

**INFORMATION
MEMORANDUM
AND APPLICATION
INSTRUCTIONS**

NIGERIAN COMMUNICATIONS COMMISSION

FIXED WIRELESS ACCESS SPECTRUM ALLOCATION

IN THE 3.5 GHz BAND



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1 EXECUTIVE SUMMARY

1.1 Introduction

This Memorandum provides information for interested parties wishing to apply for one or more regional licences authorising the use of specific frequencies within the radio spectrum to provide Fixed Wireless Access (FWA) Services in Nigeria.

In particular, this Memorandum:

- defines the rules and timetable for the award process;
- provides some background information on FWA services and the regulatory environment.

Recipients considering submitting applications for any licence should note the following key issues:

- Bidders are required to submit financial and technical plans for record purposes only. However a deposit will be required along with details of company ownership structures and confirmation of compliance with the rules of the Allocation Process. A Bank Guarantee **will not** be required. A Bidder must be a limited liability company incorporated in Nigeria and must not be related to any other Bidder applying for spectrum in the same Licensing Region. Subject to the requirement for a Bidder to be a Nigerian incorporated limited liability company, consortia may bid for a licence.
- Licences are available in each of the 37 Licensing Regions identified in Chapter 2 of this Memorandum. The precise number of licences in each Licensing Region will depend upon a tier rating given to that particular Licensing Region as outlined in Chapter Two. Three Licences will be available in Licensing Regions in Tiers 1 and 2; two Licences will be available in Licensing Regions in Tiers 3, 4 and 5. The Licences issued under Section 12 of NCC Act No. 75 of 1992 (the Act) and Section 6 of the Wireless Telegraphy Act of 1990 (WTA) shall permit the use of specified spectrum only in the Licensing Region specified in the Licence. There is no restriction on the number of licences which may be applied for across Licensing Regions, but only one licence may be applied for within each Licensing Region. Potential Licensees are subject to ownership restrictions as outlined in Chapter 4 of this Memorandum.
- Successful Bidders will be subject to a roll-out condition to ensure the timely provision of FWA services to the end user (see Chapter 2).

- On completion of the Award Process, the successful applicants will be required to effect full payment of the licence fee (s) within 14 business days from the date of licence award.
- All times given in the Memorandum are Nigerian local times.

Recipients should note that where it is announced that the Allocation Process is to proceed to an Auction Stage for licences in any of the Licensing Regions, the detailed rules relating to this Stage will be published following this announcement. Those parties who will subsequently take part in the Auction Stage will be given time to ask questions on the process and take part in a mock auction.

Further details are provided in the Memorandum.

Recipients of this Memorandum who intend to apply for Licences should note that the information contained in the Memorandum does not purport to be complete. The intention of the Memorandum is to highlight a number of key issues and provide instructions for the Allocation process. Recipients will need to continue their own detailed investigations of the relevant issues and where appropriate direct questions to the Commission.

1.2 FWA and Policy Background

1.2.1 FWA Overview

The Commission is committed to facilitating the development of FWA communications in Nigeria as part of its aim to facilitate rapid and significant progress in the development of the Nigerian telecommunications sector. The Commission recognises that effective telecommunications networks provide the platform upon which modern economies are built and is responding to calls from many potential users and operators who demonstrate that there is considerable demand for the development of FWA services. The Commission hosted an open forum in April 2001 to hear comments from interested parties and published a consultation document in July of that year. FWA services can provide a more cost effective access solution compared with the cost of a wireline network solution and in many cases wireless access technologies are capable of being deployed much more rapidly than wireline technology, thus offering the prospect of responding very rapidly to the demand for service.

1.2.2 FWA Technology

FWA, also known as Radio Fixed Access or Wireless in the Local Loop, is the use of radio technology to provide the so-called “last mile” connection between users and the core

telecommunications network. Broadly speaking there are two forms of FWA systems – narrowband and broadband– distinguished by the data rates they offer. It is expected that FWA will be capable of delivering the following services:

- Voice telephony;
- Data services (e.g. always on access to the Internet, data transfer) with achievable typical speeds of 64Kbps to 2Mbps.

The data rates ultimately offered to FWA customers will be the result of commercial decisions by operators and will be made on the basis of the bandwidth available relative to the requirements of their target model. The Commission requires, however, that operators deploy equipment that is capable of a minimum speed of 64Kbps.

1.3 The Licences

The Commission has decided to offer FWA licences on a regional basis. There are 37 Licensing Regions reflecting the 36 Nigerian States plus the Federal Capital Territory. Interested parties could achieve national coverage, if desired, by obtaining a licence in each of the Licensing Regions. The award process for these licences is detailed in Chapter 4 of this Memorandum. The licences authorise the use of specified radio spectrum for a term of five years from the date of award with renewal for a further five years. They contain conditions relating to service obligations and the technical operating parameters of the radio equipment. The Commission reserves the right to revoke a licence should any of these conditions be breached by a licence holder. A licence holder will have a right of appeal in the event of revocation.

1.4 FWA Services

These licences are being offered to those interested parties who intend to operate third party, commercial services. The licences do not permit the use of radio spectrum solely for the purposes of self provision of services. Consequently the licences include appropriate quality of service and roll out obligations which a licensee must achieve.

1.5 Spectrum Packages

The Commission is offering a total of 42MHz paired in the 3.5GHz band in certain regions, and 28MHz paired in the 3.5GHz band in all other regions. Each licence is endowed with a block of 2x14MHz spectrum. Each bidder is limited to applying for 1 (one) licence per Licensing Region. Details about the 37 Licensing Regions can be found in Section 2.3.1.

1.6 The Licence Allocation Process

The Commission has chosen a four-stage process as explained in Chapter 4. The process reflects the fact that interested parties may apply for licences in any or all Licensing Regions and that demand for such licences will vary throughout the Licensing Regions. In some areas it is possible that there will be little or no competition for licences. Following submission of applications (The Licence Application Stage) demand for licences across the regions will be assessed (The Demand Evaluation Stage). Where there is competition for licences in certain regions, those interested parties will take part in a competitive bid process (The Auction Stage). Once the Auction Stage is concluded, licences will be awarded accordingly across the regions (The Grant Stage). The benefit of this approach is that an auction is only implemented in those regions where this measure is required, resulting in a process which is quicker and more efficient.

1.7 Application Process

Interested parties are required to submit their applications by 5pm 21 March 2002. The application will consist of the following:

- A Bidder Information Form – comprising basic information about the corporate make-up of the Bidder;
- A Licence Application Form – on which the Bidder expresses in which of the Licensing Regions it requires a Licence;
- A Bidder Compliance Certificate – which states *inter alia* that the Bidder is eligible to take part in the process, has provided accurate information about itself and is able to meet the obligations of the FWA Licence should it achieve one.

1.8 Indicative Timetable

There is no pre-set timetable and the Commission reserves the right to determine the overall timetable of the Allocation. However, the table below sets out an indicative timetable of activities:

Indicative Timetable of Activities

DATE	ACTIVITY
21 March 2002	Licence Application Stage Submission of Applications "Application Date" (Corporate details and signed Bidder Compliance Certificate to be supplied).

21 March 2002	Submission of Deposits “Deposit Date” (deposit funds to have cleared into Nominated Account).
22 March 2002	Demand Evaluation Stage Notification of bidders who have qualified for the Application Evaluation Stage.
5 April 2002	Notification of bidders who will be awarded licences in Uncontested Regions.
5 April 2002	Notification of bidders who will participate in the Auction Stage for spectrum in Contested Regions.
24 April 2002	Auction stage Latest date for publication of Auction Rules and Notice of Start of Auction date.
6-7 May 2002	Bidder Training.
8 May 2002	Start of Auction.
June 2002	Grant stage Provisional Award Notice for all licences (on completion of the Auction). Notification of Award of FWA licences (within 2 weeks of the completion of the Auction Stage). Award of FWA licence and payment of Licence Fee within 14 days.

2 REGULATORY ISSUES

2.1 Regulatory Framework

The telecommunications industry in Nigeria consists of the following operatives:

- The Federal Government;
- Ministry of Communications;
- The Nigerian Communications Commission; and
- Telecommunications service providers.

The Federal Government is responsible for:

- Giving overall direction for telecommunications development;
- Ensuring that the Telecommunications Policy is consistent with other national policies; and
- Enacting necessary laws and taking other measures in support of the national telecommunications policy.

The Ministry of Communications is responsible for broad telecommunications policy. In particular, this includes:

- Proposing policy options and recommending appropriate legislation to Government;
- Monitoring the implementation of Government policy;
- Establishing policies for promoting universal access;
- Representing Government on international organisations.

The Nigerian Communications Commission:

The main objectives of the Commission include the following:

- Creating a regulatory environment to facilitate the supply of telecommunications services and facilities;
- To promote the development of other sectors of the Nigerian economy through commercial supply of modern telecommunications services;
- Facilitating the entry of private entrepreneurs into the telecommunications market; and
- Promoting fair competition and efficient market conduct among all players in the industry.

The functions of the Commission are as follows:

- Licensing of telecommunications operators;
- Assignment and registration of radio spectrum to duly licensed operators;
- Administration of national numbering plan;
- Promoting and enforcing a fair competitive environment for all operators;
- Defining standards for economic regulation of dominant operators, including tariff regulation;
- Establishing mechanisms for promoting universal access to telecommunications services in Nigeria;
- Establishing and enforcing technical operational standards and practices for all operators including the imposition of penalties for violations; and
- Protection of consumers from unfair practices of licensees.

The Commission is being strengthened to be able to perform its role in regional and international bodies.

The Commission also sets the guidelines for private sector participation in the telecommunications market and has the power to revoke licences (by following a set procedure) *inter alia*, if it perceives that operating companies are in breach of the conditions of their licences. Without prejudice to the above it can also impose other relevant sanctions if operators do not meet the conditions and obligations of their licence.

Telecommunications Service Providers:

These are enterprises which are duly licensed by the Commission to provide telecommunications services to the public or other operators as relevant. Winners of FWA licences will fall into this category.

