transmission Substation is one amongst the many in-house capacity works being executed by TCN engineers in various parts of the country.

Some of the other projects executed by TCN in-house engineers in the Region includes: Installation of 1x40MVA 132/33kV transformer at Offa Transmission Station, Installation of 1x30MVA 132/33kV, primary and secondary bays at Ayede Transmission Station, Installation of 3nos 330kV Bus Capacitor Voltage Transformer (Cvt) at Osogbo Transmission Station as well as Repair work on titled pole along Ayede-Iseyin 132kV line.



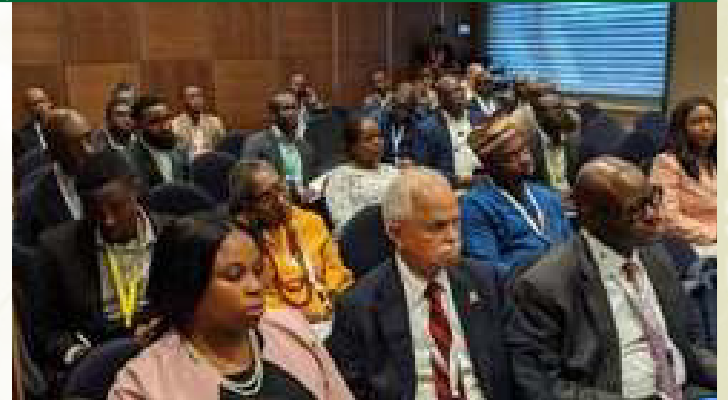
# PHOTO PAGE



MD/CEO TCN, Usman Gur Mohammed presenting developments and status of implementation of 2019 Appropriations to the House of Representatives Committee on Power headed by the Chairman, Hon. (Engr) Magaji Da'u Aliyu at the National Assembly Complex, Abuja



MD/CEO, UG Mohammed and Chairman NERC, Prof James Momoh addressing the topic "Building Nigeria's Electricity Deficit" at the Nigerian Renewable Energy Roundtable of the on-going 25th Nigerian Economic Summit holding in Abuja



Head, ISO, Engr M. J Lawal presenting certificates to participants of the 2-weeks hand-on training on Operation and Maintenance of Telecoms Equipment and Fibre Optics Installations in Akwanga, Nassarawa State



Technical session with AFD Energy Task Team Leader, Jeremy Gasc and members of TCN PIU-AFD staff to appraise power projects being funded by AFD to boost transmission wheeling capacity



# TCN MANAGEMENT

## SEEKS STAKEHOLDERS' SUPPORT TO CURB VANDALISM

By Maimuna Isah



Cross section of TCN Management Kaduna Region during a stakeholders meeting in Mando TS, Kaduna

In an effort to curb incessant acts of vandalism on installations and properties of the Transmission Company of Nigeria (TCN), especially in Kaduna Region, the Management of TCN, Kaduna Region has called for concerted efforts from officers of the Nigerian Security and Civil Defence Corps (NSCDC), youth leaders and elders of Mando, Afaka and Farin Gida communities in Kaduna to join its fight against vandalism.

The TCN regional office which is located along Kaduna airport road in Mando community, has suffered repeated acts of vandalism, despite several efforts made by the management to reach out to the community to create awareness on the dangers of vandalism and the implication of such acts.

Speaking at the stakeholders' meeting held at the TCN premises in Mando, Kaduna, the General Manager (Transmission), Kaduna Region, Engr. Aminu Haruna, called for action from all stakeholders to protect high tension installations and government-owned organizations.

He said, installations are in place to provide essential services to the people and therefore community should play pivotal roles in collaborating with TCN to protect the facilities.

Engr. Haruna lamented that the fence around the TCN Mando regional office has been damaged by hoodlums, giving room for cattle and unauthorized individuals to gain access into the switch yard which has overhead high-tension installations.

He warned that their actions have dire consequences as these installations carry electricity and are therefore very dangerous as even the low voltage overhead lines carry up to 11000 voltage electricity that can electrocute anything that comes in contact with it.

The GM(T) added that the fence would be repaired but warned that anybody caught trying to destroy it or

trespassing will be handed over to the security operatives.

He said TCN is always ready to fulfill its civil responsibility to the community but will not tolerate vandalism of its installations.

Also highlighting the dangers of vandalism, the AGM(T) Engr. M.S Nuhu disclosed that on several occasions, some trespassers have been caught trying to climb the high-tension installations. He warned that this could result to electrocution and instant death. He added that the stakeholders' meeting is a step in the right direction to resolve these challenges, to save lives and protect the company's installations. He also cautioned the community about building under TCN high tension wires which is very prevalent in Mando.

