

# GOVERNMENT GAZETTE

## OF THE

# REPUBLIC OF NAMIBIA

---

N\$11.60

WINDHOEK - 29 May 2015

No. 5745

---

## CONTENTS

*Page*

### GENERAL NOTICES

No. 190	Communications Regulatory Authority of Namibia: Notice in terms of Sections 38 and 101 of the Communications Act, 2009 (Act No. 8 of 2009) and Regulation 19(1) Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences .....	1
No. 191	Communications Regulatory Authority of Namibia: Notice in terms of the Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences .....	4
No. 192	Communications Regulatory Authority of Namibia: Notice of Reconsideration in terms of Section 31 of the Communications Act, 2009 (Act No. 8 of 2009) and Regulations 20 and 11 of the Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences .....	11
No. 193	Communications Regulatory Authority of Namibia: Notice of Determination of Lapsing of Telecommunications Service Licence in terms of Regulation 17 (4) of the Regulations Regarding Licence Conditions for Telecommunications Service Licences .....	12
No. 194	Communications Regulatory Authority of Namibia: Notice of Intention to Prescribe Benchmark Charges for Services in terms of Sections 51(2) and (3) of the Communications Act, 2009 (Act No. 8 of 2009)	13

---

## General Notices

---

### COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 190

2015

#### NOTICE IN TERMS OF SECTIONS 38 AND 101 OF THE COMMUNICATIONS ACT, 2009 (ACT NO. 8 OF 2009) AND REGULATION 19(1) REGARDING LICENSING PROCEDURES FOR TELECOMMUNICATIONS AND BROADCASTING SERVICE LICENCES AND SPECTRUM USE LICENCES

The Communications Regulatory Authority of Namibia, in terms of section 38 and 101 of the Communications Act, 2009 (Act No. 8 of 2009) read with regulation 19(1) of the “Regulations

Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences”, in Government Gazette No. 4785, Notice No. 272, dated 29 August 2011 (as amended), herewith gives notice that the application for a class comprehensive telecommunications service licence (ECNS & ECS) and spectrum use licence in the 2.4GHz spectrum band by Namibia Equity Telecommunications CC has been declined.

### **THE FOLLOWING ARE THE REASONS FOR THE DECISION:**

Namibia Equity Telecommunications CC (hereinafter referred to as “the Applicant”) submitted an application for a Class Comprehensive Telecommunications Service Licence (ECNS & ECS) and Spectrum Use Licence in the 2.4GHz spectrum band in accordance with sections 38 and 101 of the Communications Act (Act No 8 of 2009) (hereinafter referred to as the “Act”) and regulations 6 and 4 of the Regulations regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use licences as published in Government Gazette No. 4785, General Notice No. 272 of 29 August 2011 (as amended), for implementation of an electronic communications network and services for consideration by the Authority on 14 July 2014.

The Applicant submitted an application for a spectrum use licence in the 2.4 GHz spectrum band stating its intention to provide point-to-point, point-to-multipoint links for customers from a control station to hotspots, base stations and last mile connectivity.

As per the business case submitted, it is envisaged to commence network and service rollout with three computer workstations, five repeaters and antennas and wireless access points located in Windhoek to provide internet access. Technical equipment specifications were provided for equipment utilising the 2.4 GHz and 5GHz spectrum bands.

The Applicant intends to compete with fibre, DSL and satellite access providers in the industry. Administrative costs are to be reduced by conducting marketing, sales and service delivery via the Internet.

The application is compliant with Section 46 of the Act in that the Applicant is a Namibian Company, whose shares are 100% owned by a single Namibian citizen, Sir W H Kazondunge, ID. No. 69113000330.

Following due process in terms of Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences, the Authority published a notice in the Government Gazette No. 5534, General Notice No 291, dated the 15 August 2014, allowing fourteen (14) days for public comment. Only Telecom Namibia Limited submitted written comments within the stated timeframe as indicated below.

### **ANALYSIS BY THE AUTHORITY REGARDING APPLICANT'S APPLICATION**

When considering the award of a telecommunications service licence, the Authority is obliged to consider the following provisions of section 39(3) of the Communications Act -

*“(3) Without limiting the power to refuse a licence when the granting of a licence is not in the public interest, the Authority may refuse to issue a licence on one or more of the following grounds -*

- (a) *National defence or public security;*
- (b) *Technical constraints due to the limited availability of frequencies;*
- (c) *The lack of technical or financial capability to substantially meet the obligations arising out of the applicant's operating conditions or the fact that it does not meet prior specified selection criteria; or*

(d) *The fact that the applicant has been subject to penalties referred to in section 115(4)."*

### **Application for Class Comprehensive telecommunications service licence (ECS & ECNS)**

The Applicant intends to compete with eleven (11) telecommunications service licensees already providing data services for Internet access and provide services to students, professionals and SMEs and other businesses. It envisages being profitable within two years.

The Applicant is of the opinion that DSL, fibre and satellite constitutes the main access networks for broadband Internet services. In the opinion of the Authority this illustrates a misconception and lack of understanding of the ICT industry in Namibia by the Applicant in that at least two licensees have already launched LTE networks and that the majority of Namibians access the internet using their mobile phones.

The application indicates that the envisaged network will at startup consist of three computers workstation; wireless access points, five repeaters and five antennas located at one location in Windhoek. However, no proof of authorization received from the Windhoek Municipality to construct these repeater sites or infrastructure-sharing agreements were provided to facilitate the rollout of any services.

Further thereto the Applicant has not provided any information as to how it will connect to data gateways for access to the worldwide web to provide data services.

The five year financial forecast submitted at the request of the Authority indicates an initial capital expenditure of N\$ 4 million Namibian Dollars of which the largest portion is to be financed via a commercial loan. No proof of such a loan has been provided. Further investment in year 2 to 5, does not exceed N\$ 450,000 Namibian Dollars. It is further stated that these amounts will include all backhauling costs. However, as the Applicant states that no billing system has been identified for purchasing these costs are not reflected in the business case. The Authority is of the opinion that the Applicant fails to convince the Authority that it has the necessary financial resources to implement, maintain and expand its envisaged telecommunications network and services.

The Authority has already awarded a commercial broadcasting service licence to Equity Broadcasting CC owned by the same individual on 19 April 2013 with spectrum use licences for coverage in Otjiwarongo, Rössing Mountain (Swakopmund, Walvis Bay) and Katima Mulilo. To date Equity Broadcasting CC has only provided broadcasting services in Otjiwarongo. As a result thereof the spectrum use licences for Rössing Mountain and Katima Mulilo has lapsed in terms of regulation 6 of the Regulations Setting Out Conditions for Spectrum Use Licences as published in Government Gazette no. 5354, General Notice No. 469 dated 2 December 2013. A board paper in this regard recommending the Board to make a determination on the lapsing of the aforementioned spectrum use licences has been submitted to the Board of Directors for approval.

Taking into account that both companies are owned by the same individual, whom has already failed to meet its obligations in terms of its broadcasting service licence, the non-substantive business case and financial forecast provided with insufficient funding in respect of its application for a Class Comprehensive Telecommunications Service Licence (ECS & ECNS) the Authority is of the opinion that the applicant does not have the technical and financial capacity to substantially meet the operational requirement to provide an electronic communications network or services on an ongoing basis.

### **Application for spectrum use licence in the 2.4 GHz spectrum band**

As indicated above, the Applicant has also submitted an application for spectrum use licences in the 2.4 GHZ spectrum band and equipment specifications for telecommunications equipment to be deployed. This spectrum band is considered licence exempt in terms of the Regulations regarding

Licence Exempt Spectrum published in Government Gazette No. 4839, Notice No. 395 dated 25 November 2011 subject to adherence to technical conditions stated therein.

The Authority therefore considered the equipment specifications submitted to ensure compliance with the technical conditions set out in the aforementioned regulations as per the equipment specifications submitted. It was found the equipment specifications were submitted for both the 2.4 Ghz and 5.8 GHz band although the application stated that only the 2.4 GHz will be utilised.

In terms of section 38 of the Communications Act and the Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licenses and Spectrum Use Licenses, the Authority declines the application for a Class Comprehensive Telecommunications Service Licence (ECS & ECNS) submitted by Namibia Equity Telecommunications CC.

Therefore, in view of the fact that the application for Class Comprehensive Telecommunications Service Licence (ECS & ECNS) has been declined, the Authority has similarly resolved to decline the application for a spectrum use licence submitted by Namibia Equity Telecommunications CC.

Kindly take note that section 31 of the Communications Act provides that the Authority may, on its own motion or on a petition filed by an aggrieved party to any proceedings, reconsider any order or decision that it has made, within 90 days from the date of making that decision or issuing that order.

**L.N. JACOBS  
CHAIRPERSON OF THE BOARD OF DIRECTORS  
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

#### **COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

No. 191

2015

#### **NOTICE IN TERMS OF THE REGULATIONS REGARDING LICENSING PROCEDURES FOR TELECOMMUNICATIONS AND BROADCASTING SERVICE LICENCES AND SPECTRUM USE LICENCES**

The Communications Regulatory Authority of Namibia, in terms of section 101 of the Communications Act (Act 8 of 2009) read with regulations 6 and 11 of the "Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences", in Government Gazette No. 4785, Notice No. 272, dated 29 August 2011(as amended), herewith gives notice that the person referred to in the table below has been awarded a spectrum use licence by the Authority, which was awarded on 14 April 2015, notwithstanding date of publication of the notice in the *Gazette*.

#### **Spectrum Use Licence Application:**

Licensee's Name;	Licensee's citizenship or place of incorporation;	Percentage of Stock owned by Namibian Citizens or Namibian Companies controlled by Namibian Citizens;	List of radio frequencies or groups of radio frequencies awarded by the Authority;	Description of geographic coverage area(s);	License Fees Outstanding?	Service to be provided using frequency applied for;
Paratus Tele-communications (PTY) LTD	Namibian	100%	1746-1765 MHz / 1841-1860 MHz  1935-1965 MHz / 2125-2155 MHz	Within the Republic of Namibia or any part thereof	No	MOBILE

## REASONS FOR THE APPROVAL OF THE SPECTRUM USE LICENCE

Paratus Telecommunications (Pty) Ltd (hereinafter referred to as the “Applicant”) submitted three spectrum use licence applications to the Authority on 13 November 2013 to expand their current service portfolio by providing LTE (Long Term Evolution i.e. 4G) telecommunication services in Namibia for consideration in terms of section 101 of the Communications Act of 2009 (hereinafter referred to as “the Act”) and in accordance with the Regulations regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences as published in Government Gazette No. 4785, General Notice No. 272 dated 29 August 2011 (as amended).