2.2 Competition Issues

The Commission has authority to sanction a licensee who engages in anti-trust practices. These practices include:

- Unfair cross-subsidies – licensees must ensure that businesses under licence are not unfairly cross-subsidised from any other source, except where the licensee is under obligation to provide a service in an area of insufficient demand or prospective demand;
- Anti-competitive conduct, such as:
 - Collusive agreements to fix the price of any apparatus or service;
 - Boycotting the supply of goods or services to competitors;
 - Entering into exclusive arrangements which prevent competitors from having access to supplies or outlets; and

- Agreements between licensees to share the available market between them along geographic or customer lines.
- Undue preference for or undue discrimination against a person in respect of the provision of services under the licence;

2.3 Licences

For each Licensing Region, a FWA operator will require a single licence issued by the Commission under Section 12 of NCC Act No. 75 of 1992 (the Act) and Section 6 of the Wireless Telegraphy Act of 1990 (WTA). This Fixed Wireless Access Licence (FWA Licence) authorises an operator to use appropriate equipment in a designated part of the electromagnetic spectrum and permits it to operate a network for the provision of public telecommunications services. It therefore combines terms relating to both the use of spectrum and issues affecting the provision and quality of FWA services.

2.3.1 Licensing regions

In order to maximise the flexibility of operators and the roll-out of services across the country (most national licences result in concentration of operations within the larger cities and do not encourage even development throughout the country), the Commission has decided to award FWA Licences on a regional basis, with the regional boundaries corresponding to the State boundaries. Thus, there will be 37 Licensing Regions, corresponding to the 36 States and the Federal Capital Territory of Nigeria. For administrative purposes, each Licensing Region has been given an identification number, from #01 through to #37.

The Commission is keen to encourage the development of FWA services in all Licensing Regions. Reflecting this consideration, the Licensing Regions have been divided into five tiers for the purposes of defining roll-out obligations (see paragraph 2.3.4) and calculating reserve prices (see paragraph 4.3.2). These tiers have been drawn up based on a number of indicators, including local population size and proxies for income levels and business presence by state. The widest roll-out obligations and highest reserve prices are for the Licensing Region in Tier 1. The narrowest roll-out obligations and lowest reserve prices are for Licensing Regions in Tier 5.

In the Tier 1 and Tier 2 regions, there will be 3 (three) licences of 2x14MHz spectrum available. In the Tier 3, Tier 4 and Tier 5 regions, there will be 2 (two) licences of 2x14MHz spectrum available. This reflects the Commission's desire to ensure that there is a sustainable business case for successful applicants in each Licensing Region.

Table 1 provides a list of the 37 regions, their identification numbers, designated tiers and the number of 2x14MHz licences available.

Table 1: List of Licensing Regions, Tier designations and number of licences available

Identification number	Region	Tier	No of licences	Identification number	Region	Tier	No. of licences
01	Abia	3	2	20	Katsina	5	2
02	Adamawa	5	2	21	Kebbi	5	2
03	Akwa Ibom	4	2	22	Kogi	4	2
04	Anambra	3	2	23	Kwara	4	2
05	Bauchi	4	2	24	Lagos	1	3
06	Bayelsa	4	2	25	Nassarawa	5	2
07	Benue	4	2	26	Niger	4	2
08	Borno	4	2	27	Ogun	3	2
09	Cross River	4	2	28	Ondo	4	2
10	Delta	2	3	29	Osun	4	2
11	Ebonyi	5	2	30	Oyo	3	2
12	Edo	3	2	31	Plateau	4	2
13	Ekiti	5	2	32	Rivers	2	3
14	Enugu	4	2	33	Sokoto	5	2
15	Go mbe	5	2	34	Taraba	5	2
16	Imo	4	2	35	Yobe	5	2
17	Jigawa	5	2	36	Zamfara	5	2
18	Kaduna	2	3	37	FCT Abuja	2	3
19	Kano	2	3				

2.3.2 Scope and duration

A licence allows the licensee to provide public telecommunications services such as voice and data services (including wireless access to the Internet) in the designated Licensing Region. Whilst there is no restriction on the type of telecommunications services that can be offered, the spectrum can only be used for providing telecommunications services to a fixed location. The terminals are exclusively fixed and only end user stations may be installed.

The licence does not entitle the licensee to use the spectrum exclusively for the self-provision of services, such as point-to-point connections exclusively for the purpose of connecting the licensee's premises to a telecommunications or data network (e.g. the Internet). Thus, licensees must make available services to the general public on a commercial and non-discriminatory basis. In order to provide appropriate incentives for licensees to invest in infrastructure, the licence will be granted for an initial period of five years with an automatic renewal for another five years provided that the Licensee has paid the necessary

renewal/licence fees and has complied with all the terms, conditions and provisions of the Licence, the Act, WTA, as well as directives and orders of the Commission.

2.3.3 Number and size of Spectrum Packages

The Commission has decided to allocate a total of 42MHz paired in the 3.5GHz band in each of the Tier 1 and Tier 2 Licensing Regions, and a total of 28MHz paired in the 3.5GHz band in each of the Tier 3, Tier 4 and Tier 5 Licensing Regions. Each licence is endowed with a 2x14MHz block of spectrum, and each bidder is limited to applying for 1 licence per Licensing Region. The limit on the number of operators per region reflects the commission's desire to guarantee that licensees will have a viable business, and to provide maximum certainty to applicants in the hope that this will encourage interest and facilitate the funding of roll-out.

2.3.4 Roll-out obligation and use-it-or-lose-it provision

In order to ensure that spectrum associated with FWA Licences is being used for the provision of services for the benefit of the public and in the interests of the efficient utilisation of the spectrum, licences are awarded under a use-it-or-lose-it condition. If a licensee cannot demonstrate compliance with the roll-out obligation specified in the FWA Licence, the Commission may revoke the licence and reclaim the spectrum associated with this licence without compensation of the licensee.

The obligation is defined in terms of the licensee's capability to provide services to a given proportion of its addressable market, regardless of the actual number of customers this operator is serving. In order to reflect differences across regions, different percentage values apply.

More specifically, in order to comply with the roll-out obligation, a licensee has to demonstrate that within 2 years of award of the licence, it would be capable of providing services to:

- 10% of the residential population and the businesses within the Licensing Region for regions in Tier 1;
- 8% of the residential population and the businesses within the Licensing Region for regions in Tier 2;
- 7.5% of the residential population and the businesses within the Licensing Regions for regions in Tier 3;

- 6.5% of the residential population and the businesses within the Licensing Regions for regions in Tier 4;
- 5% of the residential population and the businesses within the Licensing Regions for regions in Tier 5.

The licensee is obliged, upon the Commission's request, to provide information that would allow the Commission to assess compliance with the roll-out obligation. Failure to provide such information may be regarded as a failure to meet the roll-out obligation and may result in the licence being revoked and the spectrum being reclaimed.

2.3.5 Licence fees

The fees payable for the licences will be determined in the Licence Application Process. More specifically:

- If licences are awarded immediately following the Licence Application and Demand Evaluation Stages without a further auction, the fee payable will be the Reserve Price for the spectrum block in the particular Licensing Region set by the Commission;
- If licences are awarded through an auction, the fees payable by the licensee will be determined through the Auction process .

Additionally, the licences require that an annual operating fee representing 2.5% of the Licensee's audited net revenue be paid within three months of the end of the second year of the Licence, and thereafter quarterly on the Licensee's assessed net revenue within 30 days of the end of such quarter to be adjusted immediately on receipt of the audited annual financial statements of the Licensee.

2.3.6 Summary of Licence terms

The Commission has been empowered under Section 12 of the Act to grant a licence in respect of any undertakings listed in the Second Schedule of the Act. One of the undertakings so listed is the provision of fixed services. An aspect of this undertaking is the provision of Fixed Wireless Access services.

To assist Bidders we have attached as Appendix 2 hereto a copy of the Fixed Wireless Access Licence to be awarded to winning bidders. Below is a summary of its main terms.

AMENDMENT

- (a) A term providing that the Commission may amend the Licence where objectively justifiable, after having consulted with the Licensee.

EXPIRATION AND RENEWAL

- (b) A term providing that the Licence shall commence on the date of its award and continue in force for five years, and be renewed for a further five years, unless earlier revoked by the Commission in accordance with the terms specified in paragraph (c) below, and that the renewal of the Licence shall be subject to the prescribed renewal/licence fees being paid at least six months before the expiry date of the Licence and the Licensee having complied with all the terms, conditions and provisions of the Licence, the Act, WTA, as well as directives and orders of the Commission;

REVOCACTION

- (c) A term providing that the Licence may be revoked *inter alia* any of the following circumstances:
- (i) if the Licensee agrees in writing with the Commission that the Licence be revoked;
 - (ii) if the Licensee ceases to carry on the business for which the Licence is issued;
 - (iii) if the Licensee goes into liquidation;
 - (iv) if the Licensee has made false statements, representations or warranties in applying for the Licence;
 - (v) if the Licensee fails to meet its roll out obligations

TRANSFER

- (d) A term providing that the Licence shall not be assigned except with the prior written approval of the Commission;

PAYMENT OF FEES

- (e) Terms providing that the Licensee shall pay to the Commission in full and without any deductions the Licence Fee;

REFUND OF FEES

- (f) Terms providing that, on termination or revocation of the Licence, there will be no refund of the Licence Fee, whether in full or in part, except at the absolute discretion of the Commission;

ACCESS FOR INSPECTION

- (g) A term providing that the licensee shall permit a person authorised by the Commission to have access to the Radio Equipment at any and all reasonable times or, when in the opinion of that person an urgent situation exists, at any time to ensure the Radio Equipment is being used in accordance with the terms of the Licence;

CLOSE DOWN

- (h) A term providing that a person authorised by the Commission may require the Radio Equipment, or any part thereof, to be modified or restricted in use, or temporarily or permanently closed down immediately if in the opinion of the person authorised by the Commission:
 - (i) A material breach of the Licence has occurred; and/or
 - (ii) The use of the Radio Equipment is, or may be, causing or contributing to undue interference to the use of other authorised Radio Equipment;

NATIONAL OR LOCAL EMERGENCIES

- (i) A term providing that the Commission may in the event of a national or local state of emergency being declared require the Radio Equipment to be modified or restricted in use, or temporarily or permanently closed down either immediately or on the expiry of such period as it may specify and that it shall exercise this power by a written Notice served on the licensee or by a General Notice applicable to holders of this class of Licence published in suitable media;

FREQUENCY ASSIGNMENTS

- (j) A term providing that the Licence only authorises the licensee in relation to Radio Equipment operating in the frequency ranges specified for that Licence;

TECHNICAL STANDARDS AND SPECIFICATIONS

- (k) A term providing that the Radio Equipment is required to comply with the requirements stipulated by the Commission and the Federal Government of Nigeria;

NETWORK ROLL OUT

- (l) A term providing that the Licensee shall implement a network roll out in accordance with a timetable set by the Commission;

APPROVAL OF TARIFFS

- (m) A term providing that tariffs must be in a form approved by the Commission who will provide written reasons in the event of non-approval;

FURNISHING INFORMATION TO THE COMMISSION

- (n) A term providing that the Licensee shall permit the Commission to inspect records, documents and accounts.

