



# GOVERNMENT GAZETTE

## OF THE

# REPUBLIC OF NAMIBIA

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No. 8251

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## General Notice

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### COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 738 2023

#### AMENDMENT TO THE REGULATIONS SETTING OUT FEES FOR SPECTRUM LICENCES, CERTIFICATES AND EXAMINATIONS: COMMUNICATIONS ACT, 2009

The Communications Regulatory Authority of Namibia, in terms of sections 38(5), 101 and 129 of the Communications Act, 2009 (Act No. 8 of 2009), and the Regulations regarding Rule-Making Procedures published in Government Gazette No. 4630, General Notice No. 334 dated 17 December 2010 publishes this amendment to the Regulations Setting Out Fees for Spectrum Licences, Certificates and Examinations.

In terms of sections 38(5), 101 and 129 of the Communications Act, 2009 (Act No. 8 of 2009) the Communications Regulatory Authority –

- (a) Amends the Regulations Setting Out Fees for Spectrum Licences, Certificates and Examinations published in Government Gazette No. 7359, General Notice No. 417 dated 14 October 2020.

**T. MUFETI**  
**CHAIRPERSON**  
**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

## SCHEDULE

### Amendment of Regulation 1 of the Regulations

1. Regulation 1 of the Regulations is amended –
  - (a) by the substitution for the definition of the phrase “Frequency Band Plan” of the following definition:

“Frequency Band Plan” means the Frequency Band Plan of Namibia published under Government Gazette No. 7617, General Notice No. 448 dated 31 August 2021.

### Amendment of Regulation 4 of the Regulations

2. Regulation 4(1) of the Regulations is amended –
  - (a) by the substitution for subsection 4(1) of the following subsection:

“(1) The fees set out for items 1, 2, 3, 4, 5, 6 and 9 of Table 1 below are payable annually in advance and in full, and are not refundable in full or in part, regardless of a spectrum licence or the authorisation to utilise spectrum in terms of such licence pertaining to such fees –

- (a) is issued during the course of a specific calendar year; or
- (b) expires, is forfeited, lapses or is discontinued for whatever reason:

Provided that licensees are bound to pay a minimum fee of N\$65.00 irrespective of the actual amount payable in terms of this subregulation.

- (b) The Regulations is amended by the substitution for Table 1 of the following Table.

**TABLE 1**  
**SPECTRUM LICENCES, CERTIFICATES AND EXAMINATIONS FEES**

| TYPE OF SPECTRUM LICENCE, CERTIFICATE OR EXAMINATION |   | FEES (N\$) |
|--|---|------------|
| <b>1. AMATEUR RADIO</b>                              |   |            |
| 1.1  | All classes of amateur radio spectrum licences            | 112.00     |
| 1.2  | Beacon  | 112.00     |
| 1.3  | Examination   | 112.00     |
| 1.4  | Guest or special event spectrum licence                   | 112.00     |
| 1.5  | Repeater station  | 112.00     |
| <b>2. AERONAUTICAL</b>                               |   |            |
| 2.1  | Aircraft station  | 222.00     |
| 2.2  | Glider / microlight                                       | 112.00     |
| 2.3  | Ground station  | 133.00     |
| 2.4  | Navigation aids / beacons                                 | 112.00     |
| 2.5  | Operator certificate radiotelephony (including duplicate) | 112.00     |
| <b>3. MARITIME</b>                                   |   |            |
| 3.1  | Beacon  | 112.00     |
| 3.2  | Operator certificate radiotelephony (including duplicate) | 112.00     |
| 3.3  | Ship Station  |            |

