

REPORT OF THE PUBLIC INQUIRY ON THE DRAFT COMMERCIAL SATELLITE COMMUNICATIONS REGULATIONS

1.0 INTRODUCTION

The Nigerian Communications Commission (the Commission) pursuant to its powers under Section 72 of the Nigerian Communications Act 2003 (the Act), commenced the process of reviewing the Commercial Satellite Guidelines, which was converted to a draft Commercial Satellite Communications Regulations (the Regulations).

Based on the Commission's policy of participatory rule-making, the Draft Regulations was published on its website for comments from the general public, particularly its licensees and other stakeholders.

Further to this, the Commission received submissions from Kuipper Systems LLC, MTN Nigeria Communications Plc, and other stakeholders.

As required by Section 58 of the Act, a Public Inquiry on the Draft Guidelines was scheduled for July 25, 2023 and a Notice of the Public Inquiry was published in the Guardian and Daily Trust Newspapers on Friday, June 30, 2023.

2.0 THE PUBLIC INQUIRY

The Public Inquiry held both physically and virtually as scheduled. It commenced at 11:00am and was chaired by the Executive Vice-Chairman/CEO ably represented by the Executive Commissioner, Technical Services (EC-TS), Engr. Ubale Ahmed Maska. Attendees at the Public inquiry included Executive Commissioner, Stakeholder Management (EC-SM) Barr. Adeleke Adewolu, Staff of the Commission, representatives of Telecommunications Companies, the Press and other interested stakeholders.

The Director Legal and Regulatory Services gave the opening remarks, welcoming everyone and explaining the key reasons for the Public Inquiry and its essence in the rule making process of the Commission, while emphasizing the expectations of the Commission at the conclusion of the exercise.

Dr. Yusuf Abdulkadir (Senior Manager, Spectrum Administration Department) gave an overview of the amendments made in the Draft Regulations on Commercial Satellites. Engr. Maigana Gidado (Assistant Director, Spectrum Administration Department) made a presentation on the comments received prior to the Public Inquiry.

A. GENERAL OVERVIEW OF THE DRAFT REGULATIONS ON COMMERCIAL SATELLITES COMMUNICATIONS IN NIGERIA

According to Regulation 1, 2(a) The Regulations on Commercial Satellites seeks to regulate the provision and use of all satellite communications services and networks in Nigeria. The Regulations seeks to ensure the provision of high-quality standards to be strictly complied with by Telecoms Services Providers in line with global best practices, in order to "ensure a well-developed and organized satellite communications market in Nigeria with appropriate legal framework". These initiatives should encourage innovation and guarantees public safety in the process of delivering services.

B. <u>REVIEW OF COMMENTS RECEIVED BEFORE THE PUBLIC</u> INQUIRY

1.0 Kuiper Systems LLC (Kuiper)

1.1 Comment

Regulation. 13 (7) Kuiper requested for clarification as to what stage of the ITU filing process would a satellite filing be regarded as complete.

Secondly, they also noted that requiring notification prior to issuing a landing permit could unnecessarily delay the availability of needed services extensively to the detriment of customers.

The Commission deems a filing completed when the operator can demonstrate that the ITU-BR received the submission and accepted it after checking the Files. However, the Operators filing application to the ITU-BR should be completed prior to request for Landing Permit.

1.2 Comment

Regulation 7 relates to the long-term and short-term licenses and their validity periods. Kuiper would simply like the Commission to specify the conditions for eligibility for both licenses.

Response

There is no eligibility criteria, but this is based on a request from the operator. However, Operators are encouraged to align the duration of their frequency License with the duration of the respective operational License to avoid situations where one of the Licenses expires and becomes unusable, while the other License is valid.

1.3 Comment

Regulation 5 concerns itself with establishing operational license categories with their own parameters for Earth/Ground Station Networks (ESIM – Maritime, VSAT, Gateway). Kuiper suggests a continuous development of licensing categories. Each License category should be included in the definition section of the new regulation

Response

These comments are noted and will be taken into consideration by the Commission.

1.4 Comment

Kuiper seeks definitions for land, maritime and aeronautical ESIM. Definitions of ESIM should include NGSO ESIM, "Earth stations that communicate with Geostationary-Satellite Orbit (GSO) systems or Non-Geostationary Satellite Orbit (NGSO) systems"

Response

These comments are noted and will be taken into consideration by the Commission. The specification will be made in the issued License document to the operator in accordance with the ITU RR.