2.4 Infrastructure planning

Operators will be expected to comply with other regulations such as those concerning site clearance procedures, right of way and the import of necessary radio equipment. They will also be encouraged to enter into site sharing agreements.

The licensee will be allowed reasonable access to the National Carrier's trunk transmission network. Access to the long distance networks of the Second National Operator or any other long distance operator will have to be negotiated with the respective operators, and the terms and conditions upon which such access will be granted will have to be determined by mutual agreement.

2.5 NITEL and a Second National Operator

Although currently state-owned, NITEL is a limited liability company and operates financially independent of the Federal Government. The Bureau of Public Enterprises is currently in the process of privatising NITEL and it is expected that this process will be concluded in February 2002. The bid process has been completed and a preferred bidder has been selected. 10% of the agreed sale price has been paid in accordance with the payment schedule. The Commission has commenced the process of offering a Second National

Telecommunications Operator Licence and it is expected that the licensing process will be completed by the end of March 2002.

3 SPECTRUM ISSUES

3.1 Spectrum Availability

The use of the radio spectrum is planned both at International and National levels in order to co-ordinate the use of particular frequency bands for many different uses.

3.2 Frequency bands for Fixed Wireless Access (FWA) systems

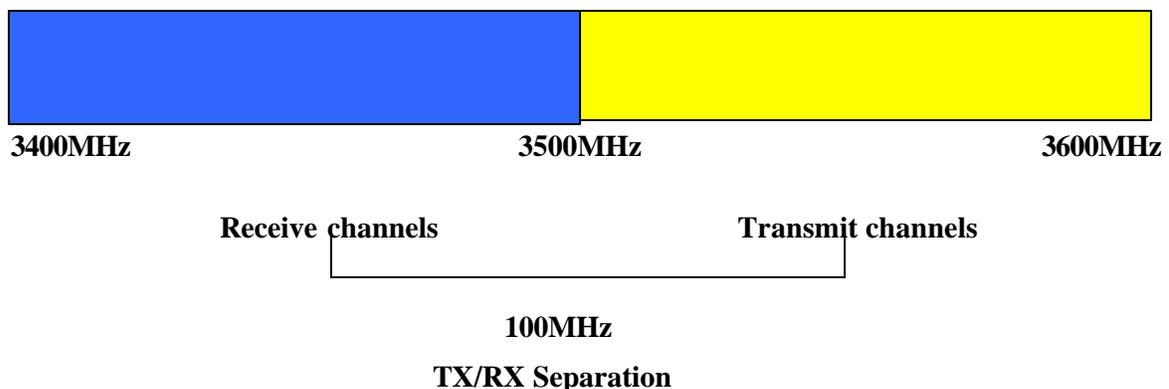
On a worldwide level, several frequency bands are used for FWA systems between 2 and 11 GHz, 26GHz, 28GHz, 32GHz and 40GHz. Generally speaking, the lower ranges tend to be used for voice and data systems, while the higher ranges are used for Broadband applications.

3.3 3.5 GHz frequency band

An ITU Recommendation (9/1005-E) produced by ITU-R Study Group 9 in May 1999 proposed frequency block arrangements for FWA systems in the range 3400MHz to 3800MHz. However, above 3600MHz, in many countries there is a requirement to co-ordinate services with both Fixed Services and Fixed Satellite Services.

In Europe, FWA systems are commonly operated within the range 3400MHz to 3600MHz. The channel separation suggested by both the ITU-R Recommendation and, in Europe, CEPT/ERC Recommendation (14-03E) gives options for either 50MHz or 100MHz duplex separation between the go/return channels. Of these, the 100MHz arrangement has emerged as the most common preference internationally and should therefore be the first choice since this gives the widest choice of equipment.

3.5GHz FWA Band



Within the above band the Commission is making 14MHz paired blocks available in each of the Licensing Regions.

3.4 Guard bands

The Commission has considered two alternative approaches for implementing guard bands separating the spectrum allocated to different licensees:

- setting aside spectrum for guard bands between spectrum associated with different licences, but giving licensees the right to use spectrum within these guard bands as agreed between licensees using adjacent parts of the frequency band (this system has been adopted, for example, in Hungary for FWA spectrum at 3.5GHz);
- awarding spectrum without the specification of guard bands and requiring licensees using adjacent parts of the frequency band to co-ordinate their spectrum use by agreeing between themselves how to avoid interference (this system has been adopted, for example, in the United Kingdom for BFWA spectrum at 28GHz).

The Commission is of the view that the second of these approaches provides more flexibility and should result in a more efficient use of spectrum, giving licensees using adjacent parts of the frequency band an incentive to implement mechanisms that minimise the need for guard bands. Therefore, the Commission will not specify guard bands but require operators to negotiate appropriate mechanisms to minimise or avoid interference as they see fit.

3.5 Inter-Operator Coordination

Licence holders assigned the same frequencies in neighbouring geographic regions will need to assess the level of interference being exported across their licence area boundary that will be tolerated by the neighbouring operator. The Commission expects to play only a minimum role in these co-ordination activities but recognises that guidelines will need to be in place to facilitate the activity. Licensed operators are likely to need to share a certain amount of operational information in order to make the best use of their assigned frequency block.

3.6 Types of FWA Service

These systems use technologies such as DS-CDMA. 3.5GHz networks could carry a range of services; voice telephony at 32 and 64kbps, 56kbps modem connectivity, 64kbps/128kbps leased lines and packet data to support basic e-mail and Internet access. These could be complementary to services coming at a later date (at 26GHz) for broadband access, which would allow higher data rates, always-on connection, multi-media applications. Licences are offered

on a technology-neutral basis such that operators may choose which services they want to offer, within the limitations specified in the licence.

3.7 Spectrum packaging

The spectrum endowment associated with each individual licence is 2x14 MHz (paired) spectrum.

In determining the parameters for how much spectrum should be allocated and thus how many licences should be available within each Licensing Region, the NCC took into account a number of factors:

- **Competition** There is a need to facilitate competition in the supply of FWA to end customers as a way of ensuring an optimum quality of service at a reasonable price;
- **Business opportunity** Sufficient spectrum must be made available to each licensee so that they can sustain a viable business in their regions. 2 x 14 MHz will give each licensee the capacity to do so, delivering marketable services to a large number of customers within the range of a base station;
- **Equipment availability** The equipment currently available is well suited to operate within 14 MHz channels, whatever technology is used;
- **Future expansion** The spectrum to be licensed will occupy 2x42MHz of the band in the Tier 1 and 2 regions, and 2x28MHz in the Tier 3, 4 and 5 regions. The remaining spectrum will be reserved, where available, for future use.

3.8 Cross Border Co-Ordination

Under the terms of the Licence the Commission has the capacity to vary the technical parameters of licences in line with co-ordination arrangements with neighbouring countries. This usually takes the form of a Memorandum of Understanding (MoU) with foreign administrations and places restrictions on the permissible field strength at and beyond the neighbouring administration's border due to transmissions from within the host country. There are expected to be reciprocal restrictions on operators in neighbouring countries. A requirement to comply with the specifications of any future MoUs is included in the licence.

Technical parameters may be varied also for purposes of coordinating with other users of spectrum, at the Commission's discretion.

3.9 Band Clearance

The Commission is undertaking an exercise to ensure that the spectrum being offered for auction is clear of any other users, either mobile or fixed, and it is anticipated that this process will be completed prior to the Application Date.

3.10 Existing Licensees within the 3.5GHz Band

The Commission has licensed a number of operators within the 3.5GHz Band. Details of these operators are included in Appendix 3 for information.

3.11 Future Spectrum Allocation For FWA

Spectrum is likely to be available in future in both the 10GHz and 26GHz ranges. The amounts of bandwidth available at these frequencies will be able to support services from higher data-rates up to broadband applications, typically around 2MBit/s and higher. However, the price of equipment, particularly customer premises equipment, is currently higher than that for 3.5GHz equipment. It is believed that an established network of FWA capabilities is necessary to first prime the uptake of technology across the states, before deployment of broadband networks will become a viable prospect.

4 ALLOCATION PROCESS

4.1 Introduction

The objective of the Commission is to secure for the long-term benefit of consumers and the national economy, the timely and economically advantageous development of FWA services in Nigeria. This requires a licence allocation process that ensures that the available spectrum is used efficiently and that the value generated for users is maximised.

For this reason, the Commission has decided, where necessary, to use an auction process for spectrum allocation. Auctions are a fast, fair and transparent way of allocating licences as witnessed in the recent digital mobile licensing process conducted in Nigeria. In general, auctions are used throughout the world as a tool for assigning spectrum in circumstances where the demand for licences to use particular frequencies exceeds the supply of spectrum in this frequency band.

However, where supply exceeds demand auctions do not provide any benefit over other mechanisms of allocating spectrum such as, for example, award of licences on a first come first served basis, or through an administrative process.