|     |  |   |           |
|-----|--|---|-----------|
|     | 3.3.1  | ITU assigned frequencies  | 334.00    |
|     | 3.3.2  | Any additional VHF or HF frequencies  | 1,112.00  |
| 3.4 | Coast Station  |   |           |
|     | 3.4.1  | ITU assigned frequencies  | 334.00    |
|     | 3.4.2  | Any additional VHF or HF frequencies  | 1,112.00  |
|     | 3.4.3  | Yacht and ski-boat stations   | 112.00    |
| 4.  | <b>LAND MOBILE SERVICE</b>                             |   |           |
| 4.1 | Private alarm station (see item 6.1 for alarm systems) |   | 371.00    |
| 4.2 | Base Mobile Station                                    |   |           |
|     | 4.2.1  | 27/29 MHz band (including CB band)  | 112.00    |
|     | 4.2.2  | VHF/UHF per simplex frequency in urban areas  | 222.00    |
|     | 4.2.3  | VHF/UHF per simplex frequency in non-urban areas                                      | 133.00    |
| 4.3 | Repeater (private and exclusive)                       |   |           |
|     | 4.3.1  | Duplex frequency urban areas  | 2,448.00  |
|     | 4.3.2  | Duplex frequency non-urban areas  | 890.00    |
|     | 4.3.3  | Simplex frequency (Parrot repeater)   | 401.00    |
|     | 4.3.4  | Any additional simplex frequency (per frequency)                                      | 222.00    |
| 4.4 | Experimental Station                                   |   |           |
|     | 4.4.1  | Experimental station valid for 6 months   | 222.00    |
| 4.6 | National Occupancy (Base Mobile Station)               |   |           |
|     | 4.6.1  | Not shared  | 1,780.00  |
|     | 4.6.2  | Shared  | 222.00    |
| 5.  | <b>HIGH FREQUENCY (HF) RADIO</b>                       |   |           |
| 5.1 | Fixed/mobile Station                                   |   | 334.00    |
| 5.2 | Fixed radio station above 400Watt                      |   | 2,225.00  |
| 6.  | <b>RADIO COMMUNICATIONS SYSTEMS</b>                    |   |           |
| 6.1 | Alarm  |   |           |
|     | 6.1.1  | Urban complexes (per control room and per frequency)                                  | 7,417.00  |
|     | 6.1.2  | All other areas (per control room and per frequency)                                  | 1,854.00  |
| 6.2 | Load management (including telemetry)                  |   | 7,417.00  |
| 6.3 | Paging (one-way)                                       |   |           |
|     | 6.3.1  | Commercial  |           |
|     |  | 6.3.1.1 Application   | 2,318.00  |
|     |  | 6.3.1.2 Per control room  | 11,125.00 |
|     | 6.3.2  | Private   |           |
|     |  | 6.3.2.1 Per control room and per frequency  | 222.00    |
| 6.4 | Radio trunking   |   |           |
|     | 6.4.1  | For a maximum of one control channel per base station                                 | 1,112.00  |
|     | 6.4.2  | For each additional double frequency or if only one channel is used at a base station | 5,562.00  |
| 6.5 | Repeater (Community/Shared)                            |   |           |
|     | 6.5.1  | Urban area per duplex frequency (commercial use)                                      | 5,117.00  |
|     | 6.5.2  | All other areas per duplex (commercial use)   | 2,670.00  |
|     | 6.5.3  | All other areas per duplex (farmers associations only)                                | 1,112.00  |
| 7.  | <b>SATELLITE SERVICES (LAND, MOBILE, MARITIME)</b>     |   |           |
| 7.1 | Inmarsat   |   |           |
|     | 7.1.1  | A terminal  | 3,337.00  |
|     | 7.1.2  | B,C and M terminal (64 kbit/s)  | 1,336.00  |
|     | 7.1.3  | D terminal (data only) RB GAN   | 557.00    |

