



GOVERNMENT GAZETTE

OF THE

REPUBLIC OF NAMIBIA

N\$6.80

WINDHOEK - 10 July 2014

No. 5505

CONTENTS

Page

GENERAL NOTICE

No. 192	Communications Regulatory Authority of Namibia: Report on the outcomes of the Infrastructure Sharing Study by the Authority	1
---------	---	---

General Notice

COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 192

2014

REPORT ON THE OUTCOMES OF THE INFRASTRUCTURE SHARING STUDY BY THE AUTHORITY

The Communications Regulatory Authority of Namibia (CRAN) in terms of sections 48, 50 and 86(2)(f) of the Communications Act, 2009 (Act No. 8 of 2009) hereby publishes this Report on the Outcomes of the Infrastructure Sharing Study conducted by the Authority. The Authority invites public comments from members of the public and ICT industry. The Report contains the following:

1. a) Underlying objectives of infrastructure sharing;
- b) Types of infrastructure sharing;
- c) Benchmarking with other countries;
- d) Rights of way;
- e) Regulatory frameworks for infrastructure sharing; and
- f) The Authority's viewpoint on infrastructure sharing in Namibia

as set out in Schedule 1;

2. Concise statement of the purpose for the Report 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 Government Gazette, in the manner set out below for the 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 sent or given in any of the following manners:

- a) By hand to the head offices of the Authority, namely Communications House, 56 Robert Mugabe Avenue, Windhoek;
- b) By post to the head offices of the Authority, namely Private Bag 13309, Windhoek, 9000;
- c) By electronic mail to the following address: operations@cran.na; or
- d) By facsimile to the following facsimile number: + 264 61 222790.

L.N. JACOBS
CHAIR PERSON OF THE BOARD
COMMUNICATIONS REGULATORY AUTHORITY

SCHEDULE 1

**REPORT ON THE OUTCOMES OF THE INFRASTRUCTURE
SHARING STUDY BY THE AUTHORITY**

TABLE OF CONTENTS

1. INTRODUCTION
2. OBJECTIVES
3. TYPES OF INFRASTRUCTURE SHARING
 - 3.1 Passive Infrastructure Sharing
 - 3.1.1 Sharing of physical network elements between operators
 - 3.1.2 Providing access to infrastructure by third parties
 - 3.1.3 International examples of Passive Infrastructure Sharing
 - 3.1.3.1 Europe
 - 3.1.3.2 Africa
 - 3.1.3.3 Asia-Pacific
 - 3.2 Active infrastructure sharing
 - 3.2.1 Rack Sharing
 - 3.2.2 National Roaming
 - 3.2.3 Mobile Virtual Operators
 - 3.2.4 International examples of Active Infrastructure Sharing
 - 3.2.4.1 Asia-Pacific
 - 3.2.4.2 Europe
 - 3.3 Rights of Way

4. REGULATORY FRAMEWORK FOR INFRASTRUCTURE SHARING
 - 4.1 Analysis of existing agreements
 - 4.2 Minimum agreement requirements
 - 4.3 Setting a regulatory framework
 - 4.3.1 Australia
 - 4.3.2 Canada
 - 4.3.3 France
 - 4.3.4 Portugal
 - 4.3.5 Tanzania
5. THE AUTHORITY'S VIEWPOINT ON INFRASTRUCTURE SHARING IN NAMIBIA
6. LIST OF REFERENCES

1. INTRODUCTION

Communications infrastructure, generally referred to as “bottleneck facilities” or “essential facilities”, is recognized as an essential input to education, healthcare, business and the active participation of Namibians in the digital economy. It also encourages competition, optimises resources and ensures universal access and usage. Setting an infrastructure sharing strategy requires the Communications Regulatory Authority of Namibia (hereinafter referred to as “the Authority”) to take into account the fostering of an enabling environment to promote fair competition and attract investment in the telecommunications/ICT market. As such, strategy and regulations should address open access to infrastructure on a non-discriminatory basis at the same cost and level of quality by multiple downstream competitors and encourage expansion of infrastructure to unserved or underserved areas.

Historically, “bottleneck facilities” are owned by incumbents and state-owned entities. These entities own key infrastructure and have an advantage over its competitors at most levels, more specifically in downstream markets. The aforementioned organisations, provide services to its own customer and simultaneously competes with the very competitors it is required to allow non-discriminatory access of its communications infrastructure. As a result, these dominant operators become an obstacle to the development of new infrastructure and the expansion of competition and market growth. These actions require regulatory intervention through regulations mandating the sharing of infrastructure, setting a framework for infrastructure sharing agreements and submitting reference offers for approval by the Authority. In Namibia with a vast geographical mass of 894,000 km² and a small population of 2.1 million by global standards, “bottleneck facilities” are not limited to the national fibre infrastructure but also extends to masts and towers owned by private and public telecommunications licensees and other utilities.