Applicant was awarded a Class Comprehensive Telecommunications Service Licence (ECS and ECNS) on 15 March 2012 in terms of the Regulations regarding Transitioning Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licenses as published in Government Gazette No. 4737, General Notice No. 171 dated 17 June 2011 and section 38 of the Communications Act. The company is 100% Namibian owned.

The Applicant submitted an application for additional spectrum use licences as indicated below -

- (i) 4x 5MHz in the 800 MHz band
- (ii) 4x 5MHz in the 1800 MHz band
- (iii) 4x 5MHz in the 2100 MHz band

The Authority informed the Applicant on 12 February 2014 in writing that the 800 MHz spectrum band is not open for applications to utilise the spectrum for telecommunications services due to the fact the this band is still occupied by broadcasters until such time that the these transmitters have been migrated from analogue to digital terrestrial television services. Applicant was further informed that the Authority will only accept applications for spectrum use licences in the aforementioned band once licensing procedures, channeling plans and new licence fees have been published in the Government *Gazette*. Therefore, the Authority will only consider the application for spectrum use licences in the 1800 MHz and 2100 MHz spectrum bands.

The Authority further requested the Applicant to submit all equipment specifications in respect of the spectrum applied for on 13 May 2014.

The Applicant submitted technical equipment specifications at various time intervals for equipment from ZTE, Nokia Siemens Networks and NEC on 22 September 2014. In addition thereto, Applicant submitted a market research report conducted by Ericsson assessing the viability of a third operator in the market competing with Mobile Telecommunications Limited and Telecom Namibia Limited.

## PROCEDURAL COMPLIANCE

Following due process in terms of Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences, the Authority published a notice in the Government Gazette No. 5611, General Notice No 400, dated 10 November 2014 allowing fourteen (14) days for public comments. Comments were received from Mobile Telecommunications Limited and Telecom Namibia Limited, dated 27 November 2014 and 24 November 2014, respectively. The Authority forwarded these comments to the Applicant on 01 December 2014 and requested the Applicant to submit reply comments thereto. The Applicant submitted reply comments dated 11 December 2013.

All comments and reply comments are summarised as follows:

## ANALYSIS BY THE AUTHORITY REGARDING APPLICANT'S APPLICATION

The Applicant is a well-established telecommunications service licensee providing telecommunications services since 2005 and has continuously expanded its network infrastructure and service offerings in the market. The Applicant is ranked third in Namibia based on the Authority's market information on telecommunications service licensees providing both voice and data services.

The issuance of spectrum use licences by the Authority is guided by -

- i. Section 101 of the Communications Act, 2009;
- ii. International Telecommunications Union Regulations and subsequent international agreements signed by Namibia as a member state of the International Telecommunications Union (ITU); and
- iii. Regulations Setting Out the Frequency Band Plan for Namibia as published in Government Gazette No. 5214, General Notice No. 191 dated 31 May 2013.

The spectrum bands 1800 MHz and 2100 MHz as applied for by the Applicant are allocated for provisioning of IMT services in terms of the Regulations Setting Out the Frequency Band Plan for Namibia as published in Government Gazette No. 5214, Notice No. 191 dated 31 May 2013. LTE (4G) services are deemed to be an IMT technology by the ITU to provide data services and going forward also voice services. The application for spectrum in the 1800 MHz and 2100 MHz as submitted thus complies with the spectrum use requirements as set forth in the aforementioned regulations. The Applicant has paid all spectrum fees for the calendar year 2015 for existing spectrum use licences and there exist no prohibition for the Authority to consider these applications.

### Inability to consider spectrum in 800 MHz band

However, the Authority is not able to consider the application for spectrum in the 800 MHz spectrum band. The 800 MHz spectrum band will be made available for provisioning of IMT services after the migration from analogue to digital terrestrial television services by broadcasting licensees. The Authority is currently in the process of setting licensing procedures, channeling plans and spectrum fees for the 700 MHz and 800 MHz band and will invite applications once all relevant regulatory notices have been published in the Government Gazette. The Applicant has been duly informed. Further thereto the Authority cannot consider the assignment of 2x 30 MHz in the 2100 MHz spectrum band as requested in the Applicant's oral submission as no formal application for this amount of spectrum has been submitted to the Authority, as contemplated in section 101 of the Communications Act read with regulation 6 of the Regulations Regarding Licensing Procedures.

### Assignment in the 1800 MHz and 2100 MHz

All documentation as required on the spectrum use licence application form has been submitted to the Authority. In addition thereto the Applicant has submitted a market study and a 5-year business plan to illustrate its ability to implement the envisaged network on a national basis.

The 1800 MHz and 2100 MHZ spectrum bands are licensed on a national basis to allow licensees to provide services throughout Namibia. The Authority has already awarded spectrum use licences to MTC and Telecom Namibia Limited for the provisioning of GSM (2G), UMTS (3G) and LTE (4) services as shown in the table below.

**Table 1: Spectrum use licences awarded**

<b>Licensee Name</b>	<b>Spectrum Use Licences</b>	<b>IMT Services Offered</b>
<b>Telecom Namibia Limited</b>	2x 5 MHz 800 MHz band	CDMA*
	2x 10 MHz 900 MHz band	GSM (2G)
	2x 20 MHz 1800 MHz band	LTE (4G)
	2x 10 MHz 2100 MHz band	UMTS (3G)
	2x 48 MHz 2600 MHz band	Wimax*
Total	<b>2x 93 MHz</b>	
<b>MTC</b>	2x 13 MHz 900 MHz band	GSM (2G)
	2x 15 MHz 1800 MHz band	GSM (2G)
	2x 20 MHz 1800 MHz band	LTE (4G)
	2x 15 MHz 2100 MHz band	UMTS (3G)
Total	<b>2x 63 MHz</b>	

Note that both licensees indicated in table 1 are holders of service and technology neutral telecommunications service licences and may utilise the spectrum use licences awarded for GSM (2G) and UMTS (3G) for implementation of LTE (4G) services going forward. Telecom Namibia Limited also holds spectrum use licences for 2x 48 MHz in the 2600 MHz spectrum band for its Wimax services and 2x 5MHz in the 800 MHz band for CDMA. This spectrum band has also been identified as an IMT spectrum band by ITU thus providing Telecom Namibia Limited to replace its legacy WiMax and CDMA equipment with LTE equipment going forward. WiMax and CDMA are not considered as LTE technologies by ITU.

### **Technical Analysis of the application**

Technical requirements for the implementation of a LTE network as contained in ETSI TR 136 913 v10.0.0 (2011-04) and 3GPP TR 36.913 version 10.0.0 Release 10 prescribes a minimum spectrum allocation of 20 MHz uplink and 20 MHz downlink. The spectrum band plan of Namibia further requires that spectrum assignments for the 1800 MHz and 2100 MHZ spectrum bands are done in the following manner -

- i. Assignments of spectrum in the 1800 MHz band (1805 – 1880) must be paired with spectrum in the 1700 MHz band (1710-1785); and
- ii. Assignments of spectrum in the 2100 MHz band (2110-2170) must be paired with spectrum in the 1900 MHz band (1920-1980) to allow for the uplink and downlink of radio communications to provide LTE (4G) services.

The Authority has already awarded spectrum use licences to other licensees in the aforementioned spectrum bands and should therefore address any interference issues and future capacity needs of the industry. Thus the Authority can only consider the assignment of spectrum in the 1800 MHz band from 1840.2 – 1860 MHz paired with 1745.2 – 1765 MHz as spectrum use licences for adjacent spectrum has already been awarded to MTC. The existing licensees have implemented LTE (4G) services in the 1800 MHz band and UMTS (3G) services in the 2100 MHz spectrum band respectively.

No frequency separation is required to prevent interference between a LTE (4G) network and a UMTS (3G) network or a LTE (4G) network and another LTE (4G) network as set out in the EC decisions 2011/251/UE and 3009/766/EC respectively. Furthermore an assignment of a continuous block of spectrum will allow for more efficient use of spectrum by the licensee than assigning two different blocks of spectrum within the same band at different frequency spacing.

However, the Authority considers it prudent to leave limited spacing between spectrum assignments to different licensees to allow for assignment to new applicants or should an existing licensee apply

for additional spectrum to meet capacity requirements and customer demand with the exception of the 1800 MHz spectrum band in which MTC already holds spectrum use licences for 35 MHz which is deemed to be sufficient.

The Authority also considered spectrum requirements in two layers to address the possible coverage reach to be obtained from a specific geographical location, indoor penetration for in-building coverage and future spectrum aggregation to support higher data speeds. The Applicant confirmed that it intend to implement software Rel.10 for the provisioning of LTE (4G) services. This software release makes provision for future spectrum aggregation to increase data speed. All equipment to be implemented is technically capable to provide voice of the LTE (4G) network at a future date although the emphasis for initial network rollout will be focused on data services.

### **Industry analysis of the application**

Section 2 of the Act states as follows -

*“(2) The objects of this Act are -*

*(c) to promote the availability of a wide range of high quality, reliable and efficient telecommunications services to all users in the country;*

*(d) to promote technological innovation and the deployment of advanced facilities and services in order to respond to the diverse needs of commerce and industry and support the social and economic growth of Namibia;*

*(e) to encourage local participation in the communications sector in Namibia; and*

*(i)to encourage private investment in the telecommunications sector.”*

The application submitted by the Applicant constitutes an investment exceeding N\$100 million Namibian Dollars in broadband capable infrastructure to provide data services on a national basis.

It should be further noted that the Applicant is currently 100% privately owned by Namibian citizens and has an existing market share of 6% based on revenue figures as submitted to the Authority on 2 March 2015.