|                                 |  |   |                                     |
|---------------------------------|--|---|-------------------------------------|
| 7.2                             | Uplink Broadcasting Signal Distribution Fixed Satellite Earth Station        |   | 39,606.00                           |
| 7.3                             | Mobile or fixed satellite news gathering station (per month or part thereof) |   | 3,961.00                            |
| <b>8. BROADCASTING SERVICES</b> |  |   |                                     |
| 8.1                             | Analogue FM Radio Broadcasting Transmitter                                   |   |                                     |
|                                 | 8.1.1  | 0.000 up to 100.999 Watt (ERP)  | 792.00                              |
|                                 | 8.1.2  | 101.000 up to 999.999 Watt (ERP)  | 1,585.00                            |
|                                 | 8.1.3  | 1000 Watt (ERP) and above   | 2,376.00                            |
| 8.2                             | Digital Terrestrial Television Broadcasting Transmitter                      |   |                                     |
|                                 | 8.2.1  | 0.000 up to 100.999 Watt (ERP)  | 8,635.00                            |
|                                 | 8.2.2  | 101.000 up to 999.999 Watt (ERP)  | 10,615.00                           |
|                                 | 8.2.3  | 1000 Watt (ERP) and above   | 13,228.00                           |
| 8.3                             | DAB Digital Radio Broadcasting Transmitter                                   |   | <i>(12 channels per frequency)</i>  |
|                                 | 8.3.1  | Regional  | 10,738.00 per transmitter           |
|                                 | 8.3.2  | National Single Frequency Network   | 10,738.00 per transmitter           |
| 8.4                             | DRM30 Digital Radio Broadcasting Transmitter                                 |   | <i>(4 channels per frequency)</i>   |
|                                 | 8.4.1  | 0.000 up to 1000 kW (ERP)   | 9,504.00.00 per transmitter         |
| 8.5                             | Other broadcasting services  |   |                                     |
|                                 | 8.5.1  | Special event broadcast spectrum licence maximum 10 Watt (fee per day up to a maximum capped fee equal to 30 days' daily fee. If period thereafter exceeds 30 days, the maximum fee shall then apply) | 792.00<br>Maximum fee:<br>23,764.00 |
|                                 | 8.5.2  | Outside broadcasting vehicle links (per event irrespective of duration)   | 5,281.00                            |
| <b>9. MISCELLANEOUS</b>         |  |   |                                     |
| 9.1                             | National Security Forces   |   | 87,133.00                           |
| 9.2                             | Namibia Defence Force  |   | 87,133.00                           |
| 9.3                             | Competency certificate (radios above 400 Watt)                               |   | 112.00                              |
| 9.4                             | Duplicate spectrum licences  |   | 112.00                              |
| 9.5                             | Amendment of spectrum licence  |   | 101.00                              |
| 9.6                             | Photocopies per A4 sheet   |   | 2.00                                |
| 9.10                            | Radio location   |   | 950.00                              |

If Point to Point or Point to Multipoint is less than N\$500.00, a fee of N\$500.00 will be charged inclusive of studio links for broadcasting.

### **Amendment of Regulation 5 of the Regulations**

3. Regulation 5(1) of the Regulations is amended –
  - (a) by the substitution for sub-regulation 5(1) (a) of the following sub-regulation:
    - “(1) For purposes of this regulation –
      - (a) “BV” is an acronym for base value measured in Namibian Dollars per MHz and is currently set at –

- (i) N\$1,100.00 for mobile services;
  - (ii) N\$98.00 for fixed services; and
  - (iii) N\$550.00 for fixed and mobile satellite services;
- (b) by the substitution for sub-regulation 5(2)(b) of the following sub-regulation:
- “(b) for fixed and mobile satellite services”  
 $annual\ spectrum\ fee = BWF \times FBF \times CF \times SHRF \times GEOF \times BV$
- (c) by the substitution for sub-regulation 4, Table 3 of the following Table:

**TABLE 3**  
**FREQUENCY BAND FACTOR (FBF):**  
**MOBILE SERVICES (Time Division Duplex and Frequency Division Duplex)**

| Frequency Range |          | FBF  |
|-----------------|----------|------|
| From            | To       |      |
| 450 MHz         | 470 MHz  | 0.5  |
| 694 MHz         | 790 MHz  | 1.5  |
| 790 MHz         | 862 MHz  | 1.5  |
| 862 MHz         | 960 MHz  | 1.5  |
| 1427 MHz        | 1675 MHz | 0.75 |
| 1710 MHz        | 1785 MHz | 0.75 |
| 1805 MHz        | 1880 MHz | 0.75 |
| 1920 MHz        | 1980 MHz | 0.75 |
| 2110 MHz        | 2170 MHz | 0.75 |
| 2300 MHz        | 2400 MHz | 1    |
| 2500 MHz        | 2690 MHz | 1    |
| 3300 MHz        | 3600 MHz | 2.25 |
| 24.25 GHz       | 43.5GHz  | 0.75 |

- (d) by the insertion of Table 7 for sub-regulation 4,

**TABLE 7**  
**FREQUENCY BAND FACTOR (FBF):**  
**FIXED AND MOBILE SATELLITE SERVICES**

| Frequency Range                               | FBF  |
|---|------|
| All fixed and mobile satellite spectrum bands | 0.25 |

