



# GOVERNMENT GAZETTE

## OF THE

# REPUBLIC OF NAMIBIA

N\$9.60

WINDHOEK - 29 May 2013

No. 5201

### CONTENTS

*Page*

#### GENERAL NOTICES

No. 162	Communications Regulatory authority of Namibia: Notice in terms of the regulations regarding licensing procedures for telecommunications and broadcasting service licences and spectrum use licences .....	1
No. 163	Communications Regulatory Authority of Namibia: Notice in terms of the regulations regarding the submission of interconnection agreements and tariffs .....	3
No. 164	Communications Regulatory Authority of Namibia: Notice in terms of the regulations regarding transitional procedures for telecommunications and broadcasting service licences and spectrum use licences .....	4
No. 165	Communications Regulatory Authority of Namibia: Notice of intention to make regulations setting out licence conditions for spectrum use licences .....	5
No. 166	Communications Regulatory Authority of Namibia: Regulations setting out the frequency channeling plan for digital terrestrial television: Communications Act, 2009 .....	10
No. 167	Communications Regulatory Authority of Namibia: Determination of dominant position: Telecommunication service licences .....	17

## General Notices

### COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 162

2013

#### 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, read with regulations 6 and 11 of the “Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences”, published in Government Gazette No. 4785, Notice No. 272, dated 29 August 2011, herewith gives notice that the applicant referred to in the table below, submitted an application for a spectrum use licence to 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 date of notification 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 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](mailto:legal@cran.na);
- (4) By facsimile to the following facsimile number: +264 61 222790; or
- (5) By fax to e-mail to: 088642748.

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

---

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

No. 163

2013

#### **NOTICE IN TERMS OF THE REGULATIONS REGARDING THE SUBMISSIONS OF INTERCONNECTION AGREEMENTS AND TARIFFS**

The Communications Regulatory Authority of Namibia, in terms of regulation 8 of the “Regulations Regarding the Submission of Interconnection Agreements and Tariffs”, in Government Gazette No. 4714, Notice No. 126, dated 18 May 2011, herewith gives notice that Telecom Namibia Limited has filed a tariff with the Authority as set out in Schedule 1.

Any person may examine copies of the tariffs submitted at the head offices of the Authority during normal business hours and copies may be made on payment of a fee determined by the Authority. Copies are also available at [www.cran.na](http://www.cran.na) where copies may be downloaded free of charge.

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

Telecom Namibia Limited may submit, in writing to the Authority, a response to any written comments within fourteen (14) days from the lapsing of the time to submit written submissions.

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 submissions 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](mailto:legal@cran.na); and
- (4) by facsimile to the following facsimile number: +264 61 222790.
- (5) by fax to e-mail to: 088642748

### SCHEDULE 1

#### SUBMISSION OF TARIFFS FOR FIXED LINE VOICE CALL PLANS: TALKNET AND TALKNET PLUS PACKAGES BY TELECOM NAMIBIA LIMITED COMMUNICATIONS ACT, 2009

	<b>TalkNet</b>	<b>TalkNet Plus</b>
<b>Package activation charge</b>	N\$ 99.00	N\$ 99.00
<b>CPE (Fixed)</b>	Gigaset A120	Panasonic KXTG1311
<b>On-net Peak Time calls: 07h00 – 19h00 Weekdays (Monday –Friday)</b>	Not Included	Free 1000 minutes/month
<b>On-net calls Off-Peak Time: 19h00 to 07h00 weekdays, Weekends &amp; Public Holidays</b>	Free & Unlimited	Free & Unlimited
<b>Out of bundle Call rates</b>	Normal fixed line call rates apply	
<b>Anytime Fixed to mobile calls</b>	50 minutes/month	100 minutes/month
<b>Line Rental</b>	Included	Included
<b>Fixed to mobile call rate (off-net)</b>	N\$ 0.85/min	N\$ 0.75/min
<b>Monthly Charge (6 Months contract)</b>	<b>N\$ 199.00</b>	<b>N\$ 299.00</b>
<b>Monthly Charge (12 Months contract)</b>	<b>N\$ 169.00</b>	<b>N\$ 259.00</b>