The Authority is of the opinion that a favourable consideration of this application will support the further expansion of high quality telecommunications services utilizing the latest technology available. In addition thereto, it will provide on par competition in a market already dominated by MTC and Telecom Namibia Limited as per the dominance study published in Government Gazette No. 4905, Notice No. 62 dated 20 March 2012, providing the consumer with a wider choice of providers. This application is thus considered to be aligned with objects of the Act as referred to above.

However, it is important that the Authority considers the issuance of spectrum in a manner that will allow fair competition in the market. It is therefore necessary to have a holistic approach to the amount of spectrum assigned to each of the licensees to ensure that these licensees can compete effectively but also ensuring the efficient use of spectrum. To this end, the Authority indicates the proposed amount of spectrum in Table 2 that will be held by each of the three (3) licensees in question that facilitate the implementation of IMT (2G, 3G and 4G) services should the applied for spectrum use licences be awarded to the Applicant. The table shows spectrum assignments in the 900 MHz, 1800 MHz, 2100 MHz and 2600 MHz spectrum bands.

Table 2 below indicates the spectrum distribution between MTC, Telecom Namibia Limited and Paratus Telecommunications (Pty) Ltd should additional spectrum use licences be awarded to the latter:

<b>Licensee Name</b>	<b>Spectrum Use Licences</b>	<b>IMT Services Offered</b>
<b>Telecom Namibia Limited</b>	2x 5MHz 800 MHz band	CDMA*
	2x 10 MHz 900 MHz band	GSM (2G)
	2x 20 MHz 1800 MHz band	LTE (4G)
	2x 10 MHZ 2100 MHZ band	UMTS (3G)
	2x 48 MHz 2600 MHz band	Wimax*
Total	<b>2x 93 MHz</b>	
<b>MTC</b>	2x 13 MHz 900 MHz band	GSM (2G)
	2x 15 MHz 1800 MHz band	GSM (2G)
	2x 20 MHz 1800 MHz band	LTE (4G)
	2x 15 MHz 2100 MHZ band	UMTS (3G)
Total	<b>2x 63 MHz</b>	
<b>Paratus Telecommunications (Pty) Ltd</b>	2x 19.8 MHz 1800 MHz band	LTE (4G)
	2x 20 MHz 2100 MHz band	LTE (4G)
	2x 20 MHz 2600 MHz band	Wimax*
Total	<b>2x 59.8 MHz</b>	

Wimax and CDMA spectrum were historically assigned by the Namibian Communications Commission and are not considered as IMT technologies by ITU. The 2600 MHz band is identified for IMT services in terms of WRC-07 whilst the 800 MHz band is identified for IMT services on conclusion of migration of analogue to digital terrestrial television services.

All abovementioned licensees hold service and technology neutral telecommunications service licences and are therefore capable of re-farming the assigned spectrum for IMT services by implementing the latest available technologies going forward. For this reason the Authority included spectrum use licences for all the above spectrum bands to illustrate that each licensee will hold an equivalent amount of spectrum for the implementation of IMT services. It should be noted that Telecom Namibia still holds more spectrum than the other two licensees. In addition thereto MTC does not hold spectrum use licences in the 2600 MHz band whilst the Applicant will not hold spectrum use licences in the 900 MHz spectrum band.

In comparison to Namibia, licensees in South Africa hold spectrum use licences for far less than their Namibian counterparts to provide services on a national basis. Spectrum assignments in South Africa are shown in Table 3 below.

**Table 3: Spectrum assigned to South African licensees**

<b>Licensee</b>	<b>Spectrum Use Licences</b>
<b>Vodacom</b>	2x 11 MHz 900 MHz band
	2x 12 MHz 1800 MHz band
	1x 5 & 2x 15 MHz 2100 MHz band
	<b>Total 2x 38 MHz &amp; 1x 5MHz</b>
<b>MTN South Africa</b>	2x 11 MHz 900 MHz band
	2x 12 MHz 1800 MHz band
	1x 10 & 2x 15 MHz 2100 MHz band
	<b>Total 2x 38 MHz &amp; 1x 10MHz</b>
<b>Cell C</b>	2x 11 MHz 900 MHz band
	2x 12 MHz 1800 MHz band
	1x 5 & 2x 15 MHz 2100 MHz band
	<b>Total 2x 38 MHz &amp; 1x 5 MHz</b>

<b>Telkom</b>	2x 12 MHz 1800 MHz band
	2x 10 MHz 2100 MHz band
Total	<b>2x 22 MHz</b>
<b>Wireless Broadband Systems (WBS)</b>	2x 12 MHz & 1x 10 MHz 1800 MHz band
Total	<b>2x 24 MHz &amp; 1x 10 MHz</b>

The Authority also notes that ICASA recently assigned Vodacom and Mobile Telephone Networks (MTN) additional spectrum to facilitate the testing of LTE(4G) services utilizing 2x 20 MHz spectrum assignments.

The Authority is therefore of the opinion that the approval of the Applicant's application for 2x 19.8 MHz in the 1800 MHz spectrum band and 2x 20 MHz in the 2100 MHz spectrum band -

- i. will allow the Applicant to expand its current service offering and compete on par with Telecom Namibia Limited and MTC;
- ii. Support local investment in the industry;
- iii. Will promote technological innovation and the deployment of advanced facilities and services
- iv. Encourage local participation in the communications market; and
- v. Provide the consumer with a wider choice of service providers of data services taking into account an ever increasing demand for high speed data services.

Secondly, the Authority assigned the frequencies to the Applicant in such a manner that it still reserves an amount of spectrum for future assignment in response to applications for spectrum use licences from licensees going forward.

Thirdly, the assignment of the spectrum to the Applicant by the Authority in the 1800 MHz and 2100 MHz spectrum bands in a continuous block of 20 MHz to promote the efficient use of spectrum by the licensee

In light of the above and in terms of section 101(2) of the Communications Act and Regulation 6 of the Regulations Regarding Licensing Procedures.

for Telecommunications and Broadcasting Service Licenses and Spectrum Use Licenses, the Authority awards the spectrum use licences to Paratus Telecommunications (Pty) Ltd for -

- a. 1840.2 – 1860 MHz paired with 1745.2 – 1765 MHz
- b. 2130 – 2150 MHz paired with 1940 – 1960 MHz

The licences are awarded subject to the Communications Act, 2009 (Act No. 8 of 2009) and the Regulations Regarding Licence Conditions for Spectrum Use Licensee as published in Government Gazette No. 5354, General Notice No. 469, dated 2 December 2013.

**L.N. JACOBS**  
**CHAIRPERSON OF THE BOARD OF DIRECTORS**  
**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

No. 192

2015

NOTICE OF RECONSIDERATION IN TERMS OF SECTION 31 OF THE COMMUNICATIONS ACT, 2009 (ACT NO. 8 OF 2009) AND REGULATIONS 20 AND 11 OF THE REGULATIONS REGARDING LICENSING PROCEDURES FOR TELECOMMUNICATIONS AND BROADCASTING SERVICE LICENCES AND SPECTRUM USE LICENCES

The Communications Regulatory Authority of Namibia, in terms of section 31 of the Communications Act, 2009 (Act No. 8 of 2009) read with regulations 11 and 20 of the “Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licence, in Government Gazette No. 4785, General Notice No. 272 dated 29 August 2011 (as amended), herewith gives notice that **Paratus Telecommunications (Pty) Ltd** has submitted an application for reconsideration, dated 5 May 2015, in respect of a decision by the Authority to award spectrum use licences to Paratus Telecommunications (Pty) Ltd for 1840.2 – 1860 MHz paired with 1745.2-1765 MHz and 2130-2150 MHz paired with 1940 – 1960 MHz, which decision the Authority took on 14 April 2015. The reasons and grounds for the application for reconsideration are contained in the application that can be inspected at the offices of the Authority.

The public may submit comments in writing to the Authority within a period of fourteen (14) days from the date of publication of this notice in the *Gazette*.

The applicant may submit written reply comments within fourteen (14) days from the due date of the written public comments.

All written submissions must contain the name and contact details of the person making the written submissions and the name and contact details of the person for whom the written submission is made, if different and be clear and concise.

All written submissions and reply comments must be made either physically or electronically –

- (1) By hand to the head offices of the Authority, namely Communication House, 56 Robert Mugabe Avenue, Windhoek;
- (2) By post to the head offices of the Authority, namely Private Bag 13309, Windhoek 9000;
- (3) By electronic mail to the following address: legal@cran.na;
- (4) By facsimile to the following facsimile number: +264 61 222790; or
- (5) By fax to e-mail to: 0886550852.

**L.N. JACOBS**

**CHAIRPERSON OF THE BOARD OF DIRECTORS**

**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

---

**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

No. 193

2015

**NOTICE OF DETERMINATION OF LAPSING OF TELECOMMUNICATIONS SERVICE LICENCE IN TERMS OF REGULATION 17 (4) OF THE REGULATIONS REGARDING LICENCE CONDITIONS FOR TELECOMMUNICATIONS SERVICE LICENCES**

The Communications Regulatory Authority of Namibia, in terms of regulation 17 (4) of the “Regulations regarding Licence Conditions for Telecommunications Service Licences” as published in Government Gazette No. 5037, General Notice No. 308 dated 13 September 2012, herewith gives notice that the Class Comprehensive Telecommunications Service Licence (ECS & ECNS) issued in terms of section 38 of the Communications Act, 2009 (Act No. 8 of 2009) to Mr. Wilfred Robert Poser on 15 May 2012 has lapsed.

On 15 May 2012, **Wilfred Robert Poser** (hereinafter referred to as “Poser”) was awarded with a Class Comprehensive Telecommunications Service Licence (ECS & ECNS) in terms of section 38 of the Communications Act No. 8 of 2009 (hereinafter referred to as “the Act”) and regulation 11 (9) Regulations regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences as published in Government Gazette No. 4785, General Notice No. 272 dated 29 August 2011 (as amended) (hereinafter referred to as “the Licensing Procedures Regulations”). The award of the licence was published in Government Gazette No. 4946, General Notice No. 121 dated 15 May 2012 and came in force and effective on the same date.