Given the number of licences available and telecommunications market conditions in Nigeria, it is possible that supply will exceed demand for spectrum in some parts of the country. In order to limit the use of an auction mechanism to those regions where it is required to reduce demand to the level of supply, the Commission has decided to adopt a multi-stage allocation process that will establish in which parts of the country excess demand exists, and use an auction only for allocating spectrum in those regions.

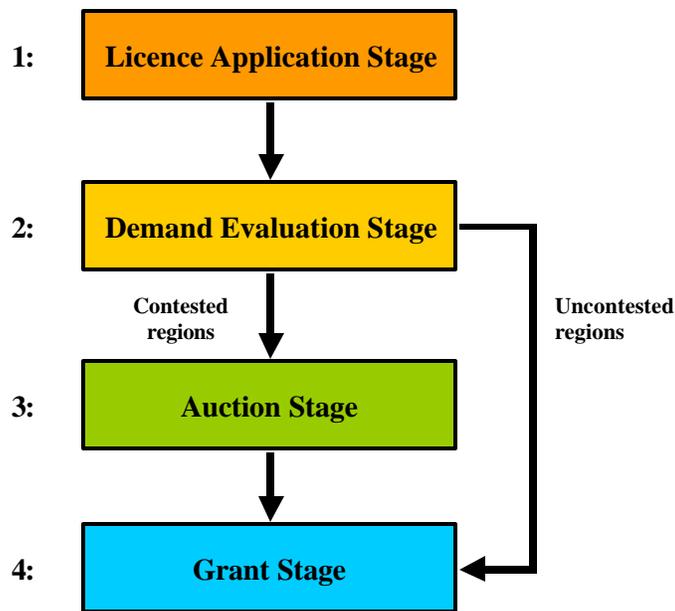
More specifically, the Commission has adopted a four-stage process, as illustrated in Figure 1:

- At the ***Licence Application Stage***, bidders submit their licence demands at the reserve prices. These submissions are binding in the sense that where demand is less than or equal to supply (***Uncontested Regions***), bidders will obtain licences; they will then have to pay the associated Licence Fee and meet the roll-out requirements associated with the particular licence.
- At the ***Demand Evaluation Stage***, the licence applications are considered and the relevant level of demand for licences in each of the Licensing Regions is determined. Regions where there is potential excess demand – i.e. the combined demand of all applicants for licences in this region at the reserve price exceeds the amount of licences available – will be defined as ***Contested Regions***.

- For the allocation of licences in Contested Regions, an ***Auction Stage*** will follow. Only bidders who have made a submission at the Licence Application Stage will be able to participate in the auction. The auction rules will be finalised following the initial evaluation of demand, and will take into account any information that may be obtained from the Licence Application Stage.
- Finally, a ***Grant Stage*** will complete the licensing process.

Each of these four stages is explained in further detail below.

Figure 1: The four-stage licence allocation process for FWA spectrum



4.2 Activity Rules

This section describes the rules that govern the activities of Bidders during the four-stage allocation process. The term “Bidder” refers to the body corporate that submits an application and to which a FWA Licence would be awarded following success in the Demand Evaluation and/or Auction Stages.

The Activity Rules will take effect from the date of submission of Applications. In the event of a breach of the Activity Rules by a Bidder or its Insiders, the Commission may, at its sole discretion, exclude that Bidder from the Allocation Process. If a Bidder is excluded from the

Allocation Process for a breach of the Activity Rules, the Commission may also declare some or all of that Bidder's Deposit forfeit.

4.2.1 Bidder relationships

A Bidder Relationship is where a Bidder or any person or entity that owns, directly or indirectly, an ownership stake of more than 30% of such Bidder ("Attributable Interest") has, directly or indirectly, an ownership stake of more than 30% in another Bidder or any person or entity that has an Attributable Interest in another Bidder.

A Bidder cannot have a "Bidder Relationship" with another Bidder that has submitted an application for spectrum *in the same region*.

A Bidder may have a "Bidder Relationship" with another Bidder that has submitted an application for spectrum in *different* regions. However, any such relationship must be notified to the Commission in the appropriate sections of the Bidder Information Form.

4.2.2 Confidential Information

Certain unpublished information relating to an application/bid is defined as Confidential Information. Confidential Information means any unpublished information (i.e. not publicly available), which, if known to other Bidders, would affect the price that the other Bidders would be willing to pay for a FWA Licence in the allocation process. Such information would include (but not necessarily be limited to) the Bidder's business case, the Bidder's auction strategy and the highest price it is willing to bid for a FWA Licence. Any party to whom Confidential Information in relation to a Bidder is disclosed is deemed an "Insider" in relation to that Bidder. Bidders and Insiders must not convey Confidential Information to any other Bidder or Insiders.

4.2.3 Anti-competitive Behaviour

Bidders must not enter into any arrangements with suppliers of equipment or software that would restrict the supplier's ability to supply such equipment or software to other Bidders for the purposes of planning, building or operating a network to be operated under a FWA Licence. Bidders are also not permitted to agree with suppliers of equipment or software any form of restriction as to the prices charged or other terms and conditions that such suppliers may agree with any other Bidder.

4.2.4 Advisers to the Nigerian Communications Commission

Bidders are not permitted to receive advice on matters related to the Application process and Auction from any person who has been retained as an adviser to the Commission (or a sub-contractor to such adviser) in relation to this allocation process. Advisers to the Commission in this regard are:

- Radio Spectrum International Consulting Ltd
- DotEcon Ltd

However, providers of finance to a Bidder may receive advice from an adviser to the Commission, provided that the finance provider is not itself a member of the Bidder.

4.3 Stage 1: Licence Application Stage

The purpose of the Licence Application stage is to determine the level of demand for licences for FWA services at 3.5GHz in each of the Licensing Regions, and to obtain general information about Bidders that demonstrates that their applications are viable. Bidders are invited to submit applications for licences in the 3.5GHz band for any or all of the 37 Licensing Regions.

4.3.1 Form of responses and procedures for submission

On submission of Applications, Bidders should provide all of the following (contained in Appendix 1):

- **Licence Application Form**
- **Bidder Information Form** (and any required supporting documents);
- **Bidder Compliance Certificate.**

The Bidder Information Form requires the Bidder to provide certain basic information about itself. It contains detailed instructions to Bidders as to how information should be presented. It also makes clear which pages of the form will be published to other Bidders as part of the qualification process.

The Bidder Compliance Certificate requires the Bidder to certify, amongst other things, that:

- i) it is legally capable of both bidding for and satisfying its obligations under a FWA Licence;
- ii) it will comply with the provisions of the Memorandum;
- iii) the information provided in its Application is true, accurate and complete; and
- iv) it is not the subject of criminal or civil proceedings that could be expected adversely to affect their business or the Bidder's ability to take part in the allocation exercise.

The Bidder Compliance Certificate must be signed by two directors, or a director and the company secretary, of the Bidder (defined as "Authorised Officers").

4.3.2 Reserve Prices

In the Licence Applications stage, a fixed **Reserve Price** has been set per 2x14MHz licence in each Licensing Region. This Reserve Price is made up of:

- a licence fee component, which is intended to cover the cost of administering the allocation exercise (75% of the reserve price), and
- a spectrum fee component (25% of the reserve price).

The purpose of the reserve price is mainly to recover the costs of the allocation process. The Commission does not want to discourage applicants by setting high fees. Whilst the licence fee component remains unchanged, the spectrum fee component may increase where, as a result of proceeding to an Auction Stage the price per spectrum block eventually paid exceeds the Reserve Price.

Reflecting differences in the size, income levels and business presence across Nigerian states, the 37 Licensing Regions have been split into five tiers for the purposes of calculating the reserve price:

- For regions in Tier 1, where there are 3 (three) licences available, the reserve price is set at N28,000,000 per licence;
- For regions in Tier 2, where there are 3 (three) licences available, the reserve price is set at N16,800,000 per licence;
- For regions in Tier 3, where there are 2 (two) licences available, the reserve price is set at N14,000,000 per licence;
- For regions in Tier 4, where there are 2 (two) licences available, the reserve price is set at N12,000,000 per licence;
- For regions in Tier 5, where there are 2 (two) licences available, the reserve price is set at N8,000,000 per licence.

A list of the 37 Licensing Regions and their tier designations can be found in Table 1, Chapter 2.

The sum of the Reserve Prices of all licences (across all regions) for which a bidder applies is the **Total Aggregate Cost**.

4.4 The Deposit

On submission of Applications and as a condition of qualification, Bidders will be required to provide a deposit. This deposit is calculated as a proportion - fixed at 20% - of the Total Aggregate Cost of the spectrum applied for. The method for calculating the deposit is described in the following section.

In the event that the Bidder is successful in the Allocation Process, the Deposit will be offset against payment for the FWA Licence. The Deposit will be returned to applicants who are unsuccessful in obtaining a licence.

Bidders should note that the Deposit will be deemed to have been submitted only when funds have cleared (i.e. have been received) in an account to be managed by a Nigerian Bank. The deadline for these funds is 3.00pm on the Application Date.

Bank details and Instructions for the payment of the Deposit, interest to be paid on Deposits, and the refund of Deposits will be posted on the Commission website in due course.

4.5 Licence Application Form

In order to apply for spectrum in any of the 37 Licensing Regions, a Bidder must complete a **Licence Application Form**. The following information is provided on the Licence Application Form:

- (a) The identification number for each of the 37 Licensing Regions.
- (b) The names of the 37 Licensing Regions.
- (c) For each Licensing Region, the 'Tier' (determining the reserve price and roll-out obligations) in which it has been placed.
- (d) The reserve price per licence for each region.

Each Bidder is required to supply the following information in the appropriate boxes on the form:

- (e) An 'X' to indicate the Licensing Regions where the Bidder requires a licence. Please note that a bidder can apply for at most 1 licence in each region. If the Bidder does not desire a licence in a particular region, the relevant space should be left blank.
- (f) The **Total Cost** for each Licensing Region where the Bidder has applied for a spectrum block is the same as the reserve price per block for that region.

