

PRESS STATEMENT

BY THE NIGERIAN INSTITUTE OF POWER ENGINEERS (NIPE)

ON

THE PRESENT POWER SUPPLY SITUATION IN NIGERIA

WEDNESDAY, 06TH APRIL, 2022

1.0 PREAMBLE

The **Nigerian Institute of Power Engineers (NIPE)** is the Specialist or Professional engineering organisation dedicated to advancing power engineering technology in the Nigerian Power Industry. All the Technical or Engineering workforce across the value chain (Generation, Transmission, Distribution, Operations and Management of the Industry) are members of our Institute. This equally includes retired power industry technocrats, consultants and young engineering graduates finding their way into the industry.

NIPE serves as the reservoir for appropriate knowledge power engineering and provides a platform for the promotion of professional competencies of Members, for the development of the Nigerian power industry through innovative contributions, leveraging on institutional skills and capacity building of Nigerian power industry practitioners to be competitive worldwide for the benefit of humanity.

The Creed and Motto of NIPE is:

"Bringing Professional Capability, Credibility and Competence to bear in the Nigeria Electric power Industry"

2.0 BACKGROUND OF NIPE PRESS STATEMENT

Since February 2022, Nigeria has been going through an unprecedented power supply crisis. Several reasons have been adduced as the causes premised along the power value chain; these include failures of gasfuel supply to Generation Companies, failures at power stations at the Generation Companies (GenCos), failures of the National grid managed by Transmission Company of Nigeria (TCN), and failures with the networks of Distribution Companies (DisCos), amongst other issues such as political interference and regulatory flip flops.

The summary is that the power sector has failed to perform at its expected capacity. The population and indeed the country is suffering the impact of this failure. The country's lawmakers recently summoned the Honourable Minister of Power to explain the crisis.

It is in the light of this abysmal situation that an emergency Power Symposium" was convened by the Nigeria Institute of Power Engineers (NIPE) for the industry stakeholders and power experts to articulate the issues plaguing the NESI and proffer solutions to save the situation, both in the short and long term. This Press Statement by the Institute is the outcome of that deliberation.

3.0 THE POWER SUPPLY CHALLENGES / ISSUES

The power supply challenges/issues in Nigeria can be grouped under four significant aspects, viz:

- Power Generation Challenges
- Power Transmission Challenges
- Power Distribution Challenges
- Power Legislation, Regulation, Market, and Socio-Political Challenges

3.1 Power Generation Challenges

The following are the main challenges with Power Generation in Nigeria presently:

(i) The operations of the GenCos are saddled with high rate of equipment failure lack of timely maintenance, faulty maintenance, running to failure, etc. due to what the practitioners attribute to financial illiquidity.

(ii) Non-availability of spare parts locally, which results in lack of timely maintenance, high cost of spares as they must source the foreign exchange required to procure this abroad, managing failing parts until they actually give way in the hope of generating enough funds to provide needed parts, hence, frequent breakdown of generating units

(iii) Coordination with key stakeholders; TCN, GenCos, DisCos Gas companies, NBET is not effective enough.

(iv) Gas fuel is inadequate and in irregular supply to thermal Stations. The gas supplied to Thermal Stations is on the best on an endeavour basis and this leads to cases of No-Pay-No- Gas scenarios. This cannot guarantee reliability in gas supply.

(v) Gas supply infrastructure in Nigeria is inadequate and suffers from frequent attacks by the miscreants and militants looking for oil to steal. Gas processing infrastructure is another issue, and is still under-capacity despite abundance of exploitable natural gas..

(vi) Funding: The GenCos complain of operational funding inadequacy due to poor receipts of payments from the bulk trader.

3.2 Power Transmission Challenges

The following are the main challenges with Power Transmission in Nigeria presently:

- (i) Inadequate materials for maintenance due to lack of local production of these materials and hence having to source foreign exchange to procure these materials and Inadequate workshops for repairs and again low utilization/patronage of existing workshops by TCN..
- (ii) Limited network automation systems; this renders the grid operations extremely cumbersome. (No effective SCADA system)
- (iii) Most power equipment are obsolete, low in capacity and therefore require urgent upgrade, more frequent maintenance and replacement. TCN has no financial muscle to carry these out regularly. This situation is further exacerbated by the security situation in the country.
- (iv) There is no accurate data on load demand for adequate planning.
- (v) There are funding constraints in expanding transmission network, and the expansion works ,are financed with foreign loans and grants that take a long time to materialise,
- (vi) Interfaces between TCN-GenCos-DisCos-NBET are poor.