Mr. Poser was awarded a Class Comprehensive Telecommunications Service Licence (ECS & ECNS) to provide electronic communications services utilising spectrum in the 2.4 GHz, 5.8 GHz and 24 GHz spectrum bands. No spectrum use licences were awarded because the spectrum to be utilised is deemed to be licence exempt in terms of Regulations regarding Licence Exempt Spectrum as published in Government Gazette No. 4839, Notice No. 395 dated 25 November 2011.

The telecommunications service licence was awarded subject to the Regulations regarding Licence Conditions for Telecommunications Service Licences as published in Government Gazette No. 5037, Notice No. 308 dated 13 September 2012.

Regulation 17(4) of the aforementioned regulations states as follows-

*“A licence will lapse six (6) months after the date of the issue of that licence in the event that no commercial telecommunications services are provided under that licence.”*

In terms of the above-mentioned regulation, Mr. Poser was required to commence commercial telecommunications services by 16 March 2013 which date is the last day of the six (6) months period referred to above. However, Mr. Poser did not inform the Authority that he has not yet commenced commercial telecommunications services.

**STEPS TAKEN BY THE AUTHORITY**

In the interest of due process and administrative justice, the Authority subsequently addressed a letter to Mr. Poser on 11 March 2013 indicating that Poser has not complied with its licence conditions as contained in Regulation 17(4) of the Regulations regarding Licence Conditions for Telecommunications Services Licences. Poser was requested to confirm the commencement of commercial telecommunications services or alternatively advance reasons to the Authority by 18 March 2013 as to why commercial telecommunications services have not been commenced.

Mr. Poser responded to the Authority on 15 March 2013 and indicated that the company is operating a Wi-Fi hotspot in the 2.4 GHz spectrum use licence exempt band at the Oshikango Main Road since December 2012. Operations conducted an investigation to verify the aforementioned statement

made by Mr. Poser in respect of their compliance to its service licence conditions. The investigation revealed that the Power installed a wi-fi hotspot at Bordercrash Services to link to offices on the premise. Mr. Poser is not offering any services to the aforementioned company and Company also confirmed that they have contracted Telecom Namibia to provide voice and data services.

Mr. Poser further stated that it could not obtain the required authorisation from the Municipality of Windhoek to construct transmitters or repeaters on sites in and around Windhoek.

On 26 January 2015, the Authority addressed a letter to Mr. Poser requesting him to provide reasons as to why he has not commenced with the provision of commercial telecommunications services as per regulation 17(4) of the Regulations regarding Licence Conditions for Telecommunications Service Licences.

On 5 February 2015, Mr. Poser acknowledged receipt of the letter dated 26 January 2015 from the Authority and indicated that he will forward the Authority with a formal reply herein. Mr. Poser has to date not replied to the Authority on the said letter.

Mr. Poser has not commenced with commercial services. The installation of one Wi-Fi hotspot to connect two offices without levying any fees for rendering a telecommunications services thereafter does not constitute the commercial launch for which the Class Comprehensive (ECS & ECNS) Telecommunications Service Licence has been awarded.

The Authority is of the view that the telecommunications service licence awarded to Mr. Poser as published in Government Gazette No. 4946, General Notice No. 121 dated 15 May 2012 has automatically lapsed on 16 March 2013 which is six (6) months after the date of issue of the Class Comprehensive Telecommunications Service Licence (ECS & ECNS). This is due to the fact that Mr. Poser has not commenced with commercial telecommunications services under the said licence as required by Regulation 17(4) of the Regulations regarding Licence Conditions for Telecommunications Services Licences published in Government Gazette No. 5037, General Notice No 308 dated 13 September 2012.

Please also note that no customers will be affected by the lapsing of the service licence awarded herein due to the fact that no commercial telecommunications services has been commenced to date by Mr. Poser.

In light of the above, the Class Comprehensive Telecommunications Service Licence (ECS & ECNS) awarded to Mr. Wilfred Robert Poser on 15 May 2012 has lapsed due to the fact that no commercial telecommunications services have been provided in respect of the said licence within six (6) months from date of issue of the licence.

**L.N. JACOBS  
CHAIRPERSON OF THE BOARD OF DIRECTORS  
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

---

**COMMUNICATIONS REULATORY AUTHORITY OF NAMIBIA**

No. 194

2015

**NOTICE OF INTENTION TO PRESCRIBE BENCHMARK CHARGES FOR SERVICES IN  
TERMS OF SECTIONS 51(2) AND (3) OF THE COMMUNICATIONS  
ACT, 2009 (ACT NO. 8 OF 2009)**

The Communications Regulatory Authority of Namibia, in terms of section 51 of the Communications Act, 2009 (Act No. 8 of 2009) and Regulation 4(3) of the Regulations regarding Rule-Making

Procedures as published in Government Gazette No. 4630, General Notice No. 334 dated 17 December 2010 -

- a) publishes the notice of intention to prescribe benchmark charges based on the Public Switched Telephone Network – Leased Line Cost Model in respect of Telecom Namibia Limited as set out in Schedule 1; and
- b) sets out the concise statement of the reasons and purpose for the proposed benchmark charges in Schedule 2.

The public may make written submissions to the Authority within thirty (30) days from the date of publication of this notice in the *Gazette*, in the manner set out below for making of written submissions

All written submissions must -

- a) contain the name and contact details of the person making the written submissions and the name and contact details of the person for whom the written submission is made if different; and
- b) be clear and concise.

All written submissions must be send or submitted in any of the following manners-

- a) by hand to the head office of the Authority, namely Communications House, 56 Robert Mugabe Avenue, Windhoek;
- b) by post to the head office of the Authority, namely Private Bag 13309, Windhoek, 9000;
- c) by electronic mail to the following address: legal@cran.na;
- d) by facsimile to the following facsimile number: +264 61 222790; and
- e) by fax-to-email to: 0886550852.

The public may make oral submissions on the proposed regulations to the Authority, at a time, date and place notified by the Authority.

**L.N. JACOBS  
CHAIRPERSON OF THE BOARD OF DIRECTORS  
COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

**SCHEDULE 1  
PUBLIC SWITCHED TELEPHONE NETWORK – LEASED LINE COST  
MODEL IN RESPECT OF TELECOM NAMIBIA LIMITED**

**Introduction**

Telecom Namibia Limited (Telecom Namibia) submitted Online Service Time Division Multiplexing (TDM) Connect pricing in December 2012. The Board of the Communications Regulatory Authority of Namibia (CRAN) rejected these tariffs in 2013 based on a number of factors such as the fact that the pricing was anti-competitive, too high, not sufficiently disaggregated, and did not allow resellers enough discount to gain a competitive advantage.

The resellers also made a strong case by submitting comments on the published tariffs in the *Gazette*. Due to the above-mentioned, the Authority resolved that that a Public Switched Telephone Network (PSTN)/Leased Line Cost model had to be developed to determine the wholesale cost of PSTN call

origination and termination and the provisioning of leased line services. The cost model needs to inform the level of fixed termination rates (FTR) and wholesale leased line prices including reseller discounts as required by the Communications Act, 2009 (Act No.8 of 2009).

The study has been commissioned and the results of the study will be enforced by CRAN in terms of sections 51(2) and 51(3) of the Communications Act.

This document summarises the methodology and results of the study which was conducted by CRAN. First, the Weighted Average Cost of Capital (WACC) for Telecom Namibia is established which is required for the cost model. The following sections presents the results of a cost model developed by CRAN for PSTN and data services. The results of the model are then placed in context by a price benchmarking exercise that details how the proposed prices compare with existing retail and wholesale prices in Namibia and how the submitted prices compare to other jurisdictions. The document then closes with conclusions and with proposed remedies.

### **Weighted Average Cost of Capital (WACC)**

The appropriate rate of return for regulatory purposes is the weighted average cost of capital (WACC). WACC is the weighted average of the expected cost of equity and the expected cost of debt.

$$\text{WACC} = (\% \text{ of debt})(\text{cost of debt}) + (\% \text{ of equity}) (\text{cost of equity})$$

The values for the four components for the WACC calculation can be estimated using different approaches. These are discussed in the sections below.

### **Gearing**

Gearing refers to the percent of debt in a company's capital structure. The "weighted" in WACC refers to the gearing. A company's WACC which is funded 30% by debt and 70% by equity has a weighting consisting of 30% of the cost of debt and 70% of the cost of equity.

For Telecom Namibia, a gearing of 60% is being used, i.e. roughly 60% of the assets of Telecom Namibia are financed by debt and 40% by equity. This is based on the gearing of the latest annual report published by Telecom Namibia for the 2012/2013 financial year. Book value rather than market values of equity and debts were used since Telecom Namibia does not trade.

A higher gearing could perhaps have been assumed based on the trend of increasing gearing in the past years and on the outlook for the next couple of years. Choosing a higher gearing would have moved the WACC closer to the cost of debt (which is lower than the cost of equity), and would thus have led to a lower WACC. CRAN has thus made an assumption that is slightly in Telecom Namibia's favour.

<b>Table 1: Telecom Namibia's annual report data</b>		<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Total assets	N\$ million	1,781	2,040	2,231	2,325	2,534	2,566	2,629	2,913
	YoY growth		14.5%	9.4%	4.2%	9.0%	1.3%	2.4%	10.8%
Total liabilities	N\$ million	801	1,025	1,168	1,237	1,393	1,374	1,376	1,746
	YoY growth		28.0%	14.0%	5.9%	12.6%	-1.4%	0.2%	26.9%
Gearing	%	45.0%	50.2%	52.4%	53.2%	55.0%	53.5%	52.4%	59.9%
Bond amount issued	N\$ million						347.0	347.0	347.0
Interest payment on bonds	N\$ million						32.3	32.5	32.3
Implied cost of debt based on short term bond	%						9.3%	9.4%	9.3%
Debt to Equity Ration	#	0.817	1.010	1.099	1.137	1.221	1.153	1.099	1.497

<b>Table 1: Telecom Namibia's annual report data</b>		<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Shareholders' Equity in nominal terms	N\$ million	980	1,015	1,063	1,088	1,141	1,192	1,252	1,167
	YoY growth		3.6%	4.7%	2.4%	4.9%	4.5%	5.1%	-6.9%
<i>Source:</i>		<i>Annual reports, 2006-13</i>							

## Cost of Debt

The cost of debt is determined by the risk free interest rate and the risk premium linked to the company.

$$\text{Cost of debt} = \text{risk free interest rate} + \text{debt premium for Telecom Namibia}$$

These two components are discussed in the subsections below.