Applicants should copy the reserve prices from column (d) into the relevant boxes in column (f).

Example: Reserve Prices and Total Cost

Bidder X applies for two licences, one in #24 Lagos state and one in #32 Rivers:

- Lagos is in Tier 1, where the Reserve Price is N28,000,000 per licence. Therefore the Total Cost for Lagos is N28,000,000.

- Rivers is in Tier 2, where the Reserve Price is N16,800,000 per licence. Hence the Total Cost for Rivers is N16,800,000.

- (g) The **Bids** section of the application form consists of five columns, marked Bid A, Bid B, Bid C, Bid D and Bid E respectively. A **Bid** at the Licence Application Stage consists of an application for spectrum in one region or a combination of applications for spectrum in different regions. Using the columns, bidders may make between one and five separate bids. The purpose of allowing multiple bids is to enable Bidders to indicate combinations of regions that they consider to be substitutes at the reserve price levels.

Bidders must also designate individual Licensing Regions as ‘critical’ or ‘non-critical’ in a particular bid:

- A region is ‘critical’ if failure to win a spectrum block in that region would cause the Bidder to no longer require spectrum in other regions in the same bid.
- A region is ‘non-critical’ if failure to win a spectrum block in that region would not affect the Bidder’s requirement for spectrum in other regions in the same bid.

In each column (corresponding to a bid), a Bidder must use ‘C’ to denote an application for a Licensing Region that is critical to that particular bid; and use ‘N’ to denote a region that is non-critical. In the event that any regions that are marked with a C proceed to the Auction Stage and the Bidder fails to win this spectrum, it will be given the option to withdraw from spectrum in any Uncontested Regions awarded as part of the same bid (see 4.9 below for further explanation).

During the Demand Evaluation Stage, the Commission may accept any one of a Bidder’s bids and exclude all other bids by the same Bidder, where this would contribute to a combination of applications across all Bidders that ‘clears the market’ (i.e. a combination such that at least one bid from each bidder is satisfied

and the bids in their combination do not result in excess demand for spectrum in any Licensing Region). Therefore, Bidders are **strongly advised** not to make bids that they consider to be markedly inferior to others. In particular, Bidders that have a strong preference for spectrum in a specific set of Licensing Regions (and would not be satisfied with being awarded an alternative set of licences at the reserve prices) are advised only to bid for the preferred set of regions.

- (h) The **Total Aggregate Cost** is calculated by adding up all the Total Costs for the Licensing Regions where the bidder has applied for spectrum [i.e. the sum of the entries in column (f)].
- (i) The **Deposit** is calculated as a percentage of the Total Aggregate Cost. On submission of Applications and as a condition of qualification, Bidders will be required to provide this deposit.

Example: Calculating a Bidder's deposit

Bidder Y applies for three spectrum blocks, one each in #24 Lagos state, #27 Ogun state and #32 Rivers state. Lagos is in Tier 1, Ogun is in Tier 3 and Rivers is in Tier 2. The Total Cost is:

Lagos:	N28,000,000
Ogun:	N14,000,000
Rivers:	N16,800,000

Thus, the Total Aggregate Cost is N58,800,000, and the Deposit that has to be paid by the bidder is

$$20\% \times 58,800,000 = \text{N}11,760,000$$

IMPORTANT:

- Applicants may only apply for **one licence per region**.
- An application by a Bidder for spectrum in a set of Licensing Regions represents a binding commitment to buy that licence at the Reserve Price, in the event that the Commission offers it to them during the Allocation Process.

4.6 Examples of how to complete the Licence Application Form

Example 1

Bidder R would like to offer an FWA service in South -west Nigeria, covering Lagos, Ogun, Ondo, Osun and Oyo states. Bidder R believes that its business is only viable if it is successful in securing spectrum in both Lagos and Ogun; spectrum in the other three regions is desirable but not essential. This bidder is not interested in spectrum in any other parts of Nigeria.

Figure 2 below illustrates how Bidder R should complete the Application Form: (please note that for illustrative purposes, some rows of the form concerning regions not relevant to this example have been omitted)

1. Bidder R is only interested in five specific states, so it should only make entries in the corresponding rows, i.e. #24 Lagos, #27 Ogun, #28 Ondo, #29 Osun and #30 Oyo.
2. In column (e), Bidder R should enter an **X** in the box corresponding to each of the five regions where it wishes to be awarded a licence.
3. In column (f), Bidder R should enter the Total Cost for each region, which is the same as the reserve price per licence for that region. This is N28,000,000 for Lagos, N14,000,000 each for Ogun and Oyo, and N12,000,000 each for Ondo and Osun.
4. In the Bids section (g), Bidder R should enter one bid, Bid A, as there is only one set of regional licences that it considers satisfactory. Lagos and Ogun should be marked with a **C**, so as to indicate that failure to win spectrum in these regions would result in Bidder R withdrawing its interest in acquiring spectrum in the other regions where it has placed bids. Ondo, Osun and Oyo should be marked with an **N** as they are not critical to the overall bid.
5. The Total Aggregate Cost (h) is the sum of all Bidder R's entries in the Total Cost column (f). This is N80,000,000 (i.e. N28,000,000 + N14,000,000 + N14,000,000 + N12,000,000 + N12,000,000).
6. The Deposit (i) that Bidder R must pay on the same day as submitting the Application Form is 20% of the Total Aggregate Cost (h). This is N16,000,000 (i.e. 20% x N80,000,000).

Figure 2: A completed Application Form for Bidder R in Example 1

(a) #	(b) Region	(c) Tier	(d) Reserve Price per licence [Nigerian Naira]	(e) Regions where the bidder wishes to apply for a licence [Mark relevant regions with an X]	(f) Total Cost [Reserve price (d) for regions where a licence is desired]	(g) Bids [use “C” to denote a region that is critical to a particular bid; use “N” to denote a region that is non-critical]				
						Bid A	Bid B	Bid C	Bid D	Bid E
01	Abia	3	N14,000,000							
24	Lagos	1	N28,000,000	X	N28,000,000	C				
25	Nassarawa	5	N8,000,000							
26	Niger	4	N12,000,000							
27	Ogun	3	N14,000,000	X	N14,000,000	C				
28	Ondo	4	N12,000,000	X	N12,000,000	N				
29	Osun	4	N12,000,000	X	N12,000,000	N				
30	Oyo	3	N14,000,000	X	N14,000,000	N				
31	Plateau	4	N3,000,000							
(h)	TOTAL AGGREGATE COST based on maximum requirements across all regions:				N80,000,000					
(i)	DEPOSIT = Total aggregate cost (h) x 20%:				N16,000,000					

Example 2

Bidder S has developed two business plans for developing FWA services, one in Central Nigeria (Kaduna, Plateau and Abuja) and one in South-west Nigeria (Lagos, Ogun and Osun). It places roughly equal value on both plans but lacks sufficient resources to develop both. The Central Nigeria plan is dependent on securing spectrum in Abuja and Kaduna, while the South-west Nigeria plan is dependent on securing spectrum in Lagos only.

Figure 3 below illustrates how Bidder S should complete the Application Form:

1. Bidder S is interested in acquiring spectrum in six states, so it should only make entries in the corresponding rows, i.e. #18 Kaduna, #24 Lagos, #27 Ogun, #29 Osun, #31 Plateau and #37 Abuja.
2. In column (e), Bidder S should mark with an **X** the boxes corresponding to the six regions where it is interested in acquiring a licence.
3. In column (f), Bidder S should enter the Total Cost for each region, which is the same as the reserve price. This is N28,000,000 for Lagos, N16,800,000 for Kaduna and Abuja, N14,000,000 for Ogun and N12,000,000 each for Osun and Plateau.
4. Bidder S has two distinct business plans that it considers to be substitutes. Therefore, in the Bids section (g), it should enter two bids:
 - Bid A for Kaduna, Plateau and Abuja. Kaduna and Abuja are critical to this bid, so they should be marked with a **C**; Plateau is non-critical, so it should be marked with an **N**.
 - Bid B for Lagos, Ogun and Osun. Lagos is critical to this bid, so it should be marked with a **C**. Ogun and Osun are non-critical, so they should be marked with an **N**.
5. The Total Aggregate Cost (h) is the sum of all Bidder S's entries in the Total Cost column (f). This is N99,600,000 (i.e. N28,000,000 + N16,800,000 + N16,800,000 + N14,000,000 + N12,000,000 + N12,000,000).
6. The Deposit (i) that Bidder S must pay on the same day as submitting the Application Form is 20% of the Total Aggregate Cost (h). This is N19,920,000 (i.e. 20% x N99,600,000)

Figure 3: A completed Application Form for Bidder S in Example 2

(a) #	(b) Region	(c) Tier	(d) Reserve Price per licence	(e) Regions where the bidder wishes to apply for a licence	(f) Total Cost	(g) Bids				
						Bid A	Bid B	Bid C	Bid D	Bid E
18	Kaduna	2	N16,800,000	X	N16,800,000	C				
24	Lagos	1	N28,000,000	X	N28,000,000		C			
27	Ogun	3	N14,000,000	X	N14,000,000		N			
28	Ondo	4	N12,000,000							
29	Osun	4	N12,000,000	X	N12,000,000		N			
30	Oyo	3	N14,000,000							
31	Plateau	4	N12,000,000	X	N12,000,000	N				
37	FCT Abuja	2	N16,800,000	X	N16,800,000	C				
(h)	TOTAL AGGREGATE COST based on maximum requirements across all regions:				N99,600,000					
(i)	DEPOSIT = Total aggregate cost (h) x 20%:				N19,920,000					

Example 3

Bidder T has developed two business plans for developing FWA services in Southern Nigeria, both based on Delta state:

- Plan 1: Delta, Anambra, Edo and Imo. Delta, Edo and Anambra are critical regions.
- Plan 2: Delta, Rivers, Imo and Abia. Delta and Rivers are critical regions.