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

#### COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 164

2013

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

The Communications Regulatory Authority of Namibia, in terms of Regulation 10(9) and 16 of the “Regulations Regarding Transitional Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences”, in Government Gazette No. 4737, Notice No. 171, dated 17 June 2011, herewith gives notice that the person referred to in the table below, is issued with the following licence effective from date of publication of this notice in *Gazette*:

Licensee	Licensees' Citizenship or place of incorporation	Percentage of Stock owned by Namibian Citizens or Namibian Companies controlled by Namibian Citizens	Category of class telecommunications service license issued	Telecommunication services intended to be provided by applicant	Proof of Licence Fees paid up to date?
Converged Telecommunications Solutions (Pty) Ltd	Namibian	49% <sup>1</sup>	Class Comprehensive Telecommunications Service License (ECS & ECNS)	Electronic Communications	Yes

The licence is issued subject to the Communications Act, 2009 (Act No. 8 of 2009) and the Regulations Regarding Licence Conditions for Telecommunications Service Licences, as published in Government Gazette No. 5037, Notice No. 308, dated 13 September 2012.

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

---

**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

No. 165

2013

**NOTICE OF INTENTION TO MAKE REGULATIONS SETTING OUT LICENCE  
CONDITIONS FOR SPECTRUM USE LICENCES**

The Communications Regulatory Authority of Namibia, in terms of regulation 4(3) of the Regulations Regarding Rule-Making Procedures published as General Notice No. 334 of 17 December 2010 -

1. publishes this notice of intention to make Regulations Setting Out Licence Conditions for Spectrum Use Licences as set out in Schedule 1;
2. set out the concise statement of the purpose for the proposed Regulations in Schedule 2.

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

The public may also 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 written submissions.

Reply comments to written submissions may be submitted to the Authority-

- (a) within a period of fourteen (14) days from the date of notification of written comments by the Authority; or
- (b) If the opportunity for the submission of reply comments is published in a subsequent *Gazette*, after the lapse of fourteen (14) days from the date of such publication.

---

<sup>1</sup> Subject to section 46(2) of the Communications Act, No 8 of 2009.

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 submission must send or given in any of the following manner:

- (a) by hand to the head offices of the Authority, namely Communication 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: [legal@cran.na](mailto:legal@cran.na); and
- (d) by facsimile to the following facsimile number: +264 61 222490.

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

## **SCHEDULE 1**

### **REGULATIONS SETTING OUT LICENCE CONDITIONS FOR SPECTRUM USE LICENCES: COMMUNICATIONS ACT, 2009**

The Communications Regulatory Authority of Namibia, in terms of section 101 of the Communications Act, 2009 (Act No. 8 of 2009) intends to make Regulations Setting Out Licence Conditions for Spectrum Use Licences.

#### **1. Definitions**

In these regulations, any word or expression to which a meaning is assigned in the Act, shall have the same meaning and –

“Act” means the Communications Act, 2009 (Act No. 8 of 2009).

#### **2. Purpose**

These regulations impose conditions on spectrum use licensees in addition to the conditions imposed by the Act.

#### **3. Applicability**

These regulations are applicable to all spectrum use licences issued in terms of section 101 of the Act and to persons that may provide telecommunications services without a licence as in regulation 5(2) of the Regulations Setting out Broadcasting and Telecommunications Service Licences Categories, published in Government Gazette No. 4714, Notice 124, dated 18 May 2011 (As amended in Government Gazette No. 5148, Notice No. 74, dated 13 March 2013).

#### **4. Authorisation**

1. All spectrum use licensees are duly authorised to use frequencies assigned in terms of section 101 of the Act and 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 maybe amended from time to time.
2. The spectrum use licence certificate (as contained in “Annexure A”) shall not confer any ownership rights of the frequency indicated on the licence, but only give the licensee a right of use.
3. The Authority may request a licensee to prove that the allocated frequency is been used efficiently. After considering such a written report from a licensee, the Authority may revoke a spectrum licence issued, should it be deemed that the licensee is hoarding spectrum or not using it efficiently.