Section 50 (1) of the Communications Act, No. 8 of 2009 (hereinafter referred to as the “Communications Act”), imposes the obligation on dominant carriers to lease any infrastructure. Section 50 (1) of the Act reads -

“When it will promote competition or the other objects of this Act, a dominant carrier must lease any infrastructure to any other carrier or must allow the latter carrier to install telecommunications equipment on such infrastructure or to otherwise utilise such infrastructure. “

The sharing of infrastructure does not only include telecommunications licensees but also extends the obligation to utilities. Section 50 (5) of the Communications Act provides as follows -

“It is the duty of any utility to lease any spare capacity available in any tower, mast, pole, duct, conduit or pipe to any carrier who requests that utility to lease such

capacity in order to attach any telecommunications equipment to such infrastructure or to lay any telecommunications wires or fibres in such infrastructure.”

The Communications Act in section 50 (11) defines utilities as - any persons that provide telecommunications services, broadcasting or any other radio communications services, as well as electricity, gas or water.

The Communications Act further extends the obligation to broadcasting licensees and section 86(2)(f) of the Act reads –

“the duty to make spare capacity on transmitters, masts and towers available to other licensees, the conditions under which such duty exists, the extent of the duty, payment for the use of such capacity, the rights of the person who provides such capacity and any other matter relating thereto”

Implementation of the provisions of the Communications Act will allow Namibia to harness all possible infrastructure resources to provide communications services to all populated corners of Namibia in urban and rural areas, to provide access to information, education and healthcare and in turn ensure economic growth.

One of the key focus areas contained in the 2012 – 2015 Strategic Plan of the Authority is the facilitation of a level playing for existing operators and new entrants to respective markets. This requires the establishment of a regulatory framework for access to and sharing of communications infrastructure.

This study paper focuses on-

- i. Underlying objectives of infrastructure sharing;
- ii. Types of infrastructure sharing;
- iii. Benchmarking with other countries;
- iv. Rights of way;
- v. Regulatory frameworks for infrastructure sharing; and
- vi. The Authority’s viewpoint on infrastructure sharing in Namibia.

2. OBJECTIVES

To date, telecommunications and broadcasting licensees have largely invested in the implementation of infrastructure on an individual basis resulting in dominance in some areas of infrastructure, construction of transmitter towers within metres of each other and duplication of backbone and transmitter sites. The Authority also takes note of the absence of a broadband policy that outlines national principles of cooperation and prevention of duplication. As such, infrastructure sharing is therefore still governed by the Telecommunications Policy of 2009 and provisions contained in the Communications Act, as stated above. In addition to the Telecommunications Policy, infrastructure sharing is also governed by infrastructure sharing agreements. These agreements are concluded on a bilateral basis between the infrastructure provider and entity leasing access to or utilisation of the infrastructure.

Infrastructure sharing has a number of advantages to the communications market such as-

- i. the reduction in investment requirements for infrastructure investments;
- ii. the offering of a new source of income;
- iii. the release of capital for strategic investments and new services; and

- iv. the decrease in the barriers to market entry for new players.

Further, it optimises the use of scarce national resources such as land and energy and shifts the focus to affordable and quality services and service innovation instead of network deployment.

The Authority, therefore, intends to implement infrastructure regulation in the Namibian context with the aim to-

- i. Extend geographical access beyond current urban, semi-urban and rural areas to underserved areas by lowering investment cost with shared infrastructure. This will result in lower entry barriers and thereby benefiting the consumer through a variety of affordable and quality communications services;
- ii. Decrease environmental impact as a result of implementation of infrastructure by reducing levels of duplication of infrastructure through infrastructure sharing agreements by licensees *inter se* as well as between licensees and utilities thereby promoting green ICT;
- iii. Stimulate innovation of new services in rural areas by allowing alternative technologies for last-mile access whilst transmission networks are provided on a shared basis;
- iv. Address abuse of dominance and anti-competitive behavior of infrastructure owners by establishing a regulatory framework with clear rules for sharing to ensure quality of service at affordable prices provided to all licensees on a non-discriminatory basis;
- v. Facilitate rights of way to provide for trenching and ducting works between telecommunication service licensees, broadcasting service licensees and local authorities as well as between telecommunication service licensees and utilities.

3. TYPES OF INFRASTRUCTURE SHARING

Namibia has been characterised by monopolies in the fixed and mobile telecommunications market over a number of years. The Communications Act paved the way for increasing competition and promoting innovation with the issuance of service and technology neutral licences. The Act also provides for the inclusion of the incumbent fixed line operator, Telecom Namibia Limited, and the public broadcaster, the Namibian Broadcasting Corporation (NBC), into the regulatory framework (It is noted that the provisions for NBC to be actively regulated have not been commenced at the time of this study). Smaller entities that have previously provided telecommunications services without a licence, such as Internet service providers and cloud service providers, are now also included in the regulatory framework. These small operators and possible new entrants are disadvantaged due to the difficulty of duplicating infrastructure such as fibre backbones and communication towers deployed under monopoly conditions. Depending on the competitive environment telecommunications incumbents may have an incentive to impair competition by not granting fair access to infrastructure on a wholesale basis, or delaying access to infrastructure on receipt of a request from another licensee.