Figure 4 below illustrates how Bidder T should complete the Application Form:

1. Bidder T is interested in acquiring spectrum in six states, so it should only make entries in the corresponding rows, i.e. #01 Abia, #04 Anambra, #10 Delta, #12 Edo, #16 Imo and #32 Rivers.
2. In column (e), Bidder T should mark with an **X** the boxes corresponding to the six states where it is interested in acquiring a licence.
3. In column (f), Bidder T should enter the Total Cost for each region, which is the same as the reserve price. This is N16,800,000 each for Delta and Rivers, N14,000,000 for Anambra, Edo and Abia, and N12,000,000 for Imo.
4. Bidder T has two distinct business plans that it considers to be substitutes. Therefore, in the Bids section (g), it should enter two bids:
 - Bid A for Anambra, Delta, Edo and Imo. Anambra, Edo and Delta are critical to this bid, so they should be marked with a **C**; Imo is non-critical, so it should be marked with an **N**
 - Bid B for Abia, Delta, Imo and Rivers. Delta and Rivers are critical to this bid, so they should be marked with a **C**; Abia and Imo are non-critical, so they should be marked with an **N**.
5. The Total Aggregate Cost (h) is the sum of all Bidder T's entries in the Total Cost column (f). This is N87,600,000 (i.e. N16,800,000 + N16,800,000 + N14,000,000 + N14,000,000 + N14,000,000 + N12,000,000).
6. The Deposit (i) that Bidder T must pay on the same day as submitting the Application Form is 20% of the Total Aggregate Cost (h). This is N17,520,000 (i.e. 20% x N87,600,000).

Figure 4: A completed Application Form for Bidder T in Example 3

(a) #	(b) Region	(c) Tier	(d) Reserve Price per licence	(d) Regions where the bidder wishes to apply for a licence	(e) Total Cost	(g) Bids				
						Bid A	Bid B	Bid C	Bid D	Bid E
01	Abia	3	N14,000,000	4	N14,000,000		N			
04	Anambra	3	N14,000,000	8	N14,000,000	C				
10	Delta	2	N16,800,000	8	N16,800,000	C	C			
11	Ebonyi	5	N8,000,000							
12	Edo	3	N14,000,000	8	N14,000,000	C				
16	Imo	4	N12,000,000	4	N12,000,000	N	N			
32	Rivers	2	N16,800,000	8	N16,800,000		C			
(h) TOTAL AGGREGATE COST based on maximum requirements across all regions:					N87,600,000					
(i) DEPOSIT = Total aggregate cost (h) x 20%:					N17,520,000					

4.7 Stage 2: Demand Evaluation Stage

The Demand Evaluation Stage begins on the date that Applications are required to be submitted (the “Application Date”). It will last approximately two weeks.

4.7.1 Qualification Tests

Following the submission of Applications, the Commission will check that all bidders have fulfilled the qualification criteria, completed their Application Forms correctly, supplied all the relevant documents and paid the required deposit. In order to qualify for the Demand Evaluation Stage, the Bidder must satisfy the following tests:

a) Application Requirements

The Bidder must comply with the requirements for provision of information, the required certification and payment of the Deposit as set out in this Information Memorandum. Failure to comply with these requirements or to make the payment at the time specified will result in the Bidder not qualifying for the Allocation Process.

b) Ownership restrictions

The Commission must be satisfied that the Bidder does not have a Bidder Relationship with any other Bidder that has applied for spectrum in the *same* Licensing Region.

In the event that two or more Bidders with a Bidder Relationship apply for spectrum in the Licence Application Stage, then they must:

- i) declare their relationship in the relevant section of the Bidder Information Form; and
- ii) certify in the Bidder Information Form that they have *not* applied for spectrum in the *same* Licensing Region as the related Bidder(s).

If two or more Bidders with a Relationship proceed to the Auction Stage of the allocation procedure, then they may be required to bid in the Auction as a single entity.

c) General power of exclusion

The Commission will retain a general power to exclude any Bidder if, in its opinion:

- i) the holding of an FWA Licence by that Bidder would be prejudicial to the interests of national security; or

- ii) any shareholder or Director of the Bidder is not a fit and proper person to have an interest in the Bidder. Account will be taken of responses to all the questions in the Application Form in assessing whether a Bidder is a fit and proper person.

During the Demand Evaluation Stage, the Commission may ask a Bidder to provide additional information or documentation relating to its Application. Any request must set a reasonable period for provision. Bidders must use their best endeavours to satisfy the request.

4.8 Demand Evaluation

If any Bidders fail to supply relevant documents or incorrectly complete their Application Forms, the Commission may, at its own discretion, give those Bidders extra time to supply such documents or correct their applications. Once the Commission has received and checked all the Application Forms, it will publish a list of all qualified bidders on its website.

The licence applications will be evaluated in the following way:

- i) The Commission will analyse the collated applications of all Bidders in order to establish whether there is a combination of bids across all Bidders that ‘clears the market’. Such a combination would require that at least one set of bids from each bidder is satisfied and that these bids in their combination do not result in excess demand for licences in any Licensing Region. If there is a combination of bids that clears the market, then no Auction Stage will be required and the Application Process shall move directly to the Grant Stage (see below).

The following table gives an example of a case where there is a combination of bids that clears the market (for reasons of simplicity, only five regions are shown, one in each tier, and we only consider the bids of three bidders). Bidder X submits only one bid, bidder Y submits three bids, and bidder Z submits two bids. This would require the Commission to look at $1 \times 3 \times 2 = 6$ possible combination of bids. The bottom half of the table provides the aggregate demand for licences in each of four regions under every possible combination. Situations of excess demand are shaded. Assuming that no excess demand exists in any of the other regions (not shown in the table), there is a combination of bids that can be accommodated given the amount of spectrum available, namely A,A,A. In this case, each of the bidders would receive licences in line with their respective bids (bid A for bidder X, bid A for bidder Y and bid A for bidder Z), and there would be no auction stage.

Region Tier		#1 <i>Tier 1</i>	#2 <i>Tier 2</i>	#3 <i>Tier 3</i>	#4 <i>Tier 4</i>	#5 <i>Tier 5</i>
No. of licences per region		3	3	2	2	2
Bidder X	Selected regions	X	X	X	X	X
	Bid A	C	C	C	C	C
Bidder Y	Selected regions	X	X	X	X	X
	Bid A	C	N		N	N
	Bid B	C		N	N	
	Bid C	C	N	N		
Bidder Z	Selected regions	X	X	X	X	
	Bid A	C	C	N		
	Bid B		C	N	N	N
Combination of bids		Total demand per region				
A,A,A		3	3	2	2	2
A,A,B		2	3	2	3	3
A,B,A		3	2	3	2	1
A,B,B		2	2	3	3	2
A,C,A		3	3	3	1	1
A,C,B		2	3	3	2	2

- ii) In the event that there is no combination of bids that clears the market, then the Commission will proceed to analyse the level of demand on a regional level. The Commission will do this by calculating the highest potential level of aggregate demand based on the bids submitted by Bidders:
- All regions where demand for licences is less than or equal to supply (i.e. Demand = Supply) will be designated as **Uncontested Regions**. These regions will not be included in the Auction Stage.
 - All regions where demand for licences is greater than supply (i.e. Demand > Supply) will be designated as **Contested Regions**. All spectrum in these regions will be included in the Auction Stage.

The following table, modifying the previous example, shows an example of the case where an auction stage is required. Because in this case bidder Z's first bid includes the requirement

for a licence in region #4, there is no combination of bids that would clear the market. Therefore, an auction stage becomes necessary. There is potential excess demand in regions 3, 4 and 5, and these regions would be defined as contested regions. Under no conceivable combination of bids would demand exceed supply in regions 1 and 2, and these would therefore be declared as uncontested regions. With the exception of Bidder X, Bidders would be required to take up the spectrum they had demanded for these regions at the reserve price. Bidder X would not need to take up spectrum in regions 1 or 2 should it fail to obtain spectrum in any of the other regions as all of these have been marked 'critical' to its bid.

Region Tier		#1	#2	#3	#4	#5
No. of licences per region		Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
		3	3	2	2	2
Bidder X	Selected regions	X	X	X	X	X
	Bid A	C	C	C	C	C
Bidder Y	Selected regions	X	X	X	X	X
	Bid A	C	N		N	N
	Bid B	C		N	N	
	Bid C	C	N	N		
Bidder Z	Selected regions	X	X	X	X	
	Bid A	C	C	N	N	
	Bid B		C	N	N	N
Combination of bids		Total demand per region				
A,A,A		3	3	2	3	2
A,A,B		2	3	2	3	3
A,B,A		3	2	3	3	1
A,B,B		2	2	3	3	2
A,C,A		3	3	3	2	1
A,C,B		2	3	3	2	2

- iii) Eligibility for participation in the Auction Stage will be based on the bids submitted. If a Bidder applied for spectrum in one or more Contested Regions in any of its bids, it will be eligible to take part in the Auction. However, Bidders in the Auction will only be permitted to bid in Licensing Regions for which they made applications at the Application Stage. Any Bidder that applied for spectrum in Uncontested Regions only will not take part in the Auction, and will instead be notified to await the Grant Stage, which will take place after the completion of the Auction.