3.3 Power Distribution Challenges

The following are the main challenges with Power Distribution in Nigeria presently:

- (i) Lack of necessary equipment with poor investment in network development. The equipment are in short supply, or when available, they are either outdated or dilapidated or not maintained timely and they need to be upgraded or replaced as the case may be.
- (ii) Tariff is another issue, the tariff being non-cost reflective is not healthy for the sector. The Multi-Year Tariff Order (MYTO) has not been adequately used to help the power sector grow its capacity.
- (iii) Issues with customer care have also adversely impacted the distribution sub-sector.

(iv) The operations capability in the distribution sub-sector is poor. There is a need to automate the operations. Control, faults monitoring, and network supervision system is skeletal or non-existent and the reliability of the network is relatively low.

(v) The sub-sector lacks data to plan and manage peak demands leading to poor planning and decision making). There is little or no data on available assets, capacities, or locations. There is no data on customers enumeration.

(vi) the Majority of electricity consumers are not metered. There are high losses of electricity and high-level energy theft across all societal strata. Corruption among staff and collusion with customers to defraud the system. Hence denying it of much needed funds, as they flow into private pockets instead of going to service the industry value chain.

(vii) In distribution network development, there is little recourse to the use of alternative sources of energy as well as embedded generation systems to address system vulnerabilities. The system is not resilient.

(viii) There is poor corporate governance by Investors.

3.4 Power Regulation, Legislation, Market, and Socio-Political Challenges

The following are the main challenges in the afore-mentioned areas in Nigeria presently:

(i) Sociopolitical agitations in the South-South geopolitical zones arise from aborigine and exogenous issues. Gas supply suffers due to the frequent vandalism of gas pipelines.

(ii) Nigeria has a weak Regulator and, and NERC is yet to master the game since its 16 years of presence. There is non-enforcement of own Regulations, Orders and Directives, and cases of regulatory capture and flip-flops.

(iii) The populace lacks knowledge of the enabling Acts (Electric Power Sector Reform Act 2015).

(iv) Frequent government interference leads to confusion. Politicians and stakeholders without knowledge of the intricacies of the Nigerian Electricity Supply Industry latch on the Power Sector for sheer political or self-interest gains, thereby further complicating the problems.

(v) Nigeria is considered a high-risk country to invest in due to our numerous socio-political problems, hence inadequate short term and long-term investments.

(vi) The GenCos and DisCos survive on CBN life support with government bailout single-digit interest rate loans.

(vii) Unstable and weak currency because of FOREX/currency stability risk.

(viii) Human resources (capacity) unavailability due to poor professional succession planning and a severe generational gap. The industry has continued to lose competent and skilled workforce due to age without plans to train younger ones who will take over.

(vi) Illiquidity in the pervading the entire value chain (Liquidity crisis and high chances of liquidation of many licensees).

(vii) Poor societal orientation towards industrialisation provides no encouragement for the enunciation of immediate and long-term drive needed for power system development in Nigeria.

4.0 PROFFERED SOLUTIONS

At the end of the NIPE Emergency Symposium, some salient recommendations were made to bring about effective and efficient management for the Nigerian Electricity Supply Industry (NESI). These recommendations are summarised into short term solutions and medium to long term solutions as follows:

4.1 Short Term Solutions to Present Power Supply Challenges in Nigeria

The following are the proffered short term solutions that can be deployed immediately to overcome the present power supply challenges in Nigeria:

- (i) Introduction of a National Integrated Expansion and Maintenance Planning Coordination Centre for Power Generation Plants and Gas Suppliers nationwide. This will ensure that a minimum level of power is available on the grid at all times. In accordance with the Grid Code, the System Operator, under the supervision of the Regulator should be mandated to co-ordinate GenCos and TCN expansion and maintenance program to ensure that there is a time during the year minimum of say 6,000MW of Generated power and TCN wheeling capacity.
- (ii) More players (Power Market Participants) should be brought into the NESI to improve liquidity in the power sector value chain.
- (iii) DisCos should be mandated by the existing Regulation(s) from NERC to invest in critical distribution and transmission networks.
- (iv) Nigerian Investors/Power Professionals should leverage international funding available for renewable power solutions from Development Partners/Donors.
- (v) GenCos should abide strictly with the OEM-advised maintenance schedules for their Turbines to minimise unplanned outages. GenCos should avoid running machines to failure.
- (vi) DisCos should develop a more scientific Revenue Collection Strategy to improve the liquidity in the power value chain.
- (vii) Customer metering should be intensely accelerated to engender trust between utilities and the Nigerian Public. For poor customers, the deployment of load limiters should be more cost-effective.

(viii) NERC should develop a more scientific approach/model for Estimated Billing. More tariff methodologies or an updated version of MYTO should be made available by NERC to take care of the reality of Nigeria's financial and economic conditions.