As a starting point to infrastructure sharing, it is necessary to define what infrastructure or network elements needs to be shared. The Communications Act section defines “network element” as follows in section 48(9) -

“...a facility or equipment used in the provision of a telecommunications service, including all features, functions and capabilities that are provided by means of such facility or equipment”

It should be noted, however, that section 48 of the Communications Act, is only applicable to telecommunications licensees and does not include broadcasting licensees.

Sharing of infrastructure by broadcasters is mandated by section 86 of the Communications Act, although it is limited to spare capacity on transmitters, masts and towers as prescribed in section 86 (2)(f) of the Communications Act as stated hereunder -

“the duty to make spare capacity on transmitters, masts and towers available to other licensees, the conditions under which such duty exists, the extent of the duty, payment for the use of such capacity, the rights of the person who provides such capacity and any other matter relating thereto”

Given the geography of Namibia, it is necessary to not only evaluate the possibility of passive infrastructure sharing, but also to investigate forms of active infrastructure sharing to ensure affordable communication services. Enforcing infrastructure sharing will ensure service availability from more than one licensee within a specific geographical area. Licensees will therefore compete based on parameters such as brand, price and customer service. These characteristics of service delivery are important to the consumer using a specific product or service.

The two forms of infrastructure sharing can be described as follows -

- i. Passive infrastructure sharing is a moderate form of network sharing where licensees still operate separate networks but share passive infrastructure such as ducts, poles, buildings, site, masts, power supply, shelters, buildings, air conditioning etc. The infrastructure to be shared differs between fixed and mobile networks. Passive infrastructure can also be shared between telecommunication and broadcasting networks as well as utilities; and
- ii. Active infrastructure sharing extends to sharing of the active layer of the network such as fibre, access nodes, antennas, antenna feeders and transmission networks. This form of infrastructure sharing also includes mobile virtual networks and national roaming where one operator will make use of another operator's network to offer services and geographical coverage.

3.1 Passive Infrastructure Sharing

Passive infrastructure sharing is affected by two key elements namely cost and the speed of action when a licensee requests access to infrastructure.

Apart from access to the infrastructure owned by dominant operators, ownership of rights of way cannot be ignored when expanding current infrastructure on a national basis.

3.1.1 Sharing of physical network elements between operators

Opening access to physical elements such as ducts, masts, towers, power supplies, power backup equipment, air conditioning, shelters and buildings provides licensees with the choice to invest in their own physical network infrastructure or to buy space or access to the aforementioned network elements on a monthly or annual basis. In general the sharing of these elements is referred to as “site sharing”. Site sharing is the most basic form of infrastructure sharing available and also the option that may meet with the least resistance

from licensees provided that incumbent licensees open their networks to other licensees and provide access to infrastructure without deliberate tactical delays to prevent these licensees from rolling out their networks effectively.

The facilitation of sharing of physical network elements may require the Authority to set a regulatory framework obliging operators to plan new infrastructure in such a way as to provide capacity to other licensees, especially in areas where it is not economically sustainable for multiple operators to build infrastructure or where environmental or social concerns are important. Alternatively this infrastructure can be provided by a separate entity that provides infrastructure as its core business such as a tower company, a national backbone company or an undersea cable provider.

Taking into account the cost of site deployment in especially rural areas, other commercial agreements, such as national roaming between operators, may be considered in order to resolve coverage gaps and ensure service delivery to more remote areas.

Although passive sharing of infrastructure decreases the number of sites it does have a negative impact in that more than one set of antennas and other communications equipment such as microwave equipment are located on one mast. Antennas need to be attached at a minimum distance to avoid interference between each other. More environmental friendly designs such as palm trees and lampposts cannot support more than one operator.

Agreements between licensees to facilitate passive infrastructure sharing should make provision for licensees to maintain full control over their respective networks and services whilst sharing other network elements.

3.1.2 Providing access to infrastructure by third parties

Whilst telecommunication and broadcasting licensees may have incentives to prevent competitors from placing equipment on their towers, tower companies in contrast wish to sell their services to as many operators as possible. Tower companies rely on infrastructure sharing to generate revenue to support their business operations. The tower company, whilst owning the infrastructure, undertakes the tasks of site acquisition, construction and maintenance. In addition, services such as equipment installation and radio and transmission planning may also be offered to operators on an outsourced basis. A similar business model is applicable to undersea cable providers.

Sharing of physical elements is not limited to sharing agreements with telecommunications providers only. Rooftops, towers and technical facilities can also be shared with utility providers such as power, railway and water service providers providing an additional revenue stream for these utilities. However it is important that agreements between communications licensees and utilities are signed on a non-discriminatory and non-exclusive basis to prevent the creation of monopolies and subsequent abuse of dominance within the sphere of infrastructure sharing.