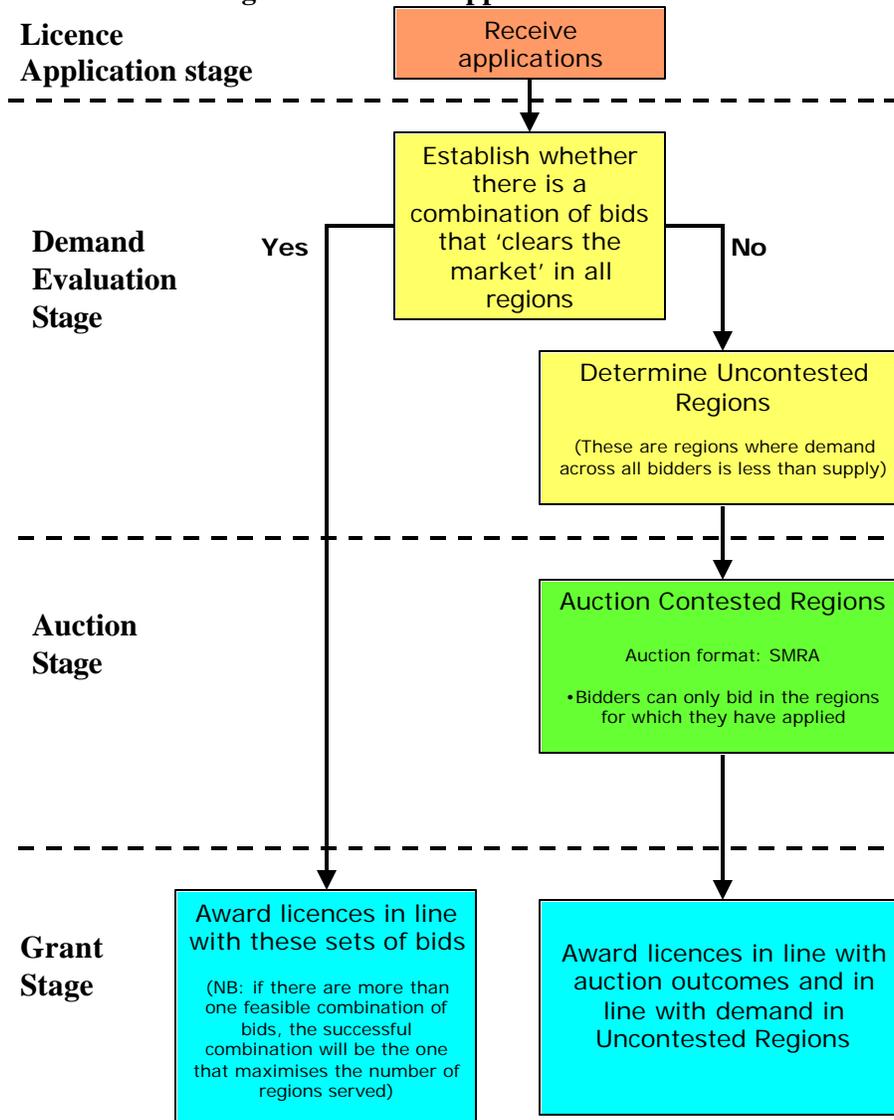
Error! Reference source not found. illustrates how the Demand Evaluation Process is integrated with the other stages of the allocation process.

4.8.1 Conclusion of Demand Evaluation Stage

Upon completion of the Demand Evaluation stage, the Commission will publish the following information on its website:

- i) If an Auction Stage *is not* required:
 - a. A list of all qualified Bidders.
 - b. Full details about each Bidder's Application Form, including details of all bids made by a Bidder.
 - c. A provisional list of the successful bids.
- ii) If an Auction Stage *is* required:
 - a. A list of all qualified Bidders, divided into two groups: bidders who will compete in the Auction; and those that will proceed directly to the Grant Stage.
 - b. For Bidders who will proceed direct to the Grant Stage, full details about their Application Forms, including details of all their bids.
 - c. For Bidders who will take part in the Auction, a list of all the regions where they placed bids (details about the number and structure of the bids that they submitted will not be released until after the Auction).
 - d. A list of all Contested Regions and a list of all Uncontested Regions

Figure 5: Licence Application Process



4.9 Stage 3: Auction Stage

As a result of the Licence Application and Demand Evaluation Stages, information that could affect the design of an efficient auction mechanism for the allocation of licences in Contested Regions may become available. The auction design will take into account this information in order to devise the simplest possible auction framework compatible with the objective of

achieving efficient outcomes. Therefore, we do not at this point in time propose a detailed auction design, but outline the principles that will inform the specific auction design:

- **Openness and transparency**

Subject to concerns about the potential for collusion between bidders, the auction should be open and transparent and provide bidders with information about each other. This reduces uncertainty.

- **Ability to respond to price differences**

With a regional licensing approach, it may well be the case that particular bidders consider individual regions as substitutes (i.e. they are willing to operate in any one of a number of regions, depending on the cost of acquiring a licence) or complements (i.e. they expect to enjoy economies of scale and scope as a result of serving multiple regions). In this case, it is important to afford bidders the opportunity to adapt their bidding in response to price differences (where regions are substitutes) or to re-adjust their bidding strategy in the light of where they are likely to obtain licences (where regions are complements).

In conclusion, the framework for the auction will most likely be a variant of a Simultaneous Multiple Round Auction (SMRA), including all Contested Regions in order to allow bidders to switch between regions.

Eligibility to bid in particular regions will be based on the initial Applications made by participating Bidders. Only those Bidders that applied for spectrum in a particular Licensing Region would be permitted to enter bids for spectrum in that region in the Auction.

During the Auction, as prices rise, Bidders will be permitted to withdraw from bidding on regions (provided that they do not have a standing high bid), even if this results in a final allocation that is different from their original bids.

Full auction rules will be published and distributed to eligible Bidders in due course prior to the start of the Auction. There will be an opportunity for Bidders to receive training and to ask questions with regard to the Auction Process.

4.10 Stage 4: Grant Stage

4.10.1 Announcement of Successful Bidders

The Commission will notify each Successful Bidder of the FWA Licence(s) that it has been provisionally awarded and the price at which the relevant FWA Licence(s) will be granted.

If no auction was required:

- Licences will be provisionally awarded to Bidders according to the feasible combination of bids determined in the Demand Evaluation Stage.
- If there is more than one feasible combination of bids, the successful combination will be the one that maximises the number of regions served. If this does not lead to a unique combination the next criterion would be to maximise the number of blocks allocated. If multiple combinations still remain, a lottery would decide. In the event that more than one bid submitted by a particular Bidder can be accommodated without in any way affecting the allocation of blocks to other Bidders, then the Commission may, at its discretion, allow the Bidder to select which bid it would prefer.

If an Auction has taken place:

- Bidders who bid only for spectrum in Uncontested Regions (and thus did not take part in the Auction) will be provisionally awarded the licences for which they applied. Where they had originally submitted more than one bid, they may at the Commission's discretion, be allowed to choose between those bids that could be accommodated without affecting the allocation of licences to other bidders;
- Licences relating to Contested Regions will be provisionally awarded according to the outcome of the auction;
- Bidders that have won licences in Contested Regions in the Auction will also be awarded licences in Uncontested Regions according to the original bids that they submitted;
- Where Bidders were unsuccessful in regions marked as 'critical' they will not have to take up spectrum in Uncontested Regions that were selected in the same bid. However, they will have to take up any spectrum in Uncontested Regions requested as part of bids where spectrum in all 'critical' regions is available, either because it was won by the bidder in the Auction or because the critical spectrum was in Uncontested Regions.

In addition to the notification of Bidders, the Commission will also publish on its website a list of all successful applicants, the spectrum that they have been awarded and details of all Bidder's original applications.

4.10.2 Frequency allocation

The Commission does not perceive there to be any significant differences in the value of different frequency blocks within the overall 3.5GHz frequency band that is being allocated. Therefore, it is not necessary to hold a further allocation process to determine the distribution

of specific frequencies between bidders. Bidders will have no right of appeal over the frequency blocks that they have been offered.

A decision on the exact frequencies that Bidders will be awarded will be announced at the same time for Contested and Uncontested Regions at the Grant Stage. Whenever possible, within regions, spectrum awards will consist of pairs of contiguous spectrum. Where Bidders have won spectrum in adjoining regions, the Commission will, where feasible, allocate spectrum in the same frequency blocks ; however, this cannot be guaranteed. Where there are a number of feasible ways of allocated frequencies, a random process will be used.

4.10.3 Payment methodology

Successful Bidders must pay the full balance on the Licence Fee by making an unconditional payment of the full amount (after deduction of the initial deposit) within 14 Business Days on grant of the licence. Failure to pay the full amount within 14 Business Days on grant of the FWA Licence may result in the forfeiture of the Bidder's Deposit and forfeiture of the Bidder's licence. Other penalties may apply as well. A payment will only be considered to have been made if funds are cleared in the account by the end of the business day.

4.10.4 Forfeiture

Any Bidder subject to forfeiture would not be allowed to enter any licensing process organised by the Commission for a minimum period of 5 years following the Application Date.

4.10.5 Unallocated spectrum

In the event that there is unallocated spectrum after the conclusion of both the Licence Allocation and Auction stages, future allocation of such spectrum will be at the discretion of the Commission subject to a licensing process that will be determined later.

4.11 The Timetable

There is no pre-set auction timetable and the Commission reserves the right to determine the overall timetable of the allocation process. The table below provides an indicative timetable.

Recipients wishing to submit Applications should have read and understood the provisions of the Activity Rules and the Licence Application requirements described in this Chapter.

It is the Commission's intention to proceed with the Allocation Process as described in this Chapter. Nevertheless, the Commission reserves the right not to proceed with this Allocation Process, including any or all of the stages, or to change the timing or any other aspect of this proposed process at any time without prior notice. One reason why the process might be

delayed would be if demand for spectrum is particularly strong, necessitating a more complex Auction process in order to ensure an efficient allocation outcome.

Indicative Timetable of Activities

DATE	ACTIVITY
21 March 2002	Licence Application Stage Submission of Applications "Application Date" (Corporate details and signed Bidder Compliance Certificate to be supplied).
21 March 2002	Submission of Deposits "Deposit Date" (deposit funds to have cleared into Nominated Account).
22 March 2002	Demand Evaluation Stage Notification of bidders who have qualified for the Application Evaluation Stage.
5 April 2002	Notification of bidders who will be awarded licences in Uncontested Regions.
5 April 2002	Notification of bidders who will participate in the Auction Stage for spectrum in Contested Regions.
24 April 2002	Auction stage Latest date for publication of Auction Rules and Notice of Start of Auction date.
6 – 7 May 2002	Bidder Training.
8 May 2002	Start of Auction.
June 2002	Grant stage Provisional Award Notice for all licences (on completion of the Auction). Notification of Award of FWA licences (within 2 weeks of the completion of the Auction Stage). Award of FWA licence and payment of Licence Fee within 14 days.