### *Rate of return for risk free investment*

The rate of return for a risk free investment represents the expected return on a theoretical financial asset that bears no risk at all. In real life, no such asset exists. Government bonds are widely considered to be the lowest risk investment in a particular market. The use of government bonds to determine the risk-free rate requires two decisions. The first is to decide on the appropriate bond maturity date, in other words the outstanding time of the bond. The second is whether the observed returns should be averaged or not, and if so, over what period. The Government of Namibia has issued a number of long term bonds with maturity dates of more than 10 years. These are the GC 15, GC 17, GC 18, GC 21, GC 24, GC 27 and the GC 30.

The best way to estimate the risk free interest rate is to calculate the trend of the Yield to Maturity (YTM) of all the bonds of the average life time of the bonds. The average maturity of the bonds is 2024 and the yield to maturity is 8.82%. This will then be the risk free interest rate in the WACC calculations both for Telecom Namibia and for smaller telecommunications licensees. The risk free interest rate is in nominal terms and includes inflation expectations.

<b>Table 2: Namibian Government (nominal)</b>		
<b>Description</b>	<b>Maturity</b>	<b>Yield/MTM (Jan 2014)</b>
GC 15	2015	6.38%
GC 17	2017	7.61%
GC 18	2018	7.89%
GC 21	2021	8.59%
GC 24	2026	8.99%
GC 27	2027	9.30%
GC 30	2030	10.10%
Expected Bond	2024	8.82%

### *Debt Premium*

The debt premium is the additional cost of company debt over the risk free rate and is required by financial markets to compensate for the greater risk of default on company debt compared with government debt. This means that the debt premium could be different for different telecommunication licensees.

Table 3: Debt Premium by rating (Sources: PTS (2014))					
Mood-ys	S&P	Fitch	Description	Operators	Average debt pre-mium
Aaa	AAA	AAA	treasury bonds- maximal security		
Aa1	AA+	AA+	very high credit rating		
Aa2	AA	AA			
Aa3	AA-	AA-			
A1	A+	A+	average credit rating	Belgacom(Moodys)	
A2	A	A		Belgacom(S&P) Swisscom	1.07%
A3	A-	A-		TeliaSonera, Telenor, Vodafone, <b>Telecom Namibia</b> (Fitch national long-term rating)	1.50%
Baa1	BBB+	BBB+	lower credit rating	Bougues, Deutsche Telekom, Organge	1.81%
Baa2	BBB	BBB		Elisa, KPN(Moodys), TDC, Telekom Austria (Moodys), Telefonica, Vivendi	1.95%
Baa3	BBB-	BBB-		KPN (S&P), Telekom Austria (S&P)	1.98%
Ba1	BB+	BB+	risky credit rating	Telecom Italia, Portugal Telecom, OTE (Moodys), Telekom Slovenije, Vimpelkom (S&P), <b>Telecom Namibia</b> (Fitch - long-term local currency Issuer Default Rating (IDR))	3.56%
Ba2	BB	BB		OTE (S&P), Vimpelcom,(Moodys)	5.44%
Ba3	BB-	BB-			
B1	B+	B+	high risk		
B2	B	B			
B3	B-	B-			
Caa	CCC+	CCC	Very risky, bank-bruptcy risk		

There are several ways to estimate Telecom Namibia's debt premium. The preferred method is to observe the debt premium between the licensee's bond yields (or any other representative long term debt instrument) and the yield on a risk free Government bond. Alternatively, CRAN could have chosen to use debt premium benchmarks. These benchmarks could be based on regional or international analysis.

The debt premium depends to a large extent of the rating of a company. Fortunately, Telecom Namibia is rated; thus, the risk premium can be benchmarked. Fitch Ratings downgraded Telecom Namibia's Long-term local currency Issuer Default Rating (IDR) to 'BB+' from 'BB-' and its National Long-term rating to 'A-' from 'A' in August 2014.<sup>1</sup>

The risk premium for its higher rating of 1.5% as well as the risk premium for the lower rating of 5.44% has been used for the cost model. The risk premium for the higher rating is added to the risk free interest rate reflects that Telecom Namibia currently pays for its bonds, which is about 9.3%. It is also in line with what regulators in Europe use (PTS 2014):

- France: Arcep uses a 0.7% risk premium based on the credit spread for companies with an A credit rating.
- Norway: The NPT uses a 1.5% risk premium.
- Netherlands: The ACM uses a 1.24% risk premium and adds a 0.15 % fee cost, which results in a total debt risk premium of 1.39%.

<sup>1</sup> <http://af.reuters.com/article/namibiaNews/idAFFit72012020140813>

- Great Britain: Ofcom uses a 1.5% debt risk premium based on the credit spread for Vodafone, Deutsche Telekom, Orange and Telefonica.

The risk premium for its lower rating (BB) will be used given the rating and gearing trend of Telecom Namibia. Using 5.44% as a risk premium for the model is in favour of Telecom Namibia.

### **Equity Cost**

The most common method used by regulators across the world to calculate the cost of equity is CAPM, which relates to the cost of equity of a particular company to its exposure to systematic or non-diversifiable equity market risk. The central principle of the CAPM is that the required rate of return on a risky asset is a function of the risk free rate of return ( $R_f$ ) plus a risk premium that reflects the return on a well-diversified portfolio of risky assets over the risk free rate (Equity Risk Premium, scaled by the “beta” of the risky asset).

$$\text{Cost of equity} = \text{rate of return for risk-free investment} + \beta * \text{Equity Risk Premium}$$

$$\beta = \text{equity beta (measure of risk)}$$

### **Beta**

Beta is a measure of the risk of the risky asset relative to the market risk. A beta of less than one indicates the stock has a low systematic risk relative to the market as a whole (the market average being equal to one). Conversely a beta of more than one indicates the stock has a high risk relative to the market. Beta for a company is typically estimated by means of a regression analysis. For publicly traded companies, betas can be estimated by regressing the stock's returns ( $R_j$ ), including both dividends and price appreciation, against the market returns ( $R_m$ ):<sup>2</sup>

$$R_j = a + b R_m$$

In this procedure, the returns of the company are the dependent variables, and market returns the independent variables. “b” is the slope of the regression, which corresponds to the covariance ( $R_j, R_m$ ) /  $\sigma^2(R_m)$  and is the beta of the stock.

**Table 4: Betas of Telecom Company (TN)**

Company	Market cap in US\$ million	Asset Beta	Corporate tax rate	Debt Equity ratio for TN	Equity Beta for TN	Weights based on market cap	Weighted Equity Beta for TTN
Belgacom	11,920	0.53	0.33	1.497	1.06	0.02	0.03
Bouygues group	10,752	0.83	0.33	1.497	1.66	0.02	0.04
Deutsche Telekom	68,015	0.35	0.33	1.497	0.70	0.14	0.10
Elisa	4,380	0.6	0.33	1.497	1.20	0.01	0.01
Iliad	12,414	0.6	0.33	1.497	1.20	0.03	0.03
KPN	13,039	0.32	0.33	1.497	0.64	0.03	0.02
Mobistar	1,081	0.55	0.33	1.497	1.10	0.00	0.00
Orange	37,232	0.42	0.33	1.497	0.84	0.08	0.06
OTE	6,356	0.43	0.33	1.497	0.86	0.01	0.01
Portugal Telecom	1,744	0.39	0.33	1.497	0.78	0.00	0.00
SonaeCom	646	0.5	0.33	1.497	1.00	0.00	0.00
Swisscom	27,429	0.36	0.33	1.497	0.72	0.06	0.04
TDC	6,485	0.35	0.33	1.497	0.70	0.01	0.01
Tele2	5,261	0.74	0.33	1.497	1.48	0.01	0.02

<sup>2</sup> ERG (2007)

<b>Table 4: Betas of Telecom Company (TN)</b>							
Company	Market cap in US\$ million	Asset Beta	Corporate tax rate	Debt Equity ratio for TN	Equity Beta for TN	Weights based on market cap	Weighted Equity Beta for TTN
Telecom Italia	19,876	0.32	0.33	1.497	0.64	0.04	0.03
Telefonica	68,248	0.52	0.33	1.497	1.04	0.14	0.14
Telekom Austria	3,998	0.45	0.33	1.497	0.90	0.01	0.01
Telekom Slovenije	1,215	0.33	0.33	1.497	0.66	0.00	0.00
Telenor	32,304	0.72	0.33	1.497	1.44	0.07	0.09
TeliaSonera	29,304	0.61	0.33	1.497	1.22	0.06	0.07
Vimpelcom	11,700	0.52	0.33	1.497	1.04	0.02	0.02
Vivendi	31,604	0.62	0.33	1.497	1.24	0.06	0.08
Vodafone	86,044	0.46	0.33	1.497	0.92	0.18	0.16
<b>Sum</b>	<b>491,047</b>						<b>0.98</b>
Source:	Reuters 3 Oct 14	PTS (2014)		TN annual report 12/13			

None of the regulated entities in Namibia are traded on the Namibian stock exchange. In addition, the Namibian stock market is relatively small and may not be an appropriate measure. Thus, a benchmarking approach is being used instead to derive the beta for Telecom Namibia and other licensees. Betas are being determined by regulatory agencies across the world and are readily available in the public domain for telecommunication companies. However, financial leverage or gearing (share of debt compared to equity) is a determinant of beta and varies across industries, countries and firms. It is therefore important to strip out the gearing component or to de-leverage comparable betas in order to arrive at an un-leveraged beta. This is also called asset beta. The asset beta needs then to be converted back into the equity beta of the company under consideration (a process referred to as re-leveraging). It applies the tax rates of the country and the gearing of the company under consideration. The transformations follow the equations below:

$$\text{Asset beta} = \text{Equity beta} / [1 + (1 - \text{tax rate}) * (\text{debt/equity})]$$

$$\text{Equity beta} = \text{asset beta} * [1 + (1 - \text{tax rate}) * (\text{debt/equity})]$$

The benchmarked beta is 0.98 for Telecom Namibia.