#### **Deletion of regulation 6 of the Regulations**

4. The Regulations is amended by the deletion of Regulation 6.

#### **ANNEXURE A**

Comments received in terms of the notice of intention to make Regulations prescribing Fees for Spectrum Licences, Certificates and Examinations in Government Gazette No. 8180, General Notice No. 494, dated 21 August 2023.

| Operator Comments   | Authority Response  |
|---|---|
| <b>Paratus Telecommunications (Pty) Ltd</b>   |   |
| <ol style="list-style-type: none"> <li>1. Paratus Telecommunications welcomes the decrease in the base vale for fixed and mobile satellite services from N\$ 5,844 to N\$ 650.</li> <li>2. Paratus did the calculation based on the new formula and the updated figures and still comes to the conclusion that it is economically unfeasible to provide satellite services in remote areas in Namibia.</li> <li>3. Paratus would therefore be interested in seeing how the calculations are done by the Authority.</li> <li>4. There are a few drafting errors that need to addressed.</li> </ol>   | <p>The Authority changed the previous formula to the new formula to allow for geographic use of VSAT spectrum that was not previously possible. This would allow for lower spectrum fees since operators will be able to share spectrum and use spectrum only in rural areas.</p> <p>It became apparent that the bandwidth factor was erroneously omitted from the draft regulations. This factor will be <b>0.25</b>. Kindly see some calculation below, which demonstrate the reduction after the 0.25 factor has been considered.</p> <p>The Authority reviewed the regulations to correct all drafting errors.</p>  |
| <b>Mobile Telecommunications Limited</b>  |   |
| <ol style="list-style-type: none"> <li>1. MTC notes the amendments to the Spectrum Fees Regulations and welcomes the intention of the amendments</li> <li>2. The proposed amendment to the satellite formula results in an increase 40%.</li> <li>3. MTC refers to the amendment of the Frequency Band Factor (FBF) for spectrum in the 694 MHz to 960 MHz and 3300 MHz to 3600 MHz range from 0.5 to 2.25. This amendment results in an increase of triple the fees, despite the reduction of the base value from N\$ 1 607 to N\$ 1 210.</li> <li>4. MTC acknowledges that the Regulator has relied on the <i>Guidelines for the review of spectrum pricing methodologies and the preparation of spectrum fee schedules</i> as published by the International Telecommunications Union (ITU), these guidelines also require the consideration of issues with setting spectrum prices. The Regulator has an obligation to consider the <i>fiscal context; relevant principles and objectives for certain types of spectrum fees; funding regulator operations; demand and supply for spectrum; technological change; type and duration of the spectrum authorization and renewal options</i>.</li> <li>5. In considering these factors it is important to note that “<i>Spectrum fees set too high combined with income taxes, VAT, excise, regulatory fees, and other charges can negatively impact growth opportunities and attractiveness, sector valuations, investment levels, and compliance with authorisations.</i>”<sup>2</sup> The Regulator’s document primarily focuses on the Regulator’s administrative/ operational costs, no consideration is visible on the impact the amendment will have on the industry and the end consumer.</li> </ol> | <p>The bandwidth factor was erroneously omitted from the draft regulations. This factor will be <b>0.25</b>. Once the 0.25 factor has been considered, the formula will indeed result in a reduction of the satellite fees. As per calculation below:<br/> <b>MTC Satellite:</b> Formula for fixed and mobile satellite = BV x FBF x CF x SHRF x GEOF x BW<br/> <math>5 \times 0.25 \times 30 \times 1 \times 1 \times 550 = 20,625.00</math> NAD as opposed to the current <b>N\$ 29 220.00</b>.</p> <p>The fees for the 900MHz spectrum band will increase to ensure that the scarcity and demand for the band is reflected.</p> <p>This is required to ensure efficient use of the spectrum and avoid the hoarding of excessive spectrum resources which are limited. The 3300 MHz to 3600Mhz band will be offered on auction and there the FBF will only be utilised to determine the auction input value and the fees from year 2 onward.</p> <p>The Authority has done some extensive modelling to determine the lowest impact on telecommunications licensees in the mobile bands and other bands.</p> <p>The FBF was reduced to 1.5, as recommended by MTC, The base fees was further reduced to N\$ 1,100. This would result in a decrease of 18% in mobile spectrum fees and a total overall decrease of 17% in spectrum fees which would reduce the negative impact on MTC’s expenses and financials overall.</p> <p>The new spectrum bands also allow for more coverage and therefore customers and usage, as well as QoS, will increase. Higher amounts of spectrum and lower spectrum prices are strongly linked to higher population coverage, download speeds and adoption. The Authority is committed to offer more spectrum to licensees to enable increased coverage, speed and adoption but the prices have to reflect the value of the spectrum in question.</p> |