5 APPLICATION INSTRUCTIONS

5.1 Introduction

This Chapter provides instructions relating to the Bidder Information Form. The Licence Application Form and Bidder Compliance Form are discussed in Chapter 4. The following are required to constitute an Application for an FWA Licence:

- Bidder Information Form;
- Bidder Compliance Certificate;
- Licence Application Form;
- Deposit.

5.2 Instructions to Candidates on Bidder Information Form

Instructions on the information required in the Bidder Information Form and the form of its presentation are set out below.

Details of the Applicant

- Provide the name of the applicant (“the Bidder”);
- Provide contact address, telephone and fax number;
- Provide the names and job title of each of the Authorised Officers who have signed the Bidder Compliance Certificate. Also provide telephone, fax and e-mail (if available) contact details;
- Provide the legal form of the Bidder (e.g. company limited by shares);
- Provide the address of the Registered Office of the applicant (together with telephone and fax numbers), or note that it is the same as that disclosed at 1.2;
- Provide the name and job title of each of the Directors of the applicant;
- Provide details of the form of the Bidder’s share capital (class of shares, number and value of shares in each class of shares);

- Provide details of the ownership of each class of share disclosed;
- If the class of shares is listed on a Recognised Stock Exchange, provide details of all Participants in that class of shares. If the class of shares is not listed, provide a list of all the holders of that class of shares;
- If the Bidder has been formed by a consortium for the purposes of bidding in the Auction, provide details of each member of the consortium's financial investments in and commitments to the Bidder;
- Provide the name and role of all the Bidder's Insiders;

Additionally, Bidders are required to:

- Provide a copy of the Memorandum and Articles of Association of the Bidder;
- Provide a copy of the most recent Annual Report and Accounts of the Bidder;
- Provide a brief outline of the services they intend to provide, including Financial and Technical plans
- Provide a copy of the most recent Annual Report and Accounts of all ultimate parent companies.

6 CONTACTS AND FURTHER INFORMATION

6.1 CONTACTS FOR ENQUIRIES

Any further enquiries relating to the Memorandum and the FWA Licensing Process should be addressed in writing and sent by post or fax directly to the Commission. These should be addressed to:

Ernest C. A. Ndukwe
Executive Vice Chairman/Chief Executive
Nigerian Communications Commission
Benue Plaza
Plot 72, Ahmadu Bello Way
Central Business Way
Abuja
NIGERIA

Fax: +234 (0) 9-2344593

All correspondence should be marked, “Fixed Wireless Access Licensing Process”

6.2 FURTHER INFORMATION

Following the issue of the Memorandum, the Commission may publish further information and any questions received along with the answers provided. The Commission however, reserves the right not to publish a particular question and answer, in whole or in part. The identity of those posing questions will not be attributed to the published version without the questioner’s permission. The Commission will publish all additional information via its website (www.ncc.gov.ng). Further copies of the Memorandum may be downloaded from this site.

APPENDIX 1 FORMS

These following pages of this Appendix contain the forms as listed below:

- Bidder Information Form;
- Bidder Compliance Certificate;
- Licence Application Form.

1.1 Name of Bidder: _____

1.2 Contact Details:
Address

Telephone No. _____

Facsimile No. _____

1.3 Authorised Officers:

Name: _____

Title: _____

Telephone No. _____

Facsimile No. _____

E-mail. _____

Name: _____

Title: _____

Telephone No. _____

Facsimile No. _____

E-mail. _____

1.4 Legal form of Bidder: _____

Registered No. _____

1.5 Registered Office:
(if different from address above)

Telephone No. _____

Facsimile No. _____

FWA Licensing Process

Bidder Information Form Section 1

This page will not be disclosed to other Bidders

Directors of the Bidder

1.6 Name & Title

Name & Title

If additional space is required, insert duplicate sheets, numbered 2a, 2b etc.

This page will not be disclosed to other Bidders

1.7 Capital Structure of the Bidder

If additional space is required, insert duplicate sheets numbered 3a, 3b etc.

BIDDER COMPLIANCE CERTIFICATE

Part A

The Bidder certifies and undertakes that:

- (i) the Authorised Officers of the Bidder have read and understood the relevant legislation and the Information Memorandum.
- (ii) the Bidder is legally capable of taking part in the licensing process and has in place all necessary consents, permissions and board approvals for this purpose, save those which, by virtue of legal or regulatory process, are not obtainable until after the results of the process are known.
- (iii) the Bidder understands and will be legally capable of satisfying his obligations under the terms and conditions of the Licence granted pursuant to the licensing process and the terms of any Licence granted as a consequence of this process.
- (iv) the factual information provided in, or in support of, the Application is, to the best of the Bidder's knowledge and belief, true, accurate and complete in all material respects and that any opinion expressed is honestly held.
- (v) the Bidder will comply and ensure, to the best of his ability, that all of his Insiders will comply with the provisions of the Information Memorandum.
- (vi) the Bidder will not collude or otherwise manipulate or attempt to manipulate the outcome of this process with any other Bidder in respect of any other Bidder, and shall not from the time of submission of this Application disclose or obtain or seek to obtain any Confidential Information in relation to any other Bidder.
- (vii) the Bidder will not have in place any arrangements or understanding with any other Bidder to collude or otherwise manipulate or attempt to manipulate the outcome of the Auction.
- (viii) the Bidder will not have entered into, and will not seek to enter into, any exclusive agreements in contemplation of the Auction which might restrict the ability of any other Bidder to build and operate a network efficiently or which might restrict their means of determining a business case.

Part B

The Bidder certifies and undertakes that, save as disclosed in this certificate:

- (i) the Bidder in the Application is not the subject, and none of its Directors, officers or representatives are the subject, of criminal investigations or proceedings in Nigeria or abroad which might reasonably be expected to affect adversely their business or materially affect the Bidder's ability to take part in this licensing process or to satisfy the terms of any Licence awarded pursuant to the process, and that there is no reason to believe that such investigations or proceedings might occur during the process.

- (ii) the Bidder in the Application has not had any telecommunications or radiocommunications licence, consent, authority, permission, concession agreement, or other such document or allocation of radio spectrum **outside of Nigeria** removed or revoked owing to default or breach by the Bidder of the terms of that licence consent, authority, permission, concession agreement, or other such document or allocation of radio spectrum **outside of Nigeria**
- (iii) the Bidder identified in the Application is not a party to any civil litigation or proceedings which may be expected to have a material adverse impact on the Bidder's ability to take part in the licensing process or to satisfy the terms of any Licence awarded pursuant to the process.

Signed:-

[Authorised Officer]

[Authorised Officer]

LICENCE APPLICATION FORM

(a) #	(b) Region	(c) Tier	(d) Reserve Price per licence [Nigerian Naira]	(e) Regions where the bidder wishes to apply for a licence [Mark relevant regions with an X]	(f) Total Cost [Reserve price (d) for regions where a licence is desired]	(g) Bids				
						[use “C” to denote a region that is critical to a particular bid; use “N” to denote a region that is non-critical]				
						Bid A	Bid B	Bid C	Bid D	Bid E
01	Abia	3	N14,000,000							
02	Adamawa	5	N8,000,000							
03	Akwa Ibom	4	N12,000,000							
04	Anambra	3	N14,000,000							
05	Bauchi	4	N12,000,000							
06	Bayelsa	4	N12,000,000							
07	Benue	4	N12,000,000							
08	Borno	4	N12,000,000							
09	Cross River	4	N12,000,000							
10	Delta	2	N16,800,000							

11	Ebonyi	5	N8,000,000					
12	Edo	3	N14,000,000					
13	Ekiti	5	N8,000,000					
14	Enugu	4	N12,000,000					
15	Gombe	5	N8,000,000					
16	Imo	4	N12,000,000					
17	Jigawa	5	N8,000,000					
18	Kaduna	2	N16,800,000					
19	Kano	2	N16,800,000					
20	Katsina	5	N8,000,000					
21	Kebbi	5	N8,000,000					
22	Kogi	4	N12,000,000					
23	Kwara	4	N12,000,000					
24	Lagos	1	N28,000,000					
(a)	(b)	(c)	(d)	(e)	(f)	(g) Bids		
#	Region	Tier	Reserve Price per licence	Regions where the bidder	Total Cost [Reserve price	[use “C” to denote a region that is critical to a particular bid; use “N” to denote a region that is non-critical]		

			[Nigerian Naira]	wishes to apply for a licence [Mark relevant regions with an X]	(d) for regions where a licence is desired]	Bid A	Bid B	Bid C	Bid D	Bid E
25	Nassarawa	5	N8,000,000							
26	Niger	4	N12,000,000							
27	Ogun	3	N14,000,000							
28	Ondo	4	N12,000,000							
29	Osun	4	N12,000,000							
30	Oyo	3	N14,000,000							
31	Plateau	4	N12,000,000							
32	Rivers	2	N16,800,000							
33	Sokoto	5	N8,000,000							
34	Taraba	5	N8,000,000							
35	Yobe	5	N8,000,000							
36	Zamfara	5	N8,000,000							
37	FCT Abuja	2	N16,800,000							
(h)	TOTAL AGGREGATE COST based on maximum requirements across all regions:				N					

(i)	DEPOSIT = Total aggregate cost (h) x 20%:	N
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APPENDIX 2 LICENCE

This Appendix contains the FWA Licence.

APPENDIX 3 EXISTING LICENSEES

Fixed Wireless Operators currently in the 3.5 GHz band

Operator	Operating Region	Service (s) Provided	Operational Status
SITA	Lagos	Point-to-multipoint data services	Operational
21 st Century Technologies Ltd.	Lagos	Point-to-multipoint data services	Operational
Telnet Nigeria Ltd.	Lagos	Point-to-multipoint data services	Operational
Mobitel Ltd.	Delta	Wireless Local Loop (Voice)	Operational
Monarch Communications Ltd.	Lagos, South West and Central States	Wireless Local Loop	Proposed
Intercellular Nigeria Ltd.	Lagos, Abuja, Port Harcourt	Data Services	Proposed