3.1.3 International examples of Passive Infrastructure Sharing

Balancing of investment incentives to ensure continuous rollout of infrastructure versus the principle of non-discrimination and open access to infrastructure present the two main challenges for regulators. The examples below illustrate some of the initiatives that have been implemented or are being evaluated in Europe, Asia - Pacifica, Middle East and Africa.

3.1.3.1 Europe

(a) **Stokab (Sweden)**

Stokab was founded in 1994 and derived from a Government Bill – “From an IT policy for society to a policy for an IT society”. Initially services were to be offered to stimulate ICT development in the Stockholm region including the city of Stockholm by filling the gap in the market that resulted from the incumbent’s refusal to provide fibre capacity.

Whilst Stokab built and leased fibre-optic infrastructure, the telecommunications companies provided services and innovative products. Network access is built on an open access model and is provided on a competition-neutral basis. Therefore, it is open to all market players on equal terms. In addition the company operates networks to provide public services within the childcare, recreation, cultural and educational sectors. Since the launch in the Stockholm area, the infrastructure has been expanded to twenty-seven (27) surrounding municipalities and fibre links to neighbouring Baltic and Nordic countries allowing Stockholm to become a regional ICT hub.

(b) **SERPANT (Ireland)**

The SERPANT (South-East Regional Public Access Network of Telecommunications) project was established in 2004 in line with the national broadband strategy set by the Irish Department of Communications, Marine and Natural Resources. The project targeted the implementation of broadband infrastructure in eighty-eight (88) towns with a population of 1,500 – 17,000 inhabitants to fill the gap left by private operators to implement broadband in these areas.

The aim of this project was to establish government owned metropolitan area networks in order to lower the infrastructure investment cost for licensees to offer broadband services to customers. Local authorities built metropolitan area networks funded through the National Development Plan (NDP) e-commerce strategy. E-Net was granted a fifteen (15) year concession to manage the metropolitan area networks offering a range of products including ducting, sub-ducting, dark fibre, co-location facilities and applicable auxiliary services.

3.1.3.2 Africa

(a) **Open Access Model for Next Generation Optic Fibre Broadband Network (Nigeria)**

The Nigerian government has identified the need to ensure deployment of a cost-effective, widespread national and metropolitan optic fibre transmission network to stimulate economic growth and achieve global economic competitiveness in line with Nigerian Vision 2020.

The Nigerian Communications Commission (NCC) has therefore begun to establish a regulatory framework for a broadband deployment environment based on an open access model in accordance with the National Broadband Plan. The aim of this consultation and implementation process is to promote the optimisation of the cost of implementation of broadband infrastructure across the country and ensure that all market players – large and small- have equal access to broadband infrastructure on a non-discriminatory and non-exclusive basis. Therefore, it is envisaged that the national backbone and metropolitan fibre network should be carrier-neutral to encourage service innovation.

In the latest consultation paper published by the NCC in November 2013, the industry structure is identified to consist of infrastructure companies focusing on the deployment of infrastructure and wholesale wireless last mile providers. This is based on the analysis that there is a lack of end-to-end open access transmission services on a widespread geographical basis although dark fibre and intercity backbone fibre is available.

To facilitate the implementation of last mile wireless access the Nigerian Communication Commission has commenced with the auctioning of the 2.3GHz spectrum band.

(b) Infraco (South Africa)

The South African Government established Broadband Infraco (Pty) Ltd in terms of the Broadband Infraco Act, Act No. 33 of 2007 with the aim to expand the availability and affordability of access to electronic communications services through the provisioning of electronic communications network services. Furthermore, provision was made for Broadband Infraco (Pty) Ltd to access servitudes held by Eskom and Transnet for the implementation of electronic communications network services.

Since its inception Broadband Infraco (Pty) Ltd has established a national long distance fibre network providing high capacity telecommunication services between major metropolitan areas and access to international destinations via the West Africa submarine cable (WACS) launched in 2012.

(c) Zambia

The Government of Zambia tasked the regulator, the Zambia Information and Communication Technology Authority (ZICTA) to fund the implementation of one hundred and sixty-nine (169) towers in rural areas requiring an investment of twenty four (24) million US dollars.

The towers, located in under-served areas are to be leased to the mobile operators to provide communications services to 200,000 inhabitants.

3.1.3.3 Asia-Pacific

(a) Regulatory requirements (India)

The Telecommunications Regulatory Authority of India (TRAI) intended to promote the passive and active sharing of infrastructure to promote rollout and increased availability of affordable services. To this end the Indian Department of Telecommunications set a target to increase infrastructure sharing in urban areas with 70% by 2010 and to establish a subsidy scheme to implement shared wireless infrastructure with 18,000 towers in rural areas. Shared towers are subsidised provided that the infrastructure can be shared by at least three (3) operators. Operators are allowed to negotiate infrastructure sharing agreements on a commercial basis. However TRAI reserved the rights to prescribe a standard format for commercial agreements.