In his speech, the head of the community Sani Musa Umar Sarkin Afaka, acknowledged and appreciated the efforts of TCN. He stated that respectful and meaningful engagements with members of host communities was critical to the success of any organization. He however expressed shock that none of the incidences were reported to him. He promised to engage members of the community to forestall any re-occurrence.

The Fulani Youth leader Mando, Shuaibu Tahir, confirmed that TCN had communicated him about the issue and that the youths have not heeded his warnings. Meanwhile, the leader of the Fulani people in Mando Community, Ardo Hussaini Lawal said he was hearing about the problem for the first time and promised to give the necessary support to curb the menace. The leader of Farin Gida community, Yakubu Jatau on the other hand, said he had cautioned youths in his community to desist from such acts.

The elders commended the Management of TCN for organizing the meeting and expressed understanding on the need to address the problems to ensure better coexistence between the company and its host communities.

# IBADAN DISCO SOLICITS TCN COOPERATION FOR EFFICIENT POWER DELIVERY

By Omideji Kayode



(Standing), Engr. Olaniyi Oladele, GM(T) Osogbo Region flanked by TCN staff during the meeting



Engr. John Ayodele, Chief Operating Officer (COO), Ibadan Electricity Distribution Company (IBEDC).

The Chief Operating Officer, (COO), Ibadan Electricity Distribution Company (IBEDC), Engr. John Ayodele has solicited for cooperation with Transmission Company of Nigeria (TCN) to enhance effective and efficient power service delivery to Nigerians.

Engr. Ayodele gave this indication when TCN Osogbo Regional Management team led by Regional Transmission Manager, Engr. Olaniyi Oladele recently visited him at IBEDC's Corporate Headquarters, Ibadan.

According to him, there was need for a continuous interaction between TCN, Osogbo Region and Ibadan Distribution Company to facilitate smooth operation at the interface level, as all efforts should be geared towards providing stable and reliable electricity supply to the customers.

He commended the team from TCN Osogbo Region for taking the initiative, and noted that such visit provides a credible platform for interaction where the two companies shared experiences, identified challenges and proffer possible solutions.

He used the occasion to draw the attention of TCN Osogbo to the problematic Shagamu-Ijebu-Ode 132kV line and appealed for urgent action to be taken to enhance the reliability of the line.

Engr. Ayodele told TCN team that Ibadan Electricity Distribution Company is ready to provide needed assistance where necessary and further stated that the willingness of the company to release some 330kV materials to TCN such as Isolators, Current Transformer, Voltage Transformer, Control Panels on request.

On his part, the Regional Transmission Manager, Osogbo Region, Engr. Oladele Olaniyi expressed appreciation to management of IBEDC for the warm reception, and noted that the visits has given him opportunity to interact with them. He informed the IBEDC management that TCN Osogbo Region is currently embarking on massive installation of transformers and stringing of lines to increase wheeling capacity to deliver bulk power to load centers, and promised a robust synergize with IBEDC in order to move the industry forward.

The Regional Transmission Manager, Engr. Oladele Olaniyi was accompanied on the visit by AGM (TS), Osogbo Region, Engr. Frank Akintola; AGM (T), Ayede Sub-Region, Engr. Balogun; PM (T) Ayede Sub-Region, Engr. Akinro; and PM(Public Affairs) Mr. Mayowa Adewole.



## KNOW YOUR SUBSTATIONS; ALAGBON TRANSMISSION SUBSTATION, LAGOS STATE

**A**lagbon T/S was initially commissioned as 132/33kV Substation with 2 X 66MVA, 132/33kV Transformer in the year 1983 to deliver power supply to Ikoyi, Lagos and Victoria Island.

After a while, the 132kV Switchyards faced the challenge of sinking environment. The cable trenches and switchyard roads sunk deeply leaving only equipment Plinths which were firmly on piles.

Also with the growth of population in Ikoyi, the station also had the challenges of inadequate Power to serve the ever increasing demand from Eko Disco for its Ikoyi and Victoria Island customers.

This prompted the award of a contract by NDPHC to PIVOT Company to upgrade the Station to a 330/132/33KV Station while the old sinking Outdoor 132KV Switchyard was rehabilitated by the Project Management Unit of TCN.

The NDPHC through the contractor constructed a 330kV GIS with a 300MVA, 330/132/33kV transformer and extended the 132kV Outdoor Switchyard to accommodate an additional 2 X 66MVA 132/33kV power transformer.

In 2012, the entire 132kV switchyard and the 2 X 60MVA transformers were shutdown for NIPP to upgrade the Station to 330/132/33kV capacity. In

the interim, 2 X 60MVA 132/33kV mobile transformers were installed to ensure continued bulk power transmission to Eko Disco.