#### **5. Spectrum Use Licence Area**

The spectrum use licence area is the Republic of Namibia or any specific geographical area as specified on spectrum use licence certificate and/or annexes attached to the spectrum use licence certificate in the Republic of Namibia.

#### **6. Duration of spectrum use licences**

1. In terms of sections 38, 86 and 101, the authorisation to utilise spectrum stipulated in a spectrum use licence shall automatically expire on 31 December of every calendar year, without prior written notice.
2. Licensees shall apply to renew their licences, on a form provided by the Authority, within two (2) months prior to the expiry of the spectrum use licence in terms of sections 101 (14) of the Act.
3. In terms of section 42(3) and 88 of the Act, in the event that the licensees fails to pay licence fees payable, the Authority may declare the licence to be forfeited in which case no licence renewal will be issued.
4. The licensee must utilise the spectrum use licence/s awarded within six (6) months from date of issuance. Failure to do so will result in forfeiture of the licence to the Authority with immediate effect on the last day of the six (6) month period
5. In respect of (3) and (4) above, the Authority may, after considering a written request from a licensee, extend, in writing, for such further periods, as may be determined by the Authority and, if applicable, condone the licensee’s failure to utilise the assigned frequency or pay the licence fees, as the case may be, in which event the licence will lapse at the expiry of such extended period.

#### **7. National Spectrum Band Plan**

The spectrum use licensees shall comply with the International Telecommunication Union’s regulations as set out for Region 1 indicated in the national spectrum band plan, as prescribed in terms of section 100 of the Act and any amendments that are made thereto from time to time.

**8. Technical conditions**

The licensees shall comply with the technical conditions as will be prescribed in terms of sections 38, 43, 44, 45, 80, 86, 100 and 101 of the Act and the Regulations Regarding Licence Exempt Spectrum, published in Government Gazette No. 4839, Notice No. 395, dated 25 November 2011, as may be amended from time to time, as well as any specific terms and conditions contained in the licence issued.

**9. Payment of Spectrum Use Fees**

1. Subject to regulation 6 of the “Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences”, published in Government Gazette No. 4785, Notice No. 272, dated 29 August 2011, as may be amended from time to time, spectrum use licences shall only be awarded after payment of the applicable fees to the Authority.
2. Spectrum use licence fees for renewal of existing spectrum use licence shall be payable by 31 January of every calendar year.
3. The Authority must issue an invoice to the licensee and a receipt upon receipt of the verified and correct payment.
4. The Authority will issue a renewal letter, after proof of payment of the annual licence fee.

**10. Amendment, renewal or modification of licence**

1. For the amendment or renewal of a licence, the licensee shall comply with the “Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences”, published in Government Gazette No. 4785, Notice No. 272, dated 29 August 2011, as may be amended from time to time.
2. The Authority retains the right to modify a licence in terms of Section 101 (13) of the Act following due process as set out in the “Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and
3. Spectrum Use Licences”, published in Government Gazette No. 4785, Notice No. 272, dated 29 August 2011, as may be amended from time to time.

**11. Reporting, monitoring and compliance**

1. The Authority may request any information in the format determined by it as relevant from the licensees for the purposes of monitoring and ensuring compliance with the Act and the regulations prescribed by the Authority, to which request the licensee shall comply in the manner set out by the Authority.
2. The Authority may, in the course of carrying out its obligations under the Act require a Licensee to provide information, so as to enable it to:
  - a. Monitor and enforce consumer protection, quality of service, compliance with licence conditions and other requirements of the Act and applicable regulations;
  - b. Facilitate efficient use of scarce resources (spectrum); and
  - c. Collect and compile information to be used for the purpose of sectoral analysis, planning, reporting and conducting inquiries.



3. In respect to each request for information referred to in sub-clause (2)(c), except where otherwise addressed in applicable regulations, the Authority will provide a detailed specification of its information request, applicable response times and identify a contact person to whom queries may be addressed.
4. All licencees are obliged to submit on a bi-annual basis in March and November of every calendar year a report to the Authority specifying the following information –
  - a. Location and coordinates of each site;
  - b. Spectrum and technology utilized at each site; and
  - c. Power output of transmitters installed at each site.