1.5 Comment

Regulation 19 relates to Sandbox Regulation, Kuiper Systems suggests the development of initiatives for innovation by accepting mutual recognition of type approval certificates such as CE and FCC certifications for customer terminals and other satellite communications-related equipment.

Response

The Type Approval Regulations of the Commission should be complied with.

1.6 Comment

Regulation 16- Kuiper opined that the establishment of usage fees for Earth stations should be at sliding scale between \$500 to \$20,000.00 USD annually per band according to the number of terminals.

Response

These comments are unclear and the Commission requires Kuiper to clarify if the Company is proposing as much as \$20,000 per annum.

1.7 Comment

Regulation.13.3.b Requires space segment operators to ensure any person using the segment is licensed by the Commission. Kuiper suggests that the provision should be expunged as it is adding obligations to the operator to ensure a person holds the requisite frequency license. It is common practice for operators to contractually require third parties to obtain necessary operational and ground segment licenses.

Response

These comments are not accepted by the Commission. It should be noted that all Satellite Operators shall confirm that last-mile operators/providers are valid licensees of the Commission (both operational and Frequency License).

1.8 Comment

Regulation. 13.4. Kuiper Systems sought to clarify that this section does not require a Gateway Earth Station is located in Nigeria.

Response

Regulation 13.4. requires a space station operator to provide the location and technical parameters of its associated Gateway Earth station providing service in Nigeria.

1.9 Comment

Regulation.13.9 Kuiper sought clarification as to the difference between Virtual landing permit and Space Segment Landing Rights. They also requested that Third Party Space Segment Operators be defined.

Response

These comments are noted and the needed clarification will be provided.

2.0 VIASAT

2.1 Comment

Clauses 2c and 2d- Viasat recommended that the Commission remove restrictive objectives in 2c and 2d and re-draft it as follows: "Effectively utilize satellite connectivity to drive growth and digital transformation across the Nigerian economy"

Response

These comments are noted and will be taken into consideration by the Commission.

2.2 Comment

Clause 2k- The objective is neither mentioned nor advanced in subsequent sections. They opined that the Commission should consider deleting the objective or amending it to provide details on its attainment.

Response

These comments are noted and will be taken into consideration by the Commission.

2.3 Comment

Clause 3.1.c- They recommend that the Commission amend Clause 3.1.c to include highly elliptical orbit (HEO) satellites. This ensures that the draft Regulations cover the full suite of satellite orbits.

Response

These comments are noted and will be taken into consideration by the Commission.

2.4 Comment

Regulation 5.E.ii The coupling of VSAT applications with the number of terminals may hinder the deployment of certain emerging service offerings. They recommend that the Commission revise the VSAT Network categories to reflect the fact that the listed applications are solely examples.

The Commission believes this provision is vital in ensuring healthy competition and it will also encourage smaller operators to provide sustainable services.

2.5 Comment

Regulation. 7 The conditions for eligibility for the licenses need to be clearly stated.

Response

There is no eligibility criteria, but this is based on request from the operator. However, Operators are encouraged to align the duration of their frequency License to be in line with the duration of their operational License to avoid situations where one of the Licenses expires and becomes unusable, while the other License is valid.

2.6 Comment

The definition of Ground Earth Station pertains to aeronautical earth stations as opposed to ground earth stations. They recommend that the Commission consider re-drafting as follows: "A station located either on the Earth's surface or within the major portion of the Earth's atmosphere and intended for communication: With one or more space stations or with one or more stations of the same kind by means of one or more reflecting satellites or other objects in space."

Response

These comments are noted and will be taken into consideration by the Commission.

3.0 AVANTI

3.1 Comment

Regulation 5.F (i) They opined that the definition of the solution architecture of the service should not be constrained by regulation but only by technical and financial efficiencies. Furthermore, clarification on whether last-mile communication services operators include MNOs, ISPs and other operators who are currently licensed to provide last-mile communication services in Nigeria is needed.

Response

1. The GES operator must ensure they provide services to licensees of the Commission as long as the scope of the License covers the services to be provided.

- 2. The Commission believes there is no attempt to define a solution architecture, but rather to provide clarity and certainty for Satellite Operators.
- 3. The term, "last-mile" is sufficient to provide necessary clarification on the operators licensed to provide such services.