All licensees are required to maintain information pertaining to sites available for infrastructure sharing on their respective websites. The negotiation period for site sharing agreements is set for thirty (30) days. Vodafone India estimates that 30% to 40% of its sites are shared translating into significant reduction in capital expenditure.

(b) Regulatory requirements (Malaysia)

The Malaysian Communications and Multimedia Commission (MCMC) stated infrastructure sharing was set as one of the criteria for the issuance of 3G licences to applicants. Applicants were required to demonstrate their commitment to sharing of physical infrastructure and network capacity to maximise the use of network facilities as well as the capability to provide national roaming. Two applicants complied with the conditions imposed for 3G licences and relate spectrum licences. MCMC issued 3G licences to Telekom Malaysia and Maxis Communications in July 2002.

3.2 Active infrastructure sharing

As mentioned earlier in this document infrastructure sharing does not have to be limited to sharing of passive infrastructure. Network elements such as antennas, feeders, racks and transmission systems may also be shared between operators.

The Authority is also mandated to assess the environmental impact of implementing infrastructure as contained in section 38(10)(h) and section 86(2)(g) of the Communications Act which reads as follows -

“any matter relating to masts, towers or other facilities effecting the environment or aesthetic impact of such facilities.”

To this end the Authority does not intend to limit the sharing of infrastructure to passive infrastructure only but also to feeders and antennas to lessen the visual impact and address loading on physical towers and mast by attaching separate antennas by each licensee utilising the infrastructure.

3.2.1 Rack Sharing

Sharing of racks allows for the physical separation of Transmission and Reception Units (TRX's), power amplifiers, transmission systems and other elements of the radio access network elements whilst power supplies, air conditioning, alarm installations and ancillary cabinets are shared. In the event that battery backups are also shared by competing operators, it may translate in up to 10% savings in capital costs incurred for network roll out.

Operators increasingly implement the same features in their networks and therefore compete on quality of service. Although the sharing of core network equipment is technically possible it is taken into consideration that the core network contains confidential information owned by competing operations.

3.2.2 National Roaming

It is therefore preferable to focus on other options such as national roaming or allowing mobile virtual network operators (MVNO) taking into account the sensitivity around active sharing of the core network.

Within the framework of national roaming an operator pays a wholesale roaming charge based on the volume of traffic generated to the other operator providing the network in a specific geographical area.

National roaming provides a viable effective means to operators to provide services in remote areas whilst implementing their own networks in urban areas. On the other hand national roaming presents the drawback to the roaming operator that it would not be possible to differentiate itself in respect of coverage, data speeds and service quality. It is therefore a

business decision to be made by the licensee whether to invest in the implementation of its own infrastructure or approach another licensee to conclude a national roaming agreement.

3.2.3 Mobile Virtual Network Operators (MVNO)

The business model for MVNO's is based on the resale of wholesale minutes from an existing infrastructure owner of a mobile network. The majority of MVNO's do not have their own core and radio networks, but provide telecommunications services by accessing a mobile operator's network. MVNO's utilise their own billing platforms.

Signing agreements with a MVNO may be commercially attractive should a mobile operator have spare capacity on its core, radio or backhaul network. The regulatory framework needs to address the type of access allowed, pricing transparency and non-discrimination.

The Authority has set a telecommunications service category for a Class ECS service licence as published under Regulations Setting Out Broadcasting and Telecommunications Service Licence Categories as published in Government Gazette No. 4714, Notice No. 124 dated 18 May 2011. A Class ECS licence holder leases its network infrastructure from another licensee.

3.2.4 International examples of Active Infrastructure Sharing

The examples below illustrate some of the initiatives that have been implemented or are being evaluated in Europe and Asia - Pacific.

3.2.4.1 Asia-Pacific

(a) Regulatory requirements (India)

In terms of the regulatory directive by the TRAI infrastructure sharing licence conditions are to be amended to allow active infrastructure sharing of antennas, feeder cables, Node B's, radio access networks and transmission systems including the sharing of optical fibre.

To date, examples can be found of up to six operators sharing towers and masts due to the tight planning requirements in urban areas allowing operators to provide sufficient capacity to meet customer demand.

3.2.4.2 Europe

(a) Regulatory requirements (Denmark)

Danish legislation imposed limitations on the passive infrastructure sharing of mast and towers due to the implications thereof on surrounding areas. The regulator allowed for the implementation of 2G and 3G national roaming agreements to meet coverage requirements contained in licence conditions.

3.3 Rights of Way

Ownership of land and obtaining rights of way is complicated and ranges from private entities, national organisations (such as; electricity and railway companies), to local authorities such as municipalities, regional councils, village councils and communal land Boards. The processes for obtaining rights of way may be slow and differ from entity to entity. The provisions of the Local Authority's Act No. 23 of 1992 and the Communal Land Reform Act No. 5 of 2002 will be taken into account herein.