## **12. Universal Services and Access**

Spectrum use licensees may be granted universal service obligations in regard to the utilisation of assigned frequencies in the manner as prescribed by the Authority in terms of relevant legislation and regulations, in the manner as set forth by the Authority, from time to time.

## **13. Regulatory offences**

The Authority will prosecute regulatory offences and enforce these licence conditions in terms of sections 114 and 115 of the Act.

## **14. Revocation of licence**

The licence may be revoked in terms of sections 42 and 115 of the Act and section 4 of the licensing conditions as may be applicable.

## **15. Amendment of licence conditions**

The Authority may amend these conditions from time to time in terms of the rule-making regulations.

## **16. Supervision by authority**

The Authority shall supervise compliance with these conditions in terms of sections, 114 and 115 of the Act.

**“Annexure A”****SPECTRUM USE LICENCE**

The right to use the radio frequencies contained in “Annexure A” attached hereto, is conferred to:

---

in terms of section 101 of the Communications Act, 2009 (Act No. 8 of 2009), and the Regulations Regarding Licensing Procedures for Telecommunications and Broadcasting Service Licences and Spectrum Use Licences, as published in Government Gazette No. 4785, Notice No. 272, dated 29 August 2011.

The license is issued subject to the Communications Act, regulations made in terms of the Communications Act and conditions for Spectrum Use Licences to be published in terms of the Regulations Regarding Rule-Making Procedure.

It may however, be suspended or cancelled at any time by the Authority in terms of the Communications Act and applicable Regulations. The licence expires on 31<sup>st</sup> December each year. The Authority will issue a renewal letter, after proof of payment of the annual licence fee.

**DATE OF ASSIGNMENT OF FREQUENCY:****SCHEDULE 2**

**PURPOSE OF THE PROPOSED REGULATIONS SETTING OUT LICENCE  
CONDITIONS FOR SPECTRUM USE LICENCES: COMMUNICATIONS ACT, 2009**

- i. In terms of section 101 of the Act, the Authority may issue spectrum use licences and as such conditions as it may determine. The purpose of the proposed regulations is to set out standard conditions for spectrum use licences.

---

**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

No. 166

2013

**REGULATIONS SETTING OUT THE FREQUENCY CHANNELING PLAN FOR  
DIGITAL TERRESTRIAL TELEVISION: COMMUNICATIONS ACT, 2009**

The Communications Regulatory Authority of Namibia, in terms of section 100 (6) of the Act and the Regulations Regarding Rule-Making Procedures: Communications Act, 2009 published as General Notice No. 334, in Government Gazette No. 4630 dated 17 December 2010, hereby publishes these Regulations Regarding the Frequency Channeling Plan for Digital Terrestrial Television, which will be in force, effective from date of publication in the *Gazette*.

**Definitions**

1. In these regulations, any word or expression to which a meaning is assigned in the Act, shall have the same meaning and-

“Act” means the Communications Act, 2009 (Act No. 8 of 2009).

**Purpose**

2. These regulations set out the Frequency Channeling Plan for Digital Terrestrial Television in terms of section 100 of the Act.

### Applicability

3. These regulations are applicable to all Broadcasting Service Licensees, as contained in the Regulations Setting Out Broadcasting and Telecommunications Service Licence Categories as amended in Government Gazette No. 5148, Notice No. 74, dated 13 March 2013, providing or intending to provide Digital Terrestrial Television.

### Table of Frequency Allocations

4. The table of frequency allocations sets out Digital Terrestrial Television allocations for Namibia adopted by the Revised ITU Regional Radio Communication Conference in 2006 (GE06 Plan) for terrestrial television broadcasting in bands ranging from 174 MHz to 230 MHz and 470 MHz to 694 MHz.