|  |   |
|--|---|
| <p>6. <i>Recent research has found that high spectrum prices can have a causal effect in <b>reducing the coverage and quality of mobile services</b> in both developing and developed markets. This is because spectrum fees raise the average cost of mobile services, reducing long-term returns on investment and weakening incentives to expand and upgrade mobile networks, negatively affecting coverage and network speeds for consumers.</i></p>       |   |
| <p>7. <i>Across countries in Africa, we find that Morocco and Tunisia have lower spectrum prices for coverage spectrum and relatively higher coverage, and have among the fastest networks on the continent. Meanwhile, Mauritania, Niger and Sao Tome and Principe have some of the highest spectrum prices, and as a result have lower coverage levels and slower download speeds</i></p>  | <p>Morocco and Tunisia cannot be compared to Namibia. Both countries have very mature telecommunications markets compared to Namibia. These two countries also do not have the same jurisdiction and frameworks as Namibia. Fees in Namibia are cost based and other services are not used to cross subsidise spectrum management. There are also no fees received or paid to treasury. This differs from countries in the region and therefore Namibia currently has the lowest fees in the SADC region for mobile services.</p> |
| <p>8. The formula based charging is a common industry practice, however, the countries utilizing the formula do not have a frequency band factor of higher than 1 to 1.5. Some countries have a congestion factor for each frequency band and a separate high demand measurement like Eswatini. Their value demand is depended on the amount of spectrum left in the band. The Regulator should advise how the 2.25 frequency band factor was determined .</p> | <p>The FBF reflects the characteristics of the Namibian market which also differs from other markets in terms of maturity, demography, typography, and jurisdiction. The 1.5 refers to the scarcity of the spectrum allocated and therefore, the Authority is of the opinion that a factor of 1.5 reflects the Namibian conditions and market dynamics. The requirement for continuous spectrum blocks from 80 to 100 MHz to support newer technologies affects spectrum scarcity.</p>  |
| <p>9. It is worth noting that the countries utilizing the formula base approach have a separate formula for mobile/fixed services and satellite services, countries like Eswatini, Nigeria, Botswana, Kenya but to name a few. This is due to the fact that these services differ and so do the management of them.</p>  | <p>The formulae utilised addresses the specific conditions in Namibia. Furthermore, the Authority is cognisance of the differences between mobile, fixed and satellite services as is evident in the separate frequency band factors applied to each of these services depending on the characteristics of such services and inclusion of a geographical factor to provide for lower formulae values in cases where rural populations are served.</p>   |

#### Calculations considering omitted factor of 0.25

Formula for fixed and mobile satellite =  $BV \times FBF \times CF \times SHRF \times GEOF \times BW$

1. National licence (1000 MHz bandwidth, low and high population density)  
 $1000 \times 0.25 \times 1 \times 1 \times 30 \times 550 = 4,125,000.00 \text{ NAD}$
2. National licence (1000 MHz bandwidth, low population density)  
 $1000 \times 0.25 \times 0.5 \times 1 \times 30 \times 550 = 2,062,500.00 \text{ NAD}$
3. Large geographical area (1000 MHz bandwidth, low and high population density)  
 $1000 \times 0.25 \times 1 \times 1 \times 3 \times 550 = 412,500.00 \text{ NAD}$

The calculations indicate that licensees can choose from different options most applicable to their different business cases. If a large geographical area is chosen and not national coverage the total spectrum fees for VSAT for 1000MHz bandwidth would only be N\$ 412,500 whereas the current fees for 54 MHz bandwidth N\$ 315, 576 for national coverage. This provides licensees with flexibility in how they apply for and utilise spectrum efficiently.