At the completion of the project in 2016, the 2 X 60MVA 132/33kV Transformers and 1 X 300MVA, 330/132/33kV transformers were commissioned. In addition to the existing of 2 X 60MVA 132/33kV power transformers in the substation were rehabilitated. However, Due to the continued increased of load requirement by Eko Disco, the 60MVA Mobitra also in the substation was retained.

Unfortunately, on 3rd May 2018, one of the rehabilitated 60MVA transformers was gutted by fire while the other was decommissioned after failing Tests on 5th May 2019. Both transformers were first installed in 1983.

To replace the two transformers, a new 60MVA 132/33kV was installed and commissioned on Monday, 16th September 2019 while a 100MVA power transformer is currently being installed and will soon be commissioned.

The complete installation and commissioning of the new transformers would increase the stations capacity from 300MVA to 340MVA



# TRANSMISSION TERMS

**Pool Transmission Facility or Facilities (PTF):** Generally speaking, any transmission facility operating at 69 kV or higher and connected to other transmission lines or transmission systems is considered a PTF. PTF falls under the authority of ISO New England and the construction of new PTF facilities is generally funded through the ISO on a load ratio share basis among its member utilities.

**Phase shifter:** Also referred to as a “phase shifting transformer” (PST) or “phase angle regulator” (PAR). A transformer that adjusts the angle between two buses in order to change the amount of power flowing between these buses. Some of these transformers are also able to adjust voltage. These transformers have an angle capacity, which states the extent to which the transformer can adjust the angle between two buses. When the angle capacity is reached before the desired flow can be achieved, it is stated that the transformer ran out of angle or that the angle capacity of the transformer is not sufficiently large.

**Non-Transmission Alternative (NTA):** The use of a non-transmission solution such as local generation or energy efficiency to solve a transmission reliability deficiency.

**Contingency:** An unplanned event creating an outage of a critical system component such as a transmission line, transformer, or generator.

**Converge:** Power flow programs use an iterative mathematical process to solve for, or converge to, the solution of unknown system parameters, such as Voltage and Angle. When the mathematics do not result in a solution, the iterative process has “failed to solve” or “failed to converge” to a solution. This result is an indication of voltage collapse or loss of load.

**Critical Energy Infrastructure Information (CEII):** Specific engineering, vulnerability, or detailed design information about proposed or existing infrastructure (physical or virtual) that: (1) relates details about the production, generation, transmission, or distribution of energy; (2) could be useful to a person planning an attack on critical infrastructure; (3) is exempt from mandatory disclosure under the Freedom of Information Act; and (4) gives strategic information beyond the location of the critical infrastructure.

**N-0 or N-1 or N-1-1:** The term N minus zero (or one or two) refers to the failure of important equipment. Although these terms sound complex, they are actually quite simple. “N” is the total number of components that the system relies on to operate properly. The number subtracted from N is the number of components that fail in a given scenario. Therefore, N-0 means that no components have failed and the system is in a normal condition. N-1 means that only one component has failed. N-1-1 means that two components have failed, which is generally worse than having only one fail (see also the definition of contingency above).

## DID YOU KNOW ?



### **Skipping Breakfast Puts Your Body in a Constant Stressful State**

Always on the run and don't have time to eat the most important meal of the day? Doing this consistently will put your body in a stressful state and disrupt your metabolism. People who don't eat breakfast have a greater risk of high blood pressure, being over-weight, and having heart issues compared to those who regularly eat within two hours of waking up.

### **Regularly Eating Fast Food for Lunch Will Increase Your Risk of Heart Disease**

Most office-folk go out for an unhealthy lunch once in a while- some more than others- but even the occasional indulgence has negative effects. A portion of fast food usually has about double the calories to another similar food of the same size, and it has a lot of oxidized fat, which increases the risk of heart disease.