Site Name	Latitude	Longitude	Multiplex Number	Frequency (MHz)	Channel Number	TX Power (W)	Antenna Peak Gain (dBd)	Antenna Peak Gain (dBd)	Polarisation	Antenna Height (m)	Region
Aminuis	23 40 35.6 S	19 26 01.6 E	1	210	9	1000	30.00	11.5	Vertical	119.2	Omaheke
Aminuis	23 40 35.6 S	19 26 01.6 E	2	626	40	1000	30.00	11.5	Vertical	119.2	Omaheke
Aminuis	23 40 35.6 S	19 26 01.6 E	3	666	45	1000	30.00	11.5	Vertical	119.2	Omaheke
Aminuis	23 40 35.6 S	19 26 01.6 E	4	658	44	1000	30.00	11.5	Vertical	119.2	Omaheke
Aranos	24 6 50.4 S	19 6 3.9 E	1	570	33	500	26.99	7.5	Horizontal	91.1	Hardap
Aranos	24 6 50.4 S	19 6 3.9 E	2	642	42	500	26.99	7.5	Horizontal	91.1	Hardap
Aranos	24 6 50.4 S	19 6 3.9 E	3	610	38	500	26.99	7.5	Horizontal	91.1	Hardap
Aranos	24 6 50.4 S	19 6 3.9 E	4	514	26	500	26.99	7.5	Horizontal	91.1	Hardap
Arendesnes	18 2 30.9 S	19 37 27.8 E	1	202	8	1000	30.00	14.7	Horizontal	216	Kavango
Arendesnes	18 2 30.9 S	19 37 27.8 E	2	530	28	1000	30.00	14.7	Horizontal	216	Kavango
Arendesnes	18 2 30.9 S	19 37 27.8 E	3	474	21	1000	30.00	14.7	Horizontal	216	Kavango
Arendesnes	18 2 30.9 S	19 37 27.8 E	4	482	22	1000	30.00	14.7	Horizontal	216	Kavango
Aus	26 39 41.0 S	16 19 3.0 E	1	658	44	20	13.01	7.5	Horizontal	81.1	Karas
Aus	26 39 41.0 S	16 19 3.0 E	2	626	40	20	13.01	7.5	Horizontal	81.1	Karas
Aus	26 39 41.0 S	16 19 3.0 E	3	690	48	20	13.01	7.5	Horizontal	81.1	Karas
Aus	26 39 41.0 S	16 19 3.0 E	4	674	46	20	13.01	7.5	Horizontal	81.1	Karas
Aussenkehr	28 21 58.1 S	17 26 9.0 E	1	530	28	20	13.01	7.5	Horizontal	61.1	Karas
Aussenkehr	28 21 58.1 S	17 26 9.0 E	2	482	22	20	13.01	7.5	Horizontal	61.1	Karas
Aussenkehr	28 21 58.1 S	17 26 9.0 E	3	554	31	20	13.01	7.5	Horizontal	61.1	Karas
Aussenkehr	28 21 58.1 S	17 26 9.0 E	4	626	40	20	13.01	7.5	Horizontal	61.1	Karas
Bethanien	26 29 0.7 S	17 14 18.0 E	1	202	8	2000	33.01	11.6	Horizontal	216.8	Karas
Bethanien	26 29 0.7 S	17 14 18.0 E	2	522	27	2000	33.01	11.6	Horizontal	216.8	Karas
Bethanien	26 29 0.7 S	17 14 18.0 E	3	554	31	2000	33.01	11.6	Horizontal	216.8	Karas
Bethanien	26 29 0.7 S	17 14 18.0 E	4	586	35	2000	33.01	11.6	Horizontal	216.8	Karas
Brukkaros	25 51 20.2 S	17 46 53.3 E	1	186	6	100	20.00	8	Vertical	67.42	Karas
Brukkaros	25 51 20.2 S	17 46 53.3 E	2	610	38	100	20.00	8	Vertical	67.42	Karas
Brukkaros	25 51 20.2 S	17 46 53.3 E	3	642	42	100	20.00	8	Vertical	67.42	Karas
Brukkaros	25 51 20.2 S	17 46 53.3 E	4	562	32	100	20.00	8	Vertical	67.42	Karas
Buitepos	22 17 00.0 S	19 54 00.0 E	1	498	24	500	26.99	12.9	Vertical	82.23	Omaheke
Buitepos	22 17 00.0 S	19 54 00.0 E	2	530	28	500	26.99	12.9	Vertical	82.23	Omaheke
Buitepos	22 17 00.0 S	19 54 00.0 E	3	658	44	500	26.99	12.9	Vertical	82.23	Omaheke
Buitepos	22 17 00.0 S	19 54 00.0 E	4	690	48	500	26.99	12.9	Vertical	82.23	Omaheke