The Authority has adopted a service and technology neutral licence regime for the issuance of telecommunications service licences. Chapter 5 of the Communications Act firstly defines all holders of service and technology neutral licences as carriers. Secondly it prescribes that the rights granted to carriers are only applicable to the installation of wires, fibres and other forms of telecommunications lines as well as facilities such as poles, stays, pipes and ducts required to support or protect the aforementioned telecommunications infrastructure. This is subject to section 59(5) of the Communications Act.

It should be noted that masts, antennas, towers and similar equipment is excluded from the provisions of sections 59 to 67 of the Communications Act dealing with special rights of carriers. However, the Authority has the option to include masts, antennas, towers and similar equipment in the provisions set out in Section 59(3) following the process prescribed in section 59(4) -

“After having followed a rule-making procedure, the Authority may make this Part applicable to antennas or other equipment used in connection with the transmission or receipt of radio waves, if in its opinion the installation of such equipment does not place a greater burden on the owner of land than telecommunications facilities to which this Part applies as provided in subsection (3).”

Part 5 of the Communications Act further prescribes the rights of carriers in terms of entry upon land to construct telecommunications infrastructure, laying pipes for the purpose of providing telecommunications services, erecting of fences by landowners affecting access to telecommunications facilities owned by carriers, removal of trees obstructing telecommunications facilities, the height and depth of cables and facilities and the construction of telecommunications infrastructure in conjunction with railways and electrical works.

The role of the Authority is limited to the facilitation of rights of way and the Authority may adjudicate in disputes in between landowners and telecommunications service licensees in relation to carrying out their duties as prescribed in Part 5 of the Communications Act. Further more the Authority has the obligation to make regulations to prescribing the process for dispute resolution in terms of section 69(3) of the Communications Act.

As stated in the ICT for Greater Development Impact: World Bank Group Strategy for Information and Communication Technology (June 2012), the development of a broadband ecosystem hinges on a stable licensing regime reducing uncertainty and infrastructure sharing to reduce cost of infrastructure implementation and facilitating expansion of networks and open access to existing infrastructure. The Authority recognizes the importance of obtaining rights of way from landowners and the impact it may have on the cost of deployment of telecommunications infrastructure and will therefore pro-actively engage government entities, local authorities, municipalities and private landowners to discuss the provisions of the Communications Act and infrastructure sharing regulations to be imposed by the Authority.

4. REGULATORY FRAMEWORK FOR INFRASTRUCTURE SHARING

4.1 Analysis of Existing Agreements

The Authority requested existing licensees to submit interconnect agreements in terms of section 53 (5) of the Act read the Regulations setting Licensing Conditions for Telecommunications Service Licensees as published in Government Gazette No. 5037, General Notice No. 308 dated 13 September 2012. The following licensees responded to the request -

- a) Mobile Telecommunications Limited (MTC),

- b) Paratus Telecommunications formerly called Wireless Technologies Namibia (Pty) Ltd,
- c) Telecom Namibia Limited,
- d) MWireless (Pty) Ltd t/a Africa Online, and
- e) Powercom (Pty) Ltd t/a leo.

The majority of the agreements submitted contained variable pricing related to passive site sharing, such as; access and use of the yard surrounding the mast/tower, floor space in the equipment room, mast and antenna loading, equipment wind load charges, equipment mounting height charges, alarm monitoring and generator usage charges with increasing rental fees linked to Consumer Price Index (CPI). Although the Authority is aware of the existence of agreements between the public broadcaster and telecommunication service licensees for access to transmitter towers, no agreements in terms thereof have been submitted to the Authority to date for this study.

Based on an analysis done of the agreements, it became clear that agreements were signed on a bi-lateral basis whereby the lessor undertakes all responsibility for rates and taxes levied on the property, maintenance of the site and power whilst the lessee undertakes the responsibility for site improvements requested to allow site sharing.

The Authority concluded that -

- the existing agreements does not promote the creation of a level playing field as is evident in the fact that the format adopted for each agreement differs and are dependent on the licensee requested access;
- the existence of disparity in pricing in that different pricing for the same access to infrastructure is levied to different licensees; and
- the charging of unusually high, sometime exorbitant, tariffs levied for access to infrastructure to one licensee whilst another licensee is charged at a much lower tariff for the same access request.

4.2 Minimum agreement requirements

It is important that infrastructure sharing agreements are transparent and non-discriminatory and benefit both parties. It is therefore proposed that infrastructure sharing agreement conform to the structure as proposed hereunder as a minimum set of requirements-

- i) Purpose of Agreement
- ii) Obligations of both Parties
- iii) Term/duration of Agreement
- iv) Billing Conditions
- v) Service Description
- vi) Implementations and co-ordinations
- vii) Access to facilities and co-operations
- viii) Maintenance and operation
- ix) Subletting and conditions
- x) Breach and termination
- xi) Penalties
- xii) Liability
- xiii) Representation and warranty
- xiv) Amendments to agreement
- xv) Force Majeure
- xvi) Governing law and jurisdiction

- xvii) Cession and assignment
- xviii) Dispute Resolution
- xix) Severability of clauses
- xx) Non-exclusive clause
- xxi) Non-discrimination clause
- xxii) Compliance with law and regulations

Any exclusivity clauses prohibiting other licensees and utilities from concluding similar agreements with third parties will not be allowed in order to prevent collusion between dominant licensees entering bi-lateral agreements and restriction of competition in the market. Site sharing agreements generally allow licensees and utilities to keep control of their respective network and services. Furthermore there should be no restriction to any licensee to add sites or investing in the construction of their own sites to increase capacity or coverage. Striking a balance between lowering the barriers for new market entrants, the willingness of existing licensees to allow access to existing infrastructure and stimulating investment in infrastructure is an inherent challenge in setting the regulatory framework for infrastructure sharing.