#### MTC Satellite:

1. Formula for fixed and mobile satellite =  $BV \times FBF \times CF \times SHRF \times GEOF \times BW$   
 $5 \times 0.25 \times 30 \times 1 \times 1 \times 550 = 20,625.00 \text{ NAD}$

## ANNEXURE B

### FINAL POSITION PAPER ON THE AMENDMENT TO THE REGULATIONS SETTING OUT FEES FOR SPECTRUM LICENCES, CERTIFICATES AND EXAMINATIONS

#### 1. INTRODUCTION

The Communications Regulatory Authority of Namibia (CRAN) was tasked in terms of section 2 (h) of the Communications Act, 2009 (Act No. 8 of 2009) to “stimulate the commercial development and use of the radio frequency spectrum in the best interests of Namibia”. Spectrum is a limited resource and therefore the main rationale for charging a price for spectrum, whether through upfront fees or annual charges (or both), is to promote its efficient use.

CRAN reviews spectrum fees every three to five years to ensure certainty and transparency of fees. The purpose of this paper is therefore to explain how CRAN derives spectrum fees and the principles used in doing so. The following principles are taken into consideration when spectrum fees are determined:

- Simplicity in charges to ensure that they are easy understandable, practical and minimise collection cost;
- consider the inflationary impact by means of the CPI since 2020;
- achieve the aims of cost recovery, cost-reflectiveness, efficiency, fairness and cost consciousness; and
- The demand for, and applicant profile involved in the different spectrum licences and spectrum use.

Spectrum management includes activities such as planning spectrum utilisation, allocating and assigning spectrum licences, coordinating shared spectrum use, harmonising regional and global spectrum standards and monitoring and controlling its actual use. High-level economic, technical and social objectives (mainly related to universal access/service) associated with spectrum use have evolved with the spectrum management reform trend prevalent in the past ten years with less focus on the traditional command and control approach and greater emphasis on market-based systems. High-level policy objectives require consistency in regulatory approaches to matters such as access, competition, non-discrimination, user protection, equity and fairness in the manner spectrum is allocated and assigned to users. Today, the largest competitive enabler in the market is spectrum.

The determination of spectrum prices and establishment of spectrum fees are closely linked to economic and market conditions, technical factors such as which technologies and services are being used or deployed, the efficiency and quality of those technologies and services, and how spectrum is assigned to spectrum users.

#### 2. COST RECOVERY

CRAN is mandated in terms of section 99 of the Act with the full scope of activities related to spectrum management. CRAN is self-funded and therefore needs to recover its operational and capital costs in respect of spectrum management based on the following aspects:

- Capital costs related to spectrum monitoring equipment.
- Operational and maintenance costs related to spectrum monitoring and enforcement of spectrum licence conditions.
- Administrative expenses such as staffing, training and development costs, costs in respect of adhering to regulatory processes and legislation, office rental, planning and implementation of spectrum allocations and assignments in adherence to ITU regulations, licensing and investigations.



CRAN started with a process to allocate the different costs to the various revenue streams utilised by CRAN to cover its costs. The previous review of spectrum fees was done in 2020.

### **3. INTERNATIONAL BEST PRACTICE AND TRENDS IN CHARGING SPECTRUM FEES**

Spectrum management is the combination of administrative and technical procedures necessary to ensure the efficient utilisation of the radio-frequency spectrum by all radio-communication services. The telecommunication sector, including radio-communications, is organised internationally within the framework of the International Telecommunication Union (ITU), which provides the basic framework for the global coordination and management of the radio-frequency spectrum.

National spectrum management principles should reflect economic and behavioural aspects as follows:

- Spectrum should be allocated to the highest value use or uses to ensure maximum benefits to society are realised.
- Mechanisms should be put in place to enable and encourage spectrum to move to its highest value use.
- Greater access to spectrum will be facilitated when the least cost and least restrictive approach is chosen in achieving spectrum management goals and objectives.
- To the extent possible, regulators and spectrum managers need to promote both regulatory certainty and flexibility in how spectrum is used.
- Balance should be achieved between the cost of interference and the benefits obtainable from greater spectrum utilisation.
- Fairness and objectivity require that fees are based on objective factors and all licence holders in each frequency band should be treated on an equitable basis. This would preclude, for example, different treatment of different users in each frequency band.
- Transparency requires that the basis on which fees are calculated should be made clear in a published document resulting from consultation with stakeholders and that all fees should be set based on a published schedule.
- Administrative costs will be lower if the fee schedule is simple to administer. The simplest fee schedule would be one involving a flat fee payment; however, this may not promote efficient spectrum use.
- Administrative simplicity needs to be balanced against the requirement to encourage efficiency of spectrum use if fees are set taking account of parameters such as bandwidth, frequency band or coverage.