Chetto	17 55 53.3 S	22 36 43.4 E	1	194	7	1000	30.00	10	Horizontal	125	Caprivi
Chetto	17 55 53.3 S	22 36 43.4 E	2	546	30	1000	30.00	10	Horizontal	125	Caprivi
Chetto	17 55 53.3 S	22 36 43.4 E	3	578	34	1000	30.00	10	Horizontal	125	Caprivi
Chetto	17 55 53.3 S	22 36 43.4 E	4	602	37	1000	30.00	10	Horizontal	125	Caprivi
Corridor	23 30 55.6 S	19 50 54.8 E	1	474	21	400	26.02	10.5	Horizontal	82.42	Omaheke
Corridor	23 30 55.6 S	19 50 54.8 E	2	490	23	400	26.02	10.5	Horizontal	82.42	Omaheke
Corridor	23 30 55.6 S	19 50 54.8 E	3	522	27	400	26.02	10.5	Horizontal	82.42	Omaheke
Corridor	23 30 55.6 S	19 50 54.8 E	4	554	31	400	26.02	10.5	Horizontal	82.42	Omaheke
Divundu	18 4 37.5 S	21 44 55.3 E	1	610	38	1000	30.00	12.5	Horizontal	120	Kavango
Divundu	18 4 37.5 S	21 44 55.3 E	2	490	23	1000	30.00	12.5	Horizontal	120	Kavango
Divundu	18 4 37.5 S	21 44 55.3 E	3	522	27	1000	30.00	12.5	Horizontal	120	Kavango
Divundu	18 4 37.5 S	21 44 55.3 E	4	554	31	1000	30.00	12.5	Horizontal	120	Kavango
Eenhana	17 29 57.1 S	16 31 24.2 E	1	578	34	100	20.00	10.5	Horizontal	92.42	Ohangwena
Eenhana	17 29 57.1 S	16 31 24.2 E	2	634	41	100	20.00	10.5	Horizontal	92.42	Ohangwena
Eenhana	17 29 57.1 S	16 31 24.2 E	3	506	25	100	20.00	10.5	Horizontal	92.42	Ohangwena
Eenhana	17 29 57.1 S	16 31 24.2 E	4	610	38	100	20.00	10.5	Horizontal	92.42	Ohangwena
Eholongo	18 23 12.6 S	14 58 11.8 E	1	506	25	1000	30.00	10.5	Horizontal	212.42	Omusati
Eholongo	18 23 12.6 S	14 58 11.8 E	2	522	27	1000	30.00	10.5	Horizontal	212.42	Omusati
Eholongo	18 23 12.6 S	14 58 11.8 E	3	538	29	1000	30.00	10.5	Horizontal	212.42	Omusati
Eholongo	18 23 12.6 S	14 58 11.8 E	4	570	33	1000	30.00	10.5	Horizontal	212.42	Omusati
Eiseb-1	21 21 15.3 S	20 28 31.9 E	1	482	22	100	20.00	10.5	Horizontal	122.42	Omaheke
Eiseb-1	21 21 15.3 S	20 28 31.9 E	2	554	31	100	20.00	10.5	Horizontal	122.42	Omaheke
Eiseb-1	21 21 15.3 S	20 28 31.9 E	3	562	32	100	20.00	10.5	Horizontal	122.42	Omaheke