# FEEDBACK PAGE

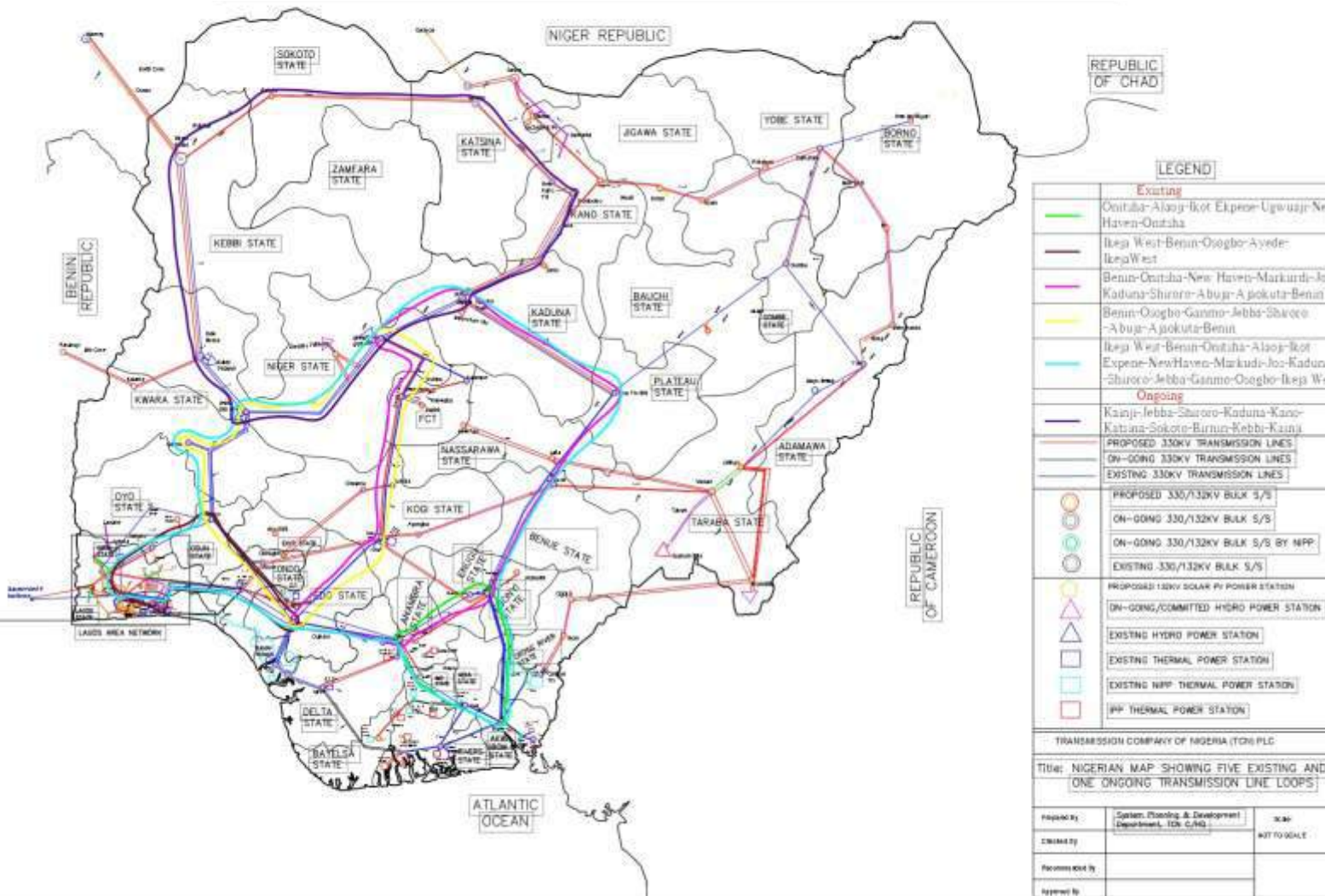


- nnamsofrank@gmail.com** @nnamsofrank · Sep 21  
 Replying to @TCN\_NIGERIA and @nelmcong  
 UG Mohammed is a visionary MD, he is taking TCN to the next level, Nigerian's are happy with your good works.
- Nnabugwu Kingsley Okwudili** This is a great development of ideal 35MW increment/boost to Alagbon Transmission Substation which will comfortably enable the Substation to wheel additional, reliable and operational 30MW to its outgoing feeders. Kudos to TCN for this technical and strategic achievement. #CIE #SolvingSubstationLoadLimitationProblem
- Lawal Dalhatu** Why are the Discos and Genxcos not talking. They have no plan for customers? They have no Plan to meet up with TCN progress? They have not key into FGN plans? Are they really doing something?
- Frank Joel Yigale Son** I love this current and steady updates on the happenings around the Transmission Company of Nigeria via the Facebook page. The handler of this page is doing really good. I comment you.
- Celestine Chuks** @CelestineMChuks · Aug 22  
 Replying to @TCN\_NIGERIA  
 Please when will you guys start your proposed power project in Imo state?
- Bitrus Dampe Samben** This is the earnest desire of the Plateau Man- the completion of 132/33Kv Transmission Substation, Pankshin. We are praying for the successful execution of this Project. Ride on Mr. Governor. Safe trip back!
- Hamza Y. Sa'id** @Hazyfun · Sep 20  
 Replying to @TCN\_NIGERIA  
 @TCN\_NIGERIA you should mobilise and make people aware of the rejection of Load by Disco's. I have so much evidence on Kedco's rejection of load. It has even went to an extent Kedco remove local fuses for 33/415 Transformers. since they cant open the feeder.

***We appreciate your comments, please keep them coming!***



# NIGERIAN MAP SHOWING FIVE EXISTING AND ONE ON-GOING TRANSMISSION LINE LOOPS



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