### **Equity Risk Premium**

The equity risk premium (ERP) quantifies the extra return which the investors demand to compensate for the risk of investing in shares, compared with the return from risk-free assets. The ERP is the difference in return that investors expect to earn from the stock market above the risk free rate. There is no perfect means of estimating the equity risk premium – the different methods to determine it produce different results:

- Implicit price setting: based on market prices of traded assets such as the P/E ratio;
- Historical development: historical stock return in addition to risk-free rates;
- Interview survey: the investors' or company managers' expectations for the future stock return;
- Benchmarking: derived from ERPs determined by other regulators based on one of the above methods.

CRAN has chosen the benchmarking approach based on the illiquidity, size and age of the Namibian stock exchange and the fact that Telecom Namibia is 100% state owned, i.e. not listed. The equity risk premium is thus determined by CRAN through regulatory precedent.

European regulators determined the following equity risk premium for mobile networks (PTS, 2014):

- Denmark: 3.85% equity risk premium;
- France: Arcep applies a 5% equity risk premium;
- Netherlands: 5% equity risk premium;
- Norway: NPT applies a 4.5% equity risk premium;
- Great Britain: Ofcom bases its assessment of the equity risk premium at 5%;
- Sweden: 5.5%.

The assumed equity risk premium for Namibia is 6%. This value is slightly higher than international benchmarks for developed countries but can be justified given the additional volatility and risk in developing markets. Also, it is a bit higher than the debt risk premium of 5.4% for BB rated companies, which again seems reasonable.

## Results

Table 5 shows the calculation of the WACC for Telecom Namibia. Telecom Namibia's Nominal WACC before tax consideration (Vanilla) is between 12.1% and 14.4%.

<b>Table 5 WACC calculations for Telecom Namibia Limited</b>		
<b>WACC Input Assumptions</b>	<b>Telecom Namibia low</b>	<b>Telecom Namibia high</b>
Gearing	60%	60%
Risk free rate (nominal)	8.8%	8.8%
Debt premium (nominal)	1.5%	5.44%
Market Risk Premium (nominal)	6%	6%
Equity beta (leveraged)	0.98	0.98
Corporate Tax Rate	34%	34%
Expected Inflation	6.1%	6.1%
Cost of debt	10.3%	14.3%
Cost of equity	14.7%	14.7%
<b>Nominal WACC (Vanilla)</b>	<b>12.1%</b>	<b>14.4%</b>
<b>Nominal after tax WACC</b>	<b>10.0%</b>	<b>11.5%</b>
<b>Real after tax</b>	<b>3.6%</b>	<b>5.1%</b>

The higher debt premium for Telecom Namibia's lower rating (BB) will be used which results in a higher price that Telecom Namibia will be able to charge. CRAN will use the 5.1% as real WACC for the cost model.

## Cost model

CRAN has sought to develop a Public Switched Telephone Network (PSTN)/Leased line cost study and to develop a model that could be modified and updated by CRAN staff. The cost model developed was implemented by an experienced, independent consultant in collaboration with staff from Telecom Namibia, who both presented a description from an engineering standpoint of how

their Next Generation Network (NGN) will be configured and provided CRAN with much of the detailed cost information necessary as inputs to the model. In addition to these engineering and accounting data, CRAN gathered additional information on the cost of capital faced by an efficient entrant in the Namibian market, as described in the previous chapter.

This section of the document describes the functionality of the model (developed in an Excel spread sheet) and the inputs required in order to derive the outputs.

### **Functionality**

The cost model is forward looking and assigns essential element cost to determine the incremental cost of various services provided by a fixed-line network in Namibia. The model uses data provided by Telecom Namibia based on what it expects to be facing for existing network elements based on best technologies available today.

These costs are assigned to services of interest through a traditional routing matrix, suitably modified to accommodate services of differing types – that is, to be able to compare services that involve minutes of use with services that involve access lines and capacity. The routing matrix, which was based on information provided by Telecom Namibia to reflect New Generation Network (NGN) technology, allows the assignment of network element investments to the different services. These investments per service are intended to reflect what an operator seeking to replicate Telecom Namibia's investment would have to make in order to provide similar services.

A routing matrix consists of rows for each element used in the network together with a column for each service of interest. To derive the routing matrix, the first step is to determine the number of times a usage of each service requires the use of each element. This information must be converted to percentages by cross-multiplying the routing number with a usage percentage of each service. If all services were measured in terms of voice traffic or some equivalent, this percentage would be the percentage of total minutes of each service. Instead, we use an estimate provided by Telecom Namibia to allocate costs between usage-based services and leased lines, and within usage-based services we use the traditional usage calculation. Percentages thus calculated are applied to the annual costs of each element to derive element investment required for each service.

The investments, in turn, are converted to annual CAPEX (capital expenditures) by applying the traditional annualised payment formula:

$$\text{CapexFactor} = \frac{r}{1 - \left(\frac{1}{1+r}\right)^L}$$

Equation:

where r is the cost of capital, and L is the life of the asset.

The Capex Factor is in turn multiplied by the element investment to give annual CAPEX. OPEX is assumed to be a percentage of initial investment that must be paid each year in order to operate and maintain each asset. The sum of CAPEX and OPEX gives the total annual cost, including opportunity cost, of the network that must be recovered by the operator. With the annual costs assigned to each service, the costs of the services of interest – call termination and leased lines – are calculated by dividing the total assigned annual costs of those services by the number of units. In the case of termination, total termination service cost is divided by the number of termination minutes. In the case of leased lines of a specific capacity, total leased line cost is divided by the number of leased lines of that capacity.

In the remainder of this section, we present the model in some summarised detail.

### **Cost Inputs**

For each asset type, the model converts the total network investment value to annual expenditure (CAPEX and OPEX) as a function of the economic life and the OPEX percentage relevant to the asset.

Four percent (4%) was assigned as the OPEX allocation for all asset types. This value is based on experience in other African and developing countries, and can be viewed as being reasonable in the absence of data to the contrary. As a reference point, we note that 8% is a value used in studies in Peru; in Ecuador where there is a range of values ranging from about 1% to 10% for a similar model. Where possible, Telecom Namibia's stated values were used for the average lifetime of assets. It is believed that these numbers are in some cases a bit lower than common sense might suggest – e.g., space and support systems typically last more than twenty years, as does copper cabling. Accepting Telecom Namibia's stated values may thus be slightly in Telecom Namibia's favour.

Telecom Namibia requested that the Nampower fiber cable lease be included as part of the CAPEX inputs. However, the lease results in annual payment that does not need to be financed over the life time of the fiber cable and thus falls under OPEX. This fiber cable is CAPEX for Nampower and OPEX for Telecom Namibia.

### **Routing matrix**

In the routing matrix, the rows once again represent asset types (i.e. elements). In this table, each column represents a service of interest. Each entry in the matrix is the number of times the service must use each element in a typical application. Thus, for example, a typical voice off-net outgoing call uses the core transmission network system once. Telecom Namibia submitted the routing matrix displayed below.

<b>Component</b>	<b>Voice off-net outgoing</b>	<b>Voice off-net incoming</b>	<b>Voice on-net</b>
Core Transmission Network Nodes	1	1	4
Express Nodes	2	2	4
Transport Nodes	2	2	4
Network Nodes	2	2	4
Aggregation Nodes	2	2	4
User Nodes	2	2	4
Fibre - km installed	2	2	4
Copper - number of pairs	2	2	4
Space and support system square meter	2	2	4
OSS/BSS Systems Involved	2	2	2
International Gateways	1	1	0
Service Area	1	1	2
SBC's with Regional Distribution	1	1	2
IMS Core (Control, Charging, Services)	2	2	1
NGN (Access and Media GW Control)	2	2	2
MSAN	1	1	2
WiMax	1	1	2

The initial routing matrix data was based on our experience with fixed line telephony services. We believe these values were also appropriate for an NGN network as opposed to a traditional switched network. However, the modelling is based on Telecom Namibia's submission.

### **E1 Utilisation**

The costs associated with the data network are allocated to this E1 utilisation figure.

Telecom Namibia estimates that its full capacity is 4,092,320 half circuits and it uses 953,873 half circuits. The E1 half circuits available to customers are 29,313 E1s which is the equivalence of 14,657 E1s.

In terms of half circuits only 23.3% of the network is used and less than one percent is being offered to customers. The very low utilisation is likely to be partially the result of too high prices that Telecom Namibia has charged in the past.

### **Cost allocation matrix**

In the following table, costs are allocated to asset types (elements) based on the routing matrix presented in Table 7. The elements for voice services represent the percentage of traffic for each of the voice services, multiplied by the fixed voice allocation percentage given by Telecom Namibia. The leased lines percentage reflects the data allocation percentage given by Telecom Namibia. Where percentages do not sum to 100%, it signifies that the asset is also used to produce services other than voice and leased lines (for instance, broadband Internet data).

Table 7: Cost allocation matrix

Component	Voice off-net outgoing	Voice off-net incoming	Voice on-net	Leased Lines
Core Transmission Network Nodes	0%	0%	0%	100%
Express Nodes	0%	0%	0%	100%
Transport Nodes	0%	0%	0%	100%
Network Nodes	0%	0%	0%	100%
Aggregation Nodes	0%	0%	0%	100%
User Nodes	0%	0%	0%	100%
Fibre - km installed	3%	1%	6%	50%
Copper - number of pairs	22%	12%	51%	15%
Space and support system square meter	4%	2%	9%	15%
OSS/BSS Systems Involved	6%	3%	6%	15%
International Gateways	59%	31%	0%	0%
Service Area	26%	14%	60%	0%
SBC's with Regional Distribution	18%	10%	42%	0%
IMS Core (Control, Charging, Services)	48%	25%	28%	0%
NGN (Access and Media GW Control)	19%	10%	22%	0%
MSAN	13%	7%	30%	0%
WiMax	13%	7%	30%	0%

### **Cost distribution across years**

The next step is to calculate the total cost per year. First, the total investments are distributed by applying the allocation factors in the cost allocation table to the investment for each asset type, and are then annualised using the traditional annualised payment formula to produce the annual CAPEX for each asset type. Then the operational allocation from the input table is multiplied by the investment for each asset type to give annual O&M cost (OPEX) for that asset type.