3.2. Comment

The Commission's current policy is to require all parties involved in domestic services to have Terminal licenses and to require foreign satellite companies to verify that these licenses are in place. Avanti suggests that Nigerian companies be allowed to resell the services of other companies without duplicating their licensing position and as a result introduce inefficiency into the industry.

Response

All Satellite Operators shall confirm that last-mile operators/providers are valid Licensees of the Commission (both Operational and Frequency License).

3.3. Comment

They stated that clarification is needed on the distinction between Gateway Earth Station licenses and Network licenses (for VSATs or ESIMs). Avanti suggests the removal of the description of Gateway Earth Station licenses from Section 5 Licensing of Earth/Ground Station Networks' and placing it in Section 6 Licensing of Other Networks'.

Responses

These comments are noted and will be taken into consideration by the Commission.

3.4 Comment

Spectrum usage fees for Earth station(s). Avanti opined that the Commission should incentivize high volumes of terminal deployments that allow a higher coverage area and lowers connectivity costs for most remote regions and retain the flat fee. They also requested that the Commission clarify that an unlimited number of terminals may be operated under the license.

Response

The Commission believes this fee structure is vital in ensuring healthy competition and it will also encourage smaller operators to provide sustainable services.

4.0 GLOBAL SATELLITE OPERATORS' ASSOCIATION (GSOA)

4.1 Comment

Regulation 2.k- GSOA requested that the Commission clarify this provision, particularly on how a satellite operator will ensure the use of such National Emergency Number.

Response

These comments are noted and clarification will be provided.

4.2 Comment

Regulation 2.I- GSOA requested that the Commission should provide guidance on the process and requirements for collaborating with relevant security agencies to ensure the secured use of satellite communications services

Response

These comments are noted and clarification will be provided.

4.3 Comment

Regulation 3.b, Including a list of specific services and technologies will not cover all services and technologies, existing and future. They recommend not to include such examples.

Response

These comments are noted and clarification will be provided.

4.4 Comment

Regulation 4.3-On the general terms and conditions, GSOA seeks clarity on whether such requirements will only fall upon the ground station network licensees and not upon the space segment satellite operators.

Satellite operators who sell satellite capacity to network operators or service providers in Nigeria neither have nor control a ground network and do not have visibility on the content or end-user data. Therefore, lawful interception requirements should apply only to licensed ground network operators or satellite service providers who provide connectivity to end-users.

It is a statutory and regulatory requirement that all licensees of the Commission shall comply with Regulations on Lawful Interception of Communications where applicable.

4.5 Comment

Regulation 5-, GSOA recommended that the Commission amend the latter sentence as "provided that the ESIM has been dully authorized in its country of origin". Authorization is a more general term covering also the registration in a license, where applicable.

Response

These comments are noted and will be taken into consideration by the Commission.

4.6 Comment

5.A.(VI), GSOA opined that there needs to be a distinction between the "necessary permit" for visiting ESIM/VSAT and the operational and frequency license required for local ESIM/VSAT.

Response

These comments are noted and will be taken into consideration by the Commission.

4.7 Comment

Regulations 5.E.i & 6.D.i -Regulation 5.E.i refers to "VSAT Network license" and Regulation 6.D.i refers to "Virtual VSAT Earth Station Network Licence". The difference between the two licenses is not clear enough, further clarification is needed.

Response

These comments are noted and clarification will be provided.

4.8 Comment

Regulation 13.3.b. GSOA opined that the Commission should reconsider this proposed section. Space Segment Satellite Operators may not be in an adequate position to review, assess and supervise their customers (or customers of customers)' compliance, whether they have all the applicable licenses. Local Service providers should be held responsible for compliance.

In practice, Space Segment Satellite Operators require in the contracts with satellite service providers that the latter obtain the necessary operational and ground segment licenses. Provide landing rights holders with a list of authorized frequency license holders to assist in this review.

Response

Operators are required to have the Landing Permit. All that is required is for the Satellite Operator to confirm License status before providing service.

4.9 Comment

Regulation 13.3.c- GSOA opined that the Commission should clarify this requirement as follows, "Maintain a database of local providers required by (b) above and that are being in direct contractual relationship with the Space Satellite Operator without intermediates, and submit a report to the Commission upon request"

Response

This comment is not accepted by the Commission. Space Segment operators shall have a database of all their customers and shall submit this information to the Commission upon request.