(ix) Power Professionals with management training or cognate exposure should be deployed to head all power-related Ministries, Departments, Agencies and organisations, both public and private. Professionalism should be promoted across the power sector value chain to engender a sector that is business-focused.

(x). Discos should be encouraged to install and operate community/group metering at the transformer level for rural communities or urban subgroups, to improve further improve revenue collection further and minimise the effect of estimated billing.

(xi). Govt should accelerate the implementation of the Siemens Project, engage more seasoned Power Engineers in its implementation and shield it from undue political interference as prevailing.

(xii) NERC should strictly enforce compliance to the provisions of the Grid Code, Market Rules, Distribution Code, Metering Code and the Health and Safety Code by all players in the NESI

(xiii) NERC should simplify and fast-track the Eligible Customers Regulation scheme to enable GenCos to supply electricity directly to underserved industrial customers due to poor transmission and/or distribution networks. This will ultimately bring down the cost of production of goods and services.

(XiV) NBET should do more by trading to self-generating customers and bringing these self-generation companies into the fold to increase liquidity.

4.2 Medium to Long Term Solutions to the Present Power Supply Challenges in Nigeria

The following are the proffered medium to long term solutions that can be deployed to overcome the present power supply challenges in Nigeria:

(i) There is a need to break up TCN to allow independence of the Independent System Operator (ISO) and the Independent Market Operator (IMO) for more effective and

efficient management of the NESI. The unbundling exercise will thus require a massive funding mechanism by the FGN to support the TCN in bringing this about, and this should be considered a priority by the FGN.

(ii) NBET should be phased out after satisfying the Conditions Precedent to bilateral contracts between willing buyers and willing sellers in the electricity market.

(iii) DisCos should deploy Smart Meters to avoid ' 'consumer's by-passing meters (to curtail electricity theft). Similarly, smart metering should be deployed on our transmission and sub-transmission networks (i.e. 330kv, 132kv, 33kv and 11kv) to create harmonious interface records. Load Limiters could be deployed for poor customers.

(iv) There is a need to increase and expand the energy mix in Nigeria via the use of Solar Generators, Nuclear Power Generating Plants, Wind Turbines etc.

(v) There is need to renegotiate the DisCos Franchise Areas to more manageable sizes. State by state basis for franchising is recommended. This will increase efficiency in power supply as each company will have enough funds to adequately invest to meet needs while the host state will find it economically convenient to partner as an investor with a dedicated DISCO to make life better for its citizens

(v) There is a need to take urgent steps to reduce the ATC&C losses in the networks.

(vi) There is a need to review, amend and harmonise the subsisting electricity legislations in Nigeria, drawing from lessons learnt since the enactment of these legislations and the privatisation of the power sector for more effective power sector reforms.

(vii) Gas Supply and Aggregation Agreements (GSAA) should be entered into between Gas Suppliers and GenCos to guarantee gas supply and payments. By involving NERC, Gas-to-Power costs should be moderated to ensure affordability and sustainability.

(viii) Power Purchase Agreements (PPA) should be entered into directly between DisCos, TCN and GenCos to guarantee power supply and payments.

(ix) Setting up an Inter-Ministerial Energy Committee for the Ministry of Power, Ministry of Petroleum, Ministry of Environment, Ministry of Water Resources and Ministry of Science and Technology to ensure maximum benefit of synergy within the energy sector.

(x) Intense promotion of incentivised investments in the exploration, exploitation, production and supply of natural gas in Nigeria.

(xi). NERC should institute Energy Audit at all 33kv and 11kv amongst Discos.

(xii). The power sector should be given a 5-year foreign exchange concession to procure equipment and materials while simultaneously but deliberating tasking, through incentives, indigenous power engineering professionals and manufacturers/Investors to build capacity needed to produce all equipment and spares required to get the sector sustainable.

(xiii) Federal Govt Policy should drive the intensive industrialisation of the economy involving interconnected power pools and microgrids.

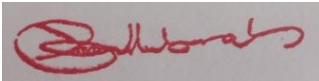
5.0 CONCLUSION

There is no iota of doubt that there are challenges in the management and development of the Nigerian power supply industry. While some of these challenges (factors) permeate all industry segments, others are localised to specific sub-sectors of the industry. These challenges are daunting but surmountable. Government's passionate commitment and political will, to do what is needful is imperative to achieving the desired objective for the sector.

NIPE believes that implementing these above-mentioned short-term and medium to long-term solutions will go a long way in overcoming the present abysmal power supply challenge confronting the nation.

NIPE is poised to work closely with the government and other stakeholders to mitigate these challenges and ensure that adequate and reliable supply of electricity in Nigeria becomes the norm rather than the exception.

Dated this day, the 6th day of March 2022



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