Some additional principles such as the following could also be considered:

- Spectrum fees should be reviewed at suitable intervals to cater for changes in economic KPIs (key performance indicators) or advancement in technologies resulting in increased demand of a particular band.
- Mechanisms should be in place to avoid, detect and where necessary prevent spectrum hoarding, which will deter competition.
- A balance should be established between financial approach and other key facets such as regulatory (competition), and social (universal service).

CRAN uses a number of these to allocate spectrum including but not limited to the following:

- Administrative fees;
- Formulae based fees to promote the efficient use of spectrum; and
- Spectrum Auctions

#### 4. COST CALCULATIONS

CRAN determines the administrative fees for spectrum every 3 to 5 years as previously mentioned. In order to determine the fees, the cost of managing spectrum was taken into consideration for the three years 2021/2022 to 2023/2024. The total budgeted cost was estimated as follows:

| <b>Table 1: Projected Budget as per 2020 Spectrum Fee Determination</b> |                      |                      |                      |                      |
|---|----------------------|----------------------|----------------------|----------------------|
| <b>BUDGET</b>   | <b>2021/2022</b>     | <b>2022/2023</b>     | <b>2023/2024</b>     | <b>Total</b>         |
| Total Capex allocated to Spectrum Management                            | 9,850,000            | 10,000,000           | 10,150,000           | <b>30,000,000</b>    |
| Total Opex allocated to Spectrum Management                             | 18,681,362.08        | 20,701,895           | 23,014,011           | <b>62,397,268.08</b> |
| <b>Total Projected Cost for Spectrum</b>                                | <b>28,531,362.08</b> | <b>30,701,894.99</b> | <b>33,164,010.68</b> | <b>92,397,267.75</b> |
| <b>Total Budget for Spectrum as Approved</b>                            | <b>14,933,288</b>    | <b>27,426,875</b>    | <b>30,349,190</b>    | <b>72,709,353</b>    |
| OPEX  | 13,193,627           | 11,916,915           | 17,868,636           | <b>42,979,178</b>    |
| CAPEX   | 1,739,661            | 15,509,960           | 12,480,554           | <b>29,730,175</b>    |

The total budgeted cost for spectrum management over the three years was therefore N\$ **92,397,267.76**. According to the Audited Financial Statements and provisional financial statements of CRAN the following was budgeted and spent on the management of spectrum.

| <b>Table 2: Actual Expenditure and Revenue on Spectrum 2021/2022 to 2022/2023</b> |                   |                    |                   |
|---|-------------------|--------------------|-------------------|
|   | <b>2021/2022</b>  | <b>2022/2023</b>   | <b>Total</b>      |
| Total Costs   | <b>19,363,370</b> | <b>27,050,861</b>  | <b>46,414,231</b> |
| OPEX  | 13,374,999        | 15,594,629         | <b>28,969,628</b> |
| CAPEX   | 5,988,371         | 11,456,232         | <b>17,444,603</b> |
| Revenue Received  | <b>31,721,847</b> | <b>21,496,979</b>  | <b>53,218,826</b> |
| Revenue Budgetted   | <b>26,243,421</b> | <b>27,293,158</b>  | <b>53,536,579</b> |
| <b>Over/Under recovery on revenue</b>   | <b>5,478,426</b>  | <b>(5,796,179)</b> | <b>(317,753)</b>  |
| <b>Over/Under-recovery</b>  | <b>12,358,477</b> | <b>(5,553,882)</b> | <b>6,486,842</b>  |
| <b>AFS 2021/2022 and provisional AFS 2022/2023</b>                                |                   |                    |                   |