4.10 Comment

Regulation 13.4- GSOA opined that the Commission should clarify that this section does not require the Gateway Earth Station to be located in Nigeria. Also, GES are commonly operated by satellite services providers, and not space segment operators, clarify this requirement as "if applicable".

Response

The position of the Commission is very clear in the text.

4.11 Comment

Regulation 13.7- GSOA opined that further clarification is needed as to what is considered as, "satellite filing that has been completed with the ITU" and as "evidence of completed satellite fillings."

Response

Please refer to the ITU-Radio communication Bureau process. The Commission deems a filing completed when the operator can demonstrate that the ITU-BR received the submission and accepted it after checking the files.

However, Operator's filing application to the ITU-BR should be completed.

4.12 Comment

Regulation 13.9- GSOA opined that the Commission should clarify the difference between the "virtual landing permit" and the "space segment landing

rights" and also clarify and define the term "third-party space segment operators".

Response

These comments are noted and clarification will be provided.

4.13 Comment

- **14.1 (b-h)** GSOA recommend that the Commission should further simplify the list for the following reasons:
- **14.1.b)** Multiple Access Method. The choice of this method is not made by the satellite operator but by the satellite service providers. It depends on each earth station network configuration, equipment to be deployed, the type of service to be provided and may also vary over time. The information provided here is generic and of no value to the Commission. They propose to remove this requirement from the list.
- **14.1.d)** Type of modulation. For similar reasons as provided in 14.1.b), they proposed the removal of this requirement from the list.
- **14.1.e)** Transponder traffic loading. The loading of satellite capacity varies over time, depending on customer contracts and deployment of networks, including those outside of Nigeria accessible through the same transponders. Information provided will be of no use to the Commission. They propose the removal of this requirement from the list.
- **14.1.f)** Saturation/Power flux density at surface of earth. For clarity, they propose to re-phrase as "Maximum Power Flux Density at surface of Earth over Nigeria".
- **14.1.g)** Number of earth stations, linkages, number of gateways. Deployment and number of stations deployed in Nigeria is under the control of satellite services providers. This number may vary over time for various reasons. For all these reasons leading to generic statements, they propose the removal of this requirement from the list.
- **14.1.h** Received power level contour. For clarity, they propose it should be rephrased as "Receiving G/T contours over Nigeria".

Response

These comments are noted and will be taken into consideration by the Commission.

4.14 Comment

Regulation-16.2.a GSOA stated that the same section introduces regulatory fees for space segment landing rights and seek clarification in this regard. They further state that they do not support the introduction of regulatory fees for

landing rights. Regulatory fees apply for licensing and the use of frequencies by providers who operate their ground networks to provide services in Nigeria.

Response

The Commission is not introducing regulatory fees for Landing Rights, but is specifying the application fees to cover for administrative costs.

4.15 Comment

Regulation 16.2.a. -GSOA opined that the Regulations should also foresee for the extension of the authorization in case of the satellite life extension

Response

The Commission will rely on receipt of applications for extension for Landing Permit authorizations

4.16 Comment

Regulation 16.3.c- GSOA recommended that the Commission provide details under which technical specifications (max EIRP and any other parameters) the Commission will issue a network license that will cover several terminals.

Response

The Regulation only proposes fees based on the band and number of terminals.

4.17 Comment

Regulation 17.c. "portable terminals for end-users and ESIM permanently operating in Nigeria must be type approved".

GSOA opined that the Commission will still require the issuance of type approval for local ESIMs however, this approval could include arrangements on mutual recognition of license.

Response

These comments are noted and it should also be noted that all devices and equipment must comply with the Type Approval Regulations issued by the Commission.

4.18 Comment

Regulation 19 permits the development of rules for Regulatory Sandbox. Such a regime should consider shorter licensing timeframes at reduced or no regulatory fees. The Commission should develop the application rules for a Regulatory Sandbox following a public consultation.

These comments are noted and will be taken into consideration by the Commission.

4.19 Comment

Definition of ESIM, GSOA propose the modification of the definitions as follows:

"ESIM-Land" [Earth station in Motion – Land] are Earth stations that communicate with Space Station(s) operating in the Fixed Satellite Service (FSS) and operate on land vehicles while in motion.