4.3 Setting a regulatory framework

Successful implementation of infrastructure sharing is not solely dependent on the setting of regulations, but also relies on policies and laws set by the government in relation to-

- i) Infrastructure;
- ii) the availability of infrastructure to share;
- iii) the degree of difficulty encountered to acquire permission from landowners;
- iv) local authorities and municipalities to implement new infrastructure;
- v) the availability of information on infrastructure to share and the relative cost of access to infrastructure owned by another licensee or tower company versus alternative entry options; and
- vi) the revenue to be generated within a specific geographical area.

Shared access to infrastructure, such as ducts, provides an opportunity to licensees for implementing their own infrastructure when the access cost to existing infrastructure is too high or in the absence of unbundling. It should however also be noted that although the initial deployment cost of next generation access network is very high and dependent on the adoption rate of next generation access by premises being passed. Any first mover may be able to secure a monopoly within the area of implementation going forward.

The Authority therefore investigated a number of international regulatory frameworks and best practices to be taken into consideration in setting a framework for Namibia.

4.3.1 Australia

The Australian Government made provision for infrastructure sharing in the Telecommunications Act of 1997 with the aim to lower the entry barriers for new entrants and to address the excessive duplication of telecommunications facilities.

The Australian Competition and Consumer Commission (ACCC) published the Facilities Access Code in 1999 setting out processes and procedures to be followed by carriers in the

absence of agreements based on commercial terms and conditions on a non-discriminatory basis. ACCC acts as an arbitrator for disputes between carriers in should carriers fail to reach commercial agreement over the price of access. In such cases ACCC determines the price based on the price that would occur if the provider encountered effective competition. Such pricing is influenced by the age of the assets in question, geographical location, available capacity and investment risk.

4.3.2 Canada

Infrastructure sharing in Canada dates back to the 1950's with the initial deployment of cable television networks. The Telecommunications Act of 1993 mandated the Canadian Radio-television and Telecommunications Commission (CRTC) to grant telecommunications and cable carriers access to support structures of other carriers. Furthermore CRTC is authorised to review and approve access rates to infrastructure. It should be noted that CRTC do not regulate access to infrastructure owned by utilities.

4.3.3 France

The French regulator (ARCEP) oversees regulated access to infrastructure sharing and has imposed obligations on France Telecom as dominant player following a market review in 2008. France Telecom is obliged to grant reasonable requests for access to infrastructure, make capacity available when constraints exist and provide planning information.

Furthermore, France Telecom is required to publish a reference offer for infrastructure access containing technical and commercial details as well as cost orientated tariffs. Access must be offered on a non-discriminatory basis and also include the formalisation of internal pricing and processes for supply of access to infrastructure to its own subsidiaries. In terms of this offer communications providers are responsible for their own installation work subject to the contractual conditions set by France Telecom.

The French Competition Authority presides over cases involving France Telecom's abuse of its monopoly on telecom infrastructure.

4.3.4 Portugal

Anacom, the Portuguese Regulator, established rules for regulatory access to Portugal Telecom's ducts, masts and other infrastructure as mandated by the Law of Electronic Communications in 2004 through creation of the Reference Conduit Access Offer (ORAC). The reference offer does not only set terms and costs but also obligations that the accessing operator must comply to before gaining access to Portugal Telecom's ducts.

The Portuguese government signed a Protocol on NGN's with Sonaecom, Portugal Telecom, ZON Multimedia and Oni Communications in January 2009 enabling duct sharing and maintaining a centralised information system on duct infrastructure. Furthermore a minimum credit line of 800 million EURO was provided.

4.3.5 Tanzania

The Tanzanian Communications Regulatory Authority (TCRA) has established a regulatory framework making provision for sharing of infrastructure between telecommunications licensees as well as inclusion of tower companies and undersea cable providers. In order to include tower companies and undersea cable providers, TRCA established a licence category entitling the holder of such a licence to construct, maintain, own and offer one or more network facilities. It should be noted that the offering of network facilities does not include equipment at customer premises.

5. THE AUTHORITY'S VIEWPOINT ON INFRASTRUCTURE SHARING IN NAMIBIA

From the Authority's point of view it will be prudent to implement infrastructure sharing relations in line with the objectives and provisions of the Communications Act and Namibia's Telecommunications Policy of 2009 in the absence of any broadband policy guidelines issued by the Ministry of Information and Communication Technology.