Eiseb-1	21 21 15.3 S	20 28 31.9 E	4	578	34	100	20.00	10.5	Horizontal	122.42	Omaheke
Elandsfontein	19 24 0.7 S	16 16 38.8 E	1	482	22	2000	33.01	10.5	Horizontal	212.42	Otjozondjupa
Elandsfontein	19 24 0.7 S	16 16 38.8 E	2	634	41	2000	33.01	10.5	Horizontal	212.42	Otjozondjupa
Elandsfontein	19 24 0.7 S	16 16 38.8 E	3	610	38	2000	33.01	10.5	Horizontal	212.42	Otjozondjupa
Elandsfontein	19 24 0.7 S	16 16 38.8 E	4	562	32	2000	33.01	10.5	Horizontal	212.42	Otjozondjupa
Epukiro	21 33 3.6 S	19 25 19.2 E	1	178	5	1000	30.00	11.5	Horizontal	219.15	Omaheke
Epukiro	21 33 3.6 S	19 25 19.2 E	2	474	21	1000	30.00	11.5	Horizontal	219.15	Omaheke
Epukiro	21 33 3.6 S	19 25 19.2 E	3	538	29	1000	30.00	11.5	Horizontal	219.15	Omaheke
Epukiro	21 33 3.6 S	19 25 19.2 E	4	506	25	1000	30.00	11.5	Horizontal	219.15	Omaheke
Epupa	17 5 13.1 S	13 12 16.4 E	1	618	39	100	20.00	7.5	Horizontal	91.1	Kunene
Epupa	17 5 13.1 S	13 12 16.4 E	2	514	26	100	20.00	7.5	Horizontal	91.1	Kunene
Epupa	17 5 13.1 S	13 12 16.4 E	3	538	29	100	20.00	7.5	Horizontal	91.1	Kunene
Epupa	17 5 13.1 S	13 12 16.4 E	4	562	32	100	20.00	7.5	Horizontal	91.1	Kunene
Erongo Solar	21 43 42.2 S	15 31 21.9 E	1	178	5	100	20.00	10.1	Horizontal	38.5	Erongo
Erongo Solar	21 43 42.2 S	15 31 21.9 E	2	618	39	100	20.00	10.1	Horizontal	38.5	Erongo
Erongo Solar	21 43 42.2 S	15 31 21.9 E	3	650	43	100	20.00	10.1	Horizontal	38.5	Erongo
Erongo Solar	21 43 42.2 S	15 31 21.9 E	4	514	26	100	20.00	10.1	Horizontal	38.5	Erongo
Gam	20 9 27.5 S	20 43 22.7 E	1	186	6	50	16.99	11.3	Vertical	216.8	Otjozondjupa
Gam	20 9 27.5 S	20 43 22.7 E	2	482	22	50	16.99	11.3	Vertical	216.8	Otjozondjupa
Gam	20 9 27.5 S	20 43 22.7 E	3	514	26	50	16.99	11.3	Vertical	216.8	Otjozondjupa
Gam	20 9 27.5 S	20 43 22.7 E	4	546	30	50	16.99	11.3	Vertical	216.8	Otjozondjupa
Gibeon	25 7 2.4 S	17 56 22.7 E	1	210	9	2000	33.01	11.5	Vertical	140	Hardap
Gibeon	25 7 2.4 S	17 56 22.7 E	2	506	25	2000	33.01	11.5	Vertical	140	Hardap