"ESIM-Aeronautical" [Earth station in Motion – Aeronautical] are Earth stations that communicate with Space Station(s) operating in the Fixed Satellite Service (FSS) and operate on board aircraft while in motion.

"ESIM-Maritime" [Earth station in Motion – Maritime] are Earth stations that communicate with Space Station(s) operating in the Fixed Satellite Service (FSS) and operate on board vessels while in motion.

"Ground Earth Station (GES)", the current definition limits its usage to feeder-links for the AMSS. They propose the definition to read "...to provide a feeder link for any satellite service".

Response

These comments are noted and will be taken into consideration by the Commission

5.0 MTN Nigeria Communications Plc.

5.1 Comment

Regulation 19 is on Sand Box Regulation. MTN opined that the Commission should proceed with the development of the regulatory sandbox rules that addresses the objective of the Draft Regulation and gaps in the industry. The regulatory sandbox should adopt simplified processes which include defined eligibility criteria, application and approval requirements, all available via an accessible portal that could be redirected from the Commissions website, etc. MTN also opined that the Commission should extend Regulatory Sandbox to other areas of the communication industry beyond satellite communications. MTN also added that the Commission should utilize USPF to provide grants for projects that show great promise when trialed in the regulatory box.

These comments are noted and will be taken into consideration by the Commission.

5.2 Comment

Definitions: MTN opined that the Commission should adopt international standards of definitions and standards across stakeholder industries such as NASRDA and the NCAA. This will ensure the Commission is in coordination with the international satellite communication industry and make the provisions of the draft regulation easier to understand for stakeholders.

Response

The Commission appreciates these comments and states that it uses ITU Regulations that are relevant to satellite communications.

6.0 ATC Nigeria Wireless Infrastructure Limited

6.1 Comment

E. VSAT Network. ATC opined that only VSAT network operators that will provide last-mile broadband communications services to subscribers should be required to obtain a Terminal license and not licensees of the Commission that require VSAT for providing backhaul for a line of sight in the rural areas.

Response

Any operator that will provide last-mile Satellite services either in rural or urban areas must obtain the VSAT Frequency License. Moreso, the scope of any operational license does not permit the use of Spectrum without the requisite Spectrum license.

6.2 Comment

Spectrum usage fee for earth station(s) registered in Nigeria. ATC opined that licensees of the Commission that require VSAT for providing backhaul for Rural Telephony should be exempted completely from licensing requirements to encourage the rollout of service/broadband in unserved and underserved areas. If the Commission is not amenable to this recommendation, then the fee should be pegged at N10,000.00 only.

Response

These comments are noted and will be taken into consideration by the Commission.

7.0 Starlinks

7.1 Comment

Processing Time. Starlinks requests additional clarity regarding the timeline for processing license applications. This will facilitate efficient network deployment.

Response

These comments are noted and will be taken into consideration by the Commission.

7.2 Comment

VSAT Network Terminal Restrictions. They opined that restrictions on the number of terminals that are licensed should be lifted to enable operators meet consumer demand and support emergency response and other critical services efficiently and rapidly.

Response

These comments are noted and operators are at liberty to request for more terminals.

7.3 Comment

Part 4 Miscellaneous. Regulation 16 Fees and Charges. (1) They opined that the Commission retains a flat fee structure regardless of the number of terminals in operation, as a fee structure based on the number of terminals imposes a high administrative burden on the regulator as well as the operator and constrains it from deploying adequate services to consumers as the operator must license and receive authorization.

- (2) Fee structures should be drafted with a cost recovery model to avoid undue high costs for operators.
- (3) Clarity on Gateway Earth Station licensing fees should be sought whether or not they follow the same fee structure as user terminals.

Response

- (1) Not accepted.
- (2) Noted. However, pre and post-assignment processes differ in time and resources.

(3) Noted. The cost of frequency is based on the economic value of the spectrum. The GES licensing fees remains the same per location and are separate from the proposed terminal fees.

8.0 **GSMA**

8.1 Comment

Regulation 13(1)- GSMA recommends that the Draft Regulations makes it mandatory for satellite operators to obtain the Commission's authorization prior to the commencement of any services, by amending Regulation 13(1) as follows; "A Space segment Satellite Operator shall, upon authorization by a foreign Administration, request the authorization of the Commission to provide services in Nigeria."