### **Total cost allocation**

The total costs page sums up the costs of the services as calculated in the Cost annualisation page.

## Results

On the results page, total costs by service are divided by the quantity of each service provided, in either minutes of use or lines (E1s).

<b>Table 8: Results in N\$ for 4% Opex allowance</b>				
Average total per minute cost	0.21			
<b>Fixed Termination charge</b>				<b>0.21</b>
<b>Cost per Leased E-1 Line (yearly)</b>				<b>9,617</b>
<b>Cost per Leased Line (month)</b>				<b>801</b>

As calculated, the results suggest that the cost per month of a leased line in Namibia should be N\$ 801, in Namibian dollars based on a 4% OPEX allocation.

## Conclusion

It is difficult to assess the results for leased lines in the context of other cost models, because the results from this approach to modelling leased lines are not commonly made public. What can provide a reality check in the model's results is call termination. The result – about two US cents per minute – is somewhat higher than most jurisdictions around the world, but is not unreasonable given the low volume and highly dispersed geography of Namibia. Given the logic of the model, the results are consistent with the Long Run Incremental Cost (LRIC) approach, and any changes to the values so obtained would likely have to come from changes to the data used as input, properly documented and justified.

The model is somewhat sensitive to input changes, and if any are warranted it would be reasonable to make them. Our working hypothesis is that the likeliest candidates for serious discussion in which there may be significant impact are the OPEX percentages, and perhaps the number of leased lines anticipated. The overwhelming majority of the remainder of the data is taken from Telecom Namibia's own information provided in the ongoing dialog, and is thus unlikely to change.

The calculation includes a “reasonable” market return on Telecom Namibia’s investment through the WACC calculation, and thus provides an adequate incentive to the incumbent to further invest and maintain the network. At the same time, a price set at this value sends the appropriate signals to internet provider entrants, who must make a business case based on this amount as a cost of them doing business. Thus, the application of the results of this model will contribute significantly to fair competition in Namibia, in which both the incumbent, Telecom Namibia and small internet providers have the chance, both, to engage in providing service to Namibians as well as earn a reasonable return on the investment they make in the business.

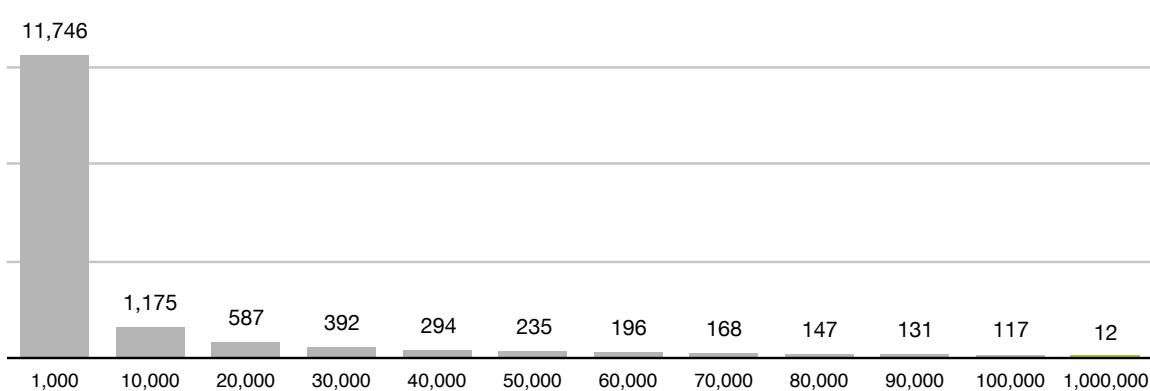
## Sensitivity Analysis

This section uses the cost model and varies OPEX costs. The initial cost model assumes an OPEX allowance of 4% of the total investment value, which is a reasonable figure internationally. The table calculates the impact of using higher OPEX percentages on Fixed Termination Rates (FTR) and monthly cost of an E1.

<b>Table 9: Forward looking cost model for various levels of OPEX</b>		
<b>OPEX</b>	<b>FTR</b>	<b>E1 per month in N\$</b>
4%	0.21	801
8%	0.26	1,009
12%	0.31	1,217
16%	0.36	1,425

The monthly cost for an E1 varies between N\$801 to N\$1,425 depending on the configuration. The true cost including WACC is likely to be lower not higher. An annual OPEX allocation of 4% of total investment should be used by CRAN. However, 16% OPEX may be used and the OPEX percentage reduced over time to allow Telecom Namibia to gain efficiency.

The implications of a higher utilisation are explored for the 4% OPEX model in Figure 1. It displays the prices that would cover the cost and a reasonable return based on WACC for E1 utilisations between 1000 E1s and 1 million E1s. With 10,000 E1s in use the price would be N\$1,175. At 100,000 utilisation a fair price would be N\$117. This provides a clear strategy for Telecom Namibia to increase profitability, driving utilisation up.



**Figure 1: Cost of an E1 based on 4% OPEX at different utilisation levels in N\$**

The sensitivity analysis indicates that low utilisation is the main driver behind high cost.

### Wholesale Prices Benchmarking

This section benchmarks wholesale leased line prices proposed for Namibia against those for Botswana and South Africa.

#### Bofinet Botswana

Bofinet in Botswana distinguishes between leased lines below 250 km and 250 km or more. The regulator of Botswana, BOCRA, published prices in 2014.<sup>3</sup>

<b>Table 10: Wholesale Botswana Bofinet unprotected</b>		<b>Pula</b>	<b>average exchange rate for 2014</b>	<b>N\$</b>
E 1	below 250 km	239	1.225	293
	More than 250km	596	1.225	730
STM 1	below 250 km	17,040	1.225	20,877
	More than 250km	42,600	1.225	52,193
Source:		Sources: BOCRA 2014		

The price for an E1 is substantially lower than the prices proposed by Telecom Namibia with only N\$328 per month for an E1 and N\$23,383 per month for a STM 1. These prices are based on OECD basket distances and weights and exclude installation charges and VAT. Botswana has conducted a cost study and therefore wholesale prices are cost based.

<sup>3</sup> [http://www.bocra.org.bw/sites/default/files/Telecoms%20%26%20ICT%20Prices\\_0.pdf](http://www.bocra.org.bw/sites/default/files/Telecoms%20%26%20ICT%20Prices_0.pdf)

<b>Table 11: Wholesale Botswana Bofinet unprotected (excl. VAT)</b>						
<b>Distance km main link</b>	<b>E1</b>			<b>STM 1</b>		
	<b>Price (month)</b>	<b>OECD Weights</b>	<b>Wholesale per month</b>	<b>Price (month)</b>	<b>OECD Weights</b>	<b>Wholesale per month</b>
2	239	0.50	120	17,040	0.50	8,520
16	239	0.18	43	17,040	0.18	3,067
46	239	0.06	14	17,040	0.06	1,022
96	239	0.08	19	17,040	0.08	1,363
196	239	0.10	24	17,040	0.10	1,704
496	596	0.08	48	42,600	0.08	3,408
Total Pula			268			19,085
average exchange rate for 2014			1.2			1.2
Total N\$			328			23,383
Sources	Sources: BOCRA 2014					

### Telkom South Africa

The prices for Telkom South Africa are based on Megaline Silver and are wholesale prices not including any further discounts. Table 28 calculates the wholesale price for an E1 and Table 29 a STM 1 leased line based on OECD basket distances and weights for Telkom's Megaline Silver.

<b>Table 12: Telkom Wholesale Megaline Silver OECD Basket 2 Mbps (excl. VAT)</b>						
<b>Distance km main link</b>	<b>Local ends</b>	<b>Fixed charges</b>	<b>Charge per km</b>	<b>Price (month)</b>	<b>OECD Weights</b>	<b>OECD 2Mbps per month</b>
2	764.12	373.96	36.24	1,211	0.50	605
16	764.12	373.96	36.24	1,718	0.18	309
46	764.12	373.96	36.24	2,805	0.06	168
96	764.12	1,355.49	16.61	3,714	0.08	297
196	764.12	1,355.49	16.61	5,375	0.10	538
496	764.12	4,865.29	1.21	6,230	0.08	498
Total ZAR						2,416
	Sources: Prices submitted to ICASA by Telkom					

The South African regulator, ICASA has not yet conducted a cost study. The prices are higher than those of Bofinet in Botswana but still only 25% of proposed wholesale price by Telecom Namibia for an E1.

<b>Table 13: Telkom Wholesale Megaline Silver OECD Basket STM1 (excl. VAT)</b>						
<b>Distance km main link</b>	<b>Local ends</b>	<b>Fixed charges</b>	<b>Charge per km</b>	<b>Price (month)</b>	<b>OECD Weights</b>	<b>OECD 34Mbps per month</b>
2	34,093.81	4,760.01	518.16	39,890	0.42	16,754
16	34,093.81	4,760.01	518.16	47,144	0.18	8,486
46	34,093.81	4,760.01	518.16	62,689	0.15	9,403
96	34,093.81	5,801.45	497.33	87,639	0.09	7,888
196	34,093.81	5,801.45	497.33	137,372	0.08	10,990
496	34,093.81	137,126.86	6.54	174,465	0.08	13,957
Total ZAR						67,478
	Sources: Prices submitted to ICASA by Telkom					

## Telecom Namibia

Telecom Namibia's wholesale price for a STM 1 is derived from the retail price by deducting the 15% discount. Other discounts for volume and lengths of contract are not considered since they apply equally for retail and wholesale prices.