Taking into account regulatory frameworks set by other international regulatory bodies and examples of implementation of passive and active infrastructure sharing refer to in this study the Authority intends to implement infrastructure regulations that will provide for-

- i) passive and active sharing of infrastructure to create a level playing field between existing licensees; and
- ii) intend to lower barriers for new entrants into the market enabling the offering of a wider range of communication services at affordable pricing levels without unnecessary duplication of infrastructure.

Furthermore the Authority intends to specify the response time and framework of infrastructure sharing agreements to ensure the provision of access to infrastructure on a non-discriminatory basis and affordable pricing models without undue delay. Although the Authority does not intend to prescribe pricing at present, licensees will be required to submit reference offers to the Authority for approval in accordance with the forthcoming infrastructure sharing regulations following a period for public comment, reply comments from the applicant and approval by the CRAN Board of Directors.

In addition licensees will be required to maintain a database of infrastructure available for sharing on their websites to be accessed by other licensees and the Authority from time to time as required.

The envisaged infrastructure sharing regulations will be applicable to broadcasting and telecommunications service licensees owning communications infrastructure. To fulfill this object the Authority intends to introduce an additional service licence category for network facility providers to make provision for the operation of tower companies and terrestrial and undersea backbone and cable companies as may be applicable.

In conclusion the Authority intends to commence with the rule making process to implement regulations for infrastructure sharing in the near future making provision for but not necessarily limited to –

- i) Provision of access
- ii) Special rights of way
- iii) Applicability to telecommunications and broadcasting service licensees
- iv) Infrastructure sharing on commercial terms
- v) Sharing agreement negotiation procedures including timelines
- vi) Non-discrimination, non exclusivity and transparency provisions
- vii) Obligations of dominant operator
- viii) Fee structure
- ix) Content of infrastructure sharing agreements
- x) Approval of infrastructure sharing agreements and reference offers by the Authority
- xi) Technical requirements
- xii) Maintenance of infrastructure
- xiii) Dispute resolutions

- xiv) Conditions
- xv) Submission of information to the Authority
- xvi) Time-lines for providing access to infrastructure

6. LIST OF REFERENCES

- i) Chanab, L.A, El-Darwiche, B, Hasbani, G, Mourad, M. 2007. *Telecom Infrastructure Sharing Regulatory Enablers and Economic Benefits*, Booz Allen Hamilton.
- ii) Cohen, T & Southwood, R. February 2008. *Extending Open Access to National Fibre Backbone in Developing Countries: 8th Global Symposium for Regulators*.
- iii) Communications Act, Act 8 of 2009
- iv) CSMG: 2010. *Economics of Shared Infrastructure Access*, Descartes House, London, United Kingdom
- v) GSMA: 2012. *Mobile Infrastructure Sharing*; GSMA Head Office: London.
- vi) ICT for Greater Development Impact. (June 2012). *World Bank Group Strategy for Information and Communication Technology*.
- vii) ICT Regulation Toolkit: Infrastructure Sharing and Co-Location
- viii) Lefèvre, B. B. February 2008. *Mobile Sharing: 8th Global Symposium for Regulators*.
- ix) Nigerian Communications Commission. November 2013. *Open Access Model for Next Generation Optic Fibre Broadband Network, The Nigerian Model: Industry Consultation Paper*.
- x) Spintrack, A. B. 2005. *Open Access Models: Options for Improving Backbone Access in Developing Countries*, Washington DC InfoDev/World Bank.

SCHEDULE 2

PURPOSE OF REPORT ON THE OUTCOME OF THE INFRASTRUCTURE SHARING STUDY BY THE AUTHORITY

The Authority intends to implement infrastructure regulation in the Namibian context based on this Report on the Outcome of the Infrastructure Sharing by the Authority with the aim to-

- i) Extend geographical access beyond current urban, semi-urban and rural areas to underserved areas by lowering investment cost with shared infrastructure, resulting in lower entry barriers and thereby benefit the consumer through a variety of affordable and quality communications services;
- ii) Decrease environmental impact as a result of implementation of infrastructure by reducing levels of duplication of infrastructure through infrastructure sharing agreements by licensees *inter se* as well as between licensees and utilities thereby promoting green ICT;
- iii) Stimulate innovation of new services in rural areas by allowing alternative technologies for last-mile access whilst transmission networks are provided on a shared basis;
- iv) Address abuse of dominance and anti-competitive behavior of infrastructure owners by establishing a regulatory framework with clear rules for sharing to ensure quality of service at affordable prices provided to all licensees on a non-discriminatory basis;
- v) Facilitate rights of way to provide for trenching and ducting works between telecommunication service licensees, broadcasting service licensees and local authorities as well as between telecommunication service licensees and utilities.

This Report is also published with the purpose to inform the ICT industry as to the background and basis of the intended regulation and invite the ICT industry to make their comments thereon and share their viewpoint with the Authority prior to the drafting and implementation of the intended infrastructure sharing regulations.