Response

These comments are noted and will be taken into consideration by the Commission

8.2 Comment

Regulation 19- GSMA recommends that the Commission provide additional context and clarity on how the Regulatory Sandbox will be provided, what the conditions, spectrum and geographic scope of such a test area will be, and how it will be managed to ensure that no interference will be endured by holders of existing licensed spectrum.

Response

These comments are noted and will be taken into consideration by the Commission.

9.0 Airtel Networks Limited

9.1 Comment

Fees and Charges. The proposed upwards review of the applicable charges and fees may discourage the extension of telecommunications services to underserved or unserved areas by Network Operators. Due to the prevailing economic headwinds occasioning increasing operating cost, Airtel recommends that the Commission retain all the fees at the subsisting rates, regardless of the number of terminals.

Response

These comments are not accepted by the Commission.

9.2 Comment

Application License Fee. To ensure uniformity across board, the application fee should be retained at N1,000.00 (One Thousand Naira) only which is the cost of the application form for other operating licenses being issued by the Commission.

Response

These comments are not accepted by the Commission.

9.3 Comment

Institution of License Agnostic Regime. The Commission should allow Network Operators to utilize their operating licence (VSAT Frequency Licence) to migrate from one Satellite Provider to another in the same band. The Network Operator could be required to notify the Commission whenever such migration occurs.

Response

These comments are not accepted by the Commission.

9.4 Comment

Licensing of Other Networks: a) Mobile Satellite Services (MSS) Network b) High Altitude Platform Systems (HAPS) Network. The Commission did mention that MSS Network Frequency Licence and High-altitude platform station (HAPS) Network Frequency Licence are required to enable the operation of services of the MSS Network and HAPS Network respectively. However, the applicable fees and charges for the MSS Network Frequency Licence and HAPS Network Frequency Licence were not indicated in the Draft Regulations.

Response

These comments are noted. However, the spectrum fees is \$2000 per band per annum and is applicable to MSS as well as HAPS networks.

10 REVIEW OF COMMENTS RECEIVED AT THE PUBLIC INQUIRY

1. NIGCOMSAT

1.1 Comment

Clarification was sought on item 13(a) regarding Landing Rights. Firstly, whether at the end of the Satellite term the Landing Rights will still persist under the new Regulation. Secondly, whether Regulation 2c VIASAT had already captured their Position seeking to draft a clause to consider "underserved and unserved".

Response

Time can be extended for landing rights after the expiration of the Satellite term. However, it was emphasized that Operators need to verify their license with the Commission. Other comments are duly noted and will be considered.

2. ONE WEB

2.1 Comment

OneWeb also sought clarification as mentioned in 1.1 above pertaining to the Landing Rights.

Response

Kindly refer to 1.1 above.

3. AMAZON

Comment

Amazon sought to know how to access the draft Regulations, so they can forward comments on same.

Response

They were informed that the draft Regulations are on the Commission's website.

4. INTELSAT

Comment

Regulation 4- Where applicable it should be specific in the main text so as to get a better understanding.

Response

The comment is noted and will be considered in the further review of the Guidelines.

5. AVANTI

Comment

Avanti stated that due to the multiplicity of jurisdictions, they needed an understanding on those with which the Commission has a working arrangement.

Response

The comment is noted and will be considered in the further review of the Regulations.

11 REVIEW OF COMMENTS RECEIVED AFTER THE PUBLIC INQUIRY

1. NIGCOMSAT

1.1 Comment

Section 2 (c) does not provide fair playing ground between "satellite communication infrastructure" and "terrestrial transmission infrastructure backbone".

It should be reworded to read, "Encourage the use of satellite connectivity everywhere, particularly underserved and unserved areas that lack terrestrial transmission infrastructure backbone".

A fair playing ground between technologies will ensure that there is effective delivery of communication services to all consumers.

Response

The comment is noted and will be considered in the further review of the Regulations.

E. GENERAL COMMENTS

Mr. Ayiabari Kigbara (Manager, Public Affairs Department) thanked everyone for coming and noted that the session was very informative. He stated that all the issues raised will be considered and consolidated to benefit the Telecommunications Industry.

The Public Inquiry ended at 2:00pm.

Dated this 25th July, 2023

Professor Umar Garba Danbatta, FNSE, FRAES, FAEng, FNIEEE Executive Vice-Chairman/CEO NIGERIAN COMMUNICATIONS COMMISSION