The over-recovery in 2021/2022 was due to the litigation on the regulatory levy resulting in CRAN not spending the full capital amount as was anticipated to ensure business continuity. The budget, as was approved, was therefore also substantially less. This means that the N\$ 6.5 million over-recoveries would have to be subtracted from the next periods' projected budget. At the same time the revenue received was projected N\$ 53,536,579 The actual revenue received was N\$ 53,218,826. There was thus an under-recovery of N\$ 317,753 bringing the total over-recovery to N\$ **6,486,842**.

| <b>Table 3: Budgeted Revenue Requirement 2023/2024 to 2026/2027</b> |                   |                   |                   |                    |
|---|-------------------|-------------------|-------------------|--------------------|
|   | <b>2023/2024</b>  | <b>2024/2025</b>  | <b>2025/2026</b>  | <b>Total</b>       |
| Total Costs   | <b>30,349,190</b> | <b>42,163,634</b> | <b>33,518,756</b> | <b>106,031,580</b> |
| OPEX  | 17,868,636        | 14,850,242        | 11,382,809        | <b>44,101,687</b>  |
| CAPEX   | 12,480,554        | 27,313,392        | 22,135,947        | <b>61,929,893</b>  |
| <b>Over/Under-recovery</b>  |                   |                   |                   | <b>(6,486,842)</b> |
| <b>Total Budgeted Revenue Requirement</b>                           |                   |                   |                   | <b>99,544,738</b>  |

The projected revenue requirement for the next three years is therefore N\$ 99,544,738. To determine the base values, the revenue received from spectrum auctions and the revenue that would be received

from fixed spectrum must be subtracted for the budgeting period in order to determine the base values. The total revenue requirement therefore is N\$ 81,462,509 for the three-year period up to 2025/2026.

This therefore results in the following:

1. Fixed spectrum fees will be increased by 2.5% inflationary increase;
2. Mobile spectrum (2G, 3G and IMT) will have a new base value of N\$ 1,100.00
3. Point-to-Point will have a new base value of N\$ 98.00
4. VSAT will have a new base value of N\$ 550.00. the formulae for VSAT will change to

Cost of spectrum management

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$BW \times FBF \times CF \times SRHF \times GEO \times TF$

This will reduce spectrum fees for VSAT significantly and allow VSAT to be utilised in rural areas for backhaul connectivity and therefore faster broadband services to unserved and under-served communities.

| <b>Table 4: Budget for 2023/2024 to 2026/2027</b> |                     |                     |                     |                    |
|---|---------------------|---------------------|---------------------|--------------------|
|   | <b>2023/2024</b>    | <b>2024/2025</b>    | <b>2025/2026</b>    | <b>Total</b>       |
| <b>Total Costs</b>                                | <b>30,349,190</b>   | <b>42,163,634</b>   | <b>33,518,756</b>   | <b>106,031,580</b> |
| OPEX  | 17,868,636          | 14,850,242          | 11,382,809          | <b>44,101,687</b>  |
| CAPEX   | 12,480,554          | 27,313,392          | 22,135,947          | <b>61,929,893</b>  |
| <i>Over/Under-recoveries</i>                      |                     |                     |                     | <b>(6,486,842)</b> |
| <i>Spectrum auction and fixed fees</i>            | <b>5,937,436.03</b> | <b>5,937,436.03</b> | <b>5,937,436.03</b> | <b>17,812,308</b>  |
|   |                     |                     |                     | <b>81,732,430</b>  |
| <b>Total projected Revenue</b>                    | 27,166,755          | 27,166,755          | 27,166,755          | 81,500,265         |
| <b>Total Budgeted Revenue Requirement</b>         |                     |                     |                     | <b>232,165</b>     |

Over the three-year period there will be an over-recovery of N\$ 232,165 which will then be subtracted from the revenue requirement during the next spectrum fee determination.

**Note:** The final position of this paper has duly considered all written input made to the notice of intention to amend the regulations as published in Government Gazette No. 8180, General Notice No. 494 dated 21 August 2023, and oral submissions made at the oral hearings held on 20 September 2023 and 3 October 2023, respectively.

## REFERENCES

[https://www.itu.int/en/ITU-D/Spectrum-Broadcasting/Documents/Publications/Guidelines\\_SpectrumFees\\_Final\\_E.pdf](https://www.itu.int/en/ITU-D/Spectrum-Broadcasting/Documents/Publications/Guidelines_SpectrumFees_Final_E.pdf)

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