<b>Table 14: Telecom Namibia proposed wholesale prices for STM 1 (excl. VAT)</b>							
<b>Distance km main link</b>	<b>local ends</b>	<b>Fixed charges</b>	<b>NTU</b>	<b>Price (month)</b>	<b>OECD Weights</b>	<b>Retail per month</b>	<b>Wholesale per month at 15% discount</b>
2	0.00	84,412	10,620	105,652	0.42	44,374	
16	0.00	116,081	10,620	137,321	0.18	24,718	
46	0.00	116,081	10,620	137,321	0.15	20,598	
96	0.00	319,097	10,620	340,337	0.09	30,630	
196	0.00	319,097	10,620	340,337	0.08	27,227	
496	0.00	597,115	10,620	618,355	0.08	49,468	
Total N\$						197,015	167,463
Sources						Prices submitted to CRAN	

The wholesale prices proposed by Telecom Namibia are substantially higher than wholesale prices from Telkom South Africa and nearly eight times higher for STM1s and 26 times higher for E1s than Bofinet in Botswana.

## Conclusion

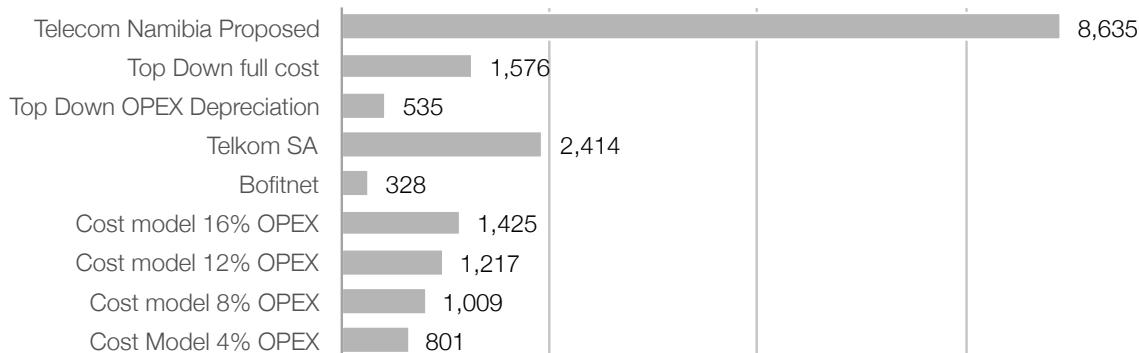
The proposed price cap is based on the cost model. The benchmarking of wholesale prices and the top-down calculations serve as a cross check for the model delivering reasonable results.

CRAN followed a conservative approach in using the following inputs:

- a) A real WACC after tax of 5.1% was used.
- b) OPEX of 16% is used initially but it will be expected from Telecom Namibia to reduce OPEX to more internationally acceptable levels over time and therefore become a more efficient operator.

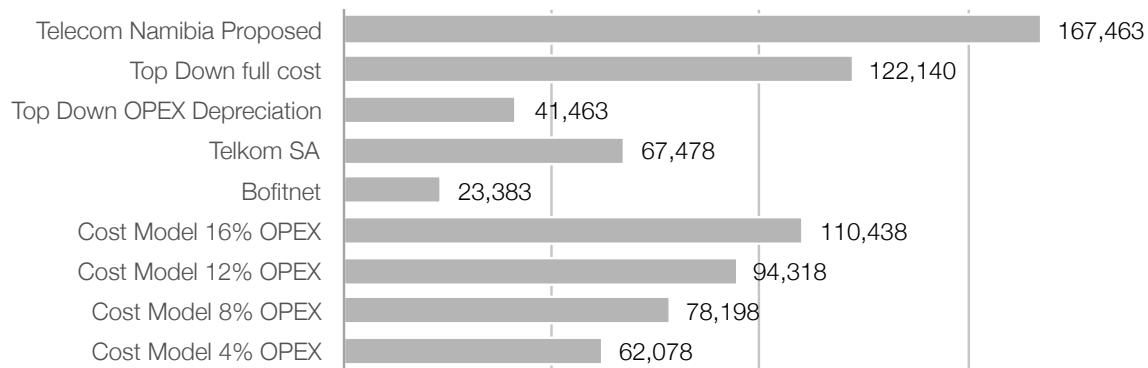
The rest of the inputs were used as submitted by Telecom Namibia. The results were checked against the Annual Financial Statements of the year ending September 2013 and benchmarked against wholesale prices for Botswana and South Africa to ensure reasonable price caps.

The cost model indicates that Telecom Namibia's proposed wholesale prices are a multiple of costs. The benchmarking shows that the cost model arrives at considerably higher prices compared to the prices of Bofinet. This could be the result of high input prices given by Telecom Namibia or Telecom Namibia operating at a low utilisation for the network it has built.



**Figure 2: 2Mbps (E1) leased line compared to wholesale prices from Botswana and South Africa**

The severity of exceeding cost of the proposed price is less for a STM1 compared to an E1. A STM1 price at 16% OPEX would be twice the price of Telkom South Africa and seven times the price of Bofinet.



**Figure 3: 155Mbps (STM1) leased line compared to wholesale prices from Botswana and South Africa**

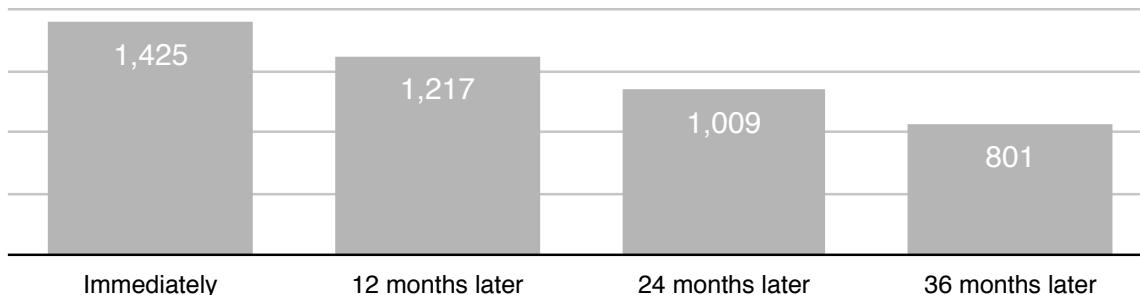
### Proposed Remedies

1. The recommendation is to prescribe a price cap for an E1 and multiples or fractions thereof at N\$801. This reflects the cost of an E1 including a reasonable return at 4% OPEX allowance.
2. The recommended glide path starts with a 16% OPEX allocation, which is reduced over a 36 months period. This gives Telecom Namibia three years to adjust its business model.
3. The prescribed price cap for an E1 and multiples or fractions thereof do not include customer premise devices. Telecom Namibia is required to offer leased lines and other forms of pre-arranged connectivity with and without customer premise devices. Resellers and end user have the choice to use their own CRAN type approved devices or use the ones provided by Telecom Namibia.
4. Leased lines and other forms of national data transmission such as Ethernet are required to be provided in a transparent and non-discriminatory way. Volume discounts are permissible.

**Table 15: Proposed glide path N\$**

	Capacity Mbps	Immediately 16% Opex	12 months later 12% Opex	24 months later 8% Opex	36 months later 4% Opex
1 Mbps	1	713	609	505	401
E1	2	1,425	1,217	1,009	801
E3	34	24,225	20,689	17,153	13,617
STM0	45	32,063	27,383	22,703	18,023
STM1	155	110,438	94,318	78,198	62,078
STM4	655	466,688	398,568	330,448	262,328

The recommended glide path sets the E1 price cap initially at the very high OPEX allowances of 16%. The reason behind allowing Telecom Namibia to charge such a high price is to allow it to change its business model and increase utilisation over time and to offer clients volume or distance discounts. The prices are capped at the E1 price level. Telecom Namibia may offer lower prices for higher volume contracts and various distance ranges as long as the lower prices are transparent and non-discriminatory. The proposed glide path gives Telecom Namibia three years to adjust its business model and is likely to lead to a much higher utilisation of its network. It will stimulate the reseller market and the increased competition is likely to reduce retail prices for end users.



**Figure 4: E1 wholesale price cap in N\$ for any length**

CRAN will monitor prices and utilisation bi-annually to assess the need to change the glide path.

## References

- BOCRA (2014): PUBLIC NOTICE - TELECOMMS AND ICT PRICES, [http://www.bocra.org.bw/sites/default/files/Telecoms%20%26%20ICT%20Prices\\_0.pdf](http://www.bocra.org.bw/sites/default/files/Telecoms%20%26%20ICT%20Prices_0.pdf).
- BTA (2011): Cost Oriented Pricing by Public Telecommunications Operators, BTA/2/7/10 II (11), [http://www.bocra.org.bw/sites/default/files/documents/Regulatory\\_Directive\\_No\\_1\\_FINAL\\_2011.pdf](http://www.bocra.org.bw/sites/default/files/documents/Regulatory_Directive_No_1_FINAL_2011.pdf).
- ERG (2007).Principles of Implementation and Best Practice for WACC calculation, IRG – Regulatory Accounting, February 2007,[http://www.erg.eu/streaming/erg\\_07\\_05\\_pib\\_s\\_on\\_wacc.pdf?contentId=543314&field=ATTACHED\\_FILE](http://www.erg.eu/streaming/erg_07_05_pib_s_on_wacc.pdf?contentId=543314&field=ATTACHED_FILE).
- Oxera (undated): Which WACC when? A cost of capital puzzle, <http://www.oxera.com/Oxera/media/Oxera/downloads/Agenda/Which-WACC-when.pdf?ext=.pdf>.
- PTS (2014): Consultation on return rates for mobile networks- an update, PTS, PTS-ER-2014:17 2014-04-11, [https://www.pts.se/upload/Rapporter/Tele/2014/consultation-on-return-rates-for-mobile-networks-wacc-pts-er-2014\\_17.pdf](https://www.pts.se/upload/Rapporter/Tele/2014/consultation-on-return-rates-for-mobile-networks-wacc-pts-er-2014_17.pdf).

## SCHEDULE 2

### CONCISE STATEMENT AND PURPOSE OF THE PROPOSED PUBLIC SWITCHED TELEPHONE NETWORK – LEASED LINE COST MODEL IN RESPECT OF TELECOM NAMIBIA LIMITED

The purpose of the proposed Public Switched Telephone Network – Leased Line Cost Model in Respect of Telecom Namibia Limited is to prescribe benchmark charges for leased lines to be determined in accordance with the cost study as contemplated in section 51(2) and (3).