Gibeon	25 7 2.4 S	17 56 22.7 E	3	538	29	2000	33.01	11.5	Vertical	140	Hardap
Gibeon	25 7 2.4 S	17 56 22.7 E	4	570	33	2000	33.01	11.5	Vertical	140	Hardap
Gobabis	22 26 6.1 S	19 0 31.9 E	1	650	43	2000	33.01	11.6	Horizontal	218.8	Kunene
Gobabis	22 26 6.1 S	19 0 31.9 E	2	618	39	2000	33.01	11.6	Horizontal	218.8	Kunene
Gobabis	22 26 6.1 S	19 0 31.9 E	3	634	41	2000	33.01	11.6	Horizontal	218.8	Kunene
Gobabis	22 26 6.1 S	19 0 31.9 E	4	666	45	2000	33.01	11.6	Horizontal	218.8	Kunene
Gochas	24 50 44.8 S	18 49 8.1 E	1	498	24	500	26.99	7.5	Horizontal	91.1	Hardap
Gochas	24 50 44.8 S	18 49 8.1 E	2	482	22	500	26.99	7.5	Horizontal	91.1	Hardap
Gochas	24 50 44.8 S	18 49 8.1 E	3	546	30	500	26.99	7.5	Horizontal	91.1	Hardap
Gochas	24 50 44.8 S	18 49 8.1 E	4	578	34	500	26.99	7.5	Horizontal	91.1	Hardap
Gross Herzhog	22 42 33.5 S	17 3 37.4 E	1	178	5	4500	36.53	11.6	Horizontal	99	Khomas
Gross Herzhog	22 42 33.5 S	17 3 37.4 E	2	498	24	4500	36.53	11.6	Horizontal	99	Khomas
Gross Herzhog	22 42 33.5 S	17 3 37.4 E	3	562	32	4500	36.53	11.6	Horizontal	99	Khomas
Gross Herzhog	22 42 33.5 S	17 3 37.4 E	4	682	47	4500	36.53	11.6	Horizontal	99	Khomas
Impalila	17 46 46.7 S	25 12 54.0 E	1	610	38	100	20.00	7.5	Horizontal	30	Caprivi
Impalila	17 46 46.7 S	25 12 54.0 E	2	642	42	100	20.00	7.5	Horizontal	30	Caprivi
Impalila	17 46 46.7 S	25 12 54.0 E	3	658	44	100	20.00	7.5	Horizontal	30	Caprivi
Impalila	17 46 46.7 S	25 12 54.0 E	4	562	32	100	20.00	7.5	Horizontal	30	Caprivi
Jericho	28 19 0.6 S	19 44 3.0 E	1	626	40	500	26.99	10.5	Horizontal	122.42	Karas
Jericho	28 19 0.6 S	19 44 3.0 E	2	490	23	500	26.99	10.5	Horizontal	122.42	Karas
Jericho	28 19 0.6 S	19 44 3.0 E	3	570	33	500	26.99	10.5	Horizontal	122.42	Karas
Jericho	28 19 0.6 S	19 44 3.0 E	4	602	37	500	26.99	10.5	Horizontal	122.42	Karas
Kalkrand	24 5 5.9 S	17 34 28.8 E	1	522	27	1000	30.00	10.5	Horizontal	182.42	Hardap
Kalkrand	24 5 5.9 S	17 34 28.8 E	2	474	21	1000	30.00	10.5	Horizontal	182.42	Hardap
Kalkrand	24 5 5.9 S	17 34 28.8 E	3	610	38	1000	30.00	10.5	Horizontal	182.42	Hardap
Kalkrand	24 5 5.9 S	17 34 28.8 E	4	666	45	1000	30.00	10.5	Horizontal	182.42	Hardap
Kamanjab	19 34 40.6 S	14 53 18.4 E	1	546	30	2000	33.01	11.3	Horizontal	216.8	Kunene
Kamanjab	19 34 40.6 S	14 53 18.4 E	2	482	22	2000	33.01	11.3	Horizontal	216.8	Kunene
Kamanjab	19 34 40.6 S	14 53 18.4 E	3	514	26	2000	33.01	11.3	Horizontal	216.8	Kunene
Kamanjab	19 34 40.6 S	14 53 18.4 E	4	578	34	2000	33.01	11.3	Horizontal	216.8	Kunene
Katima Mulilo	17 31 6.8 S	24 16 18.4 E	1	178	5	1000	30.00	16.7	Horizontal	214.9	Caprivi
Katima Mulilo	17 31 6.8 S	24 16 18.4 E	2	490	23	1000	30.00	16.7	Horizontal	214.9	Caprivi
Katima Mulilo	17 31 6.8 S	24 16 18.4 E	3	626	40	1000	30.00	16.7	Horizontal	214.9	Caprivi
Katima Mulilo	17 31 6.8 S	24 16 18.4 E	4	586	35	1000	30.00	16.7	Horizontal	214.9	Caprivi
Keetmanshoop	26 34 38.1 S	18 8 6.5 E	1	210	9	100	20.00	4.5	Vertical	57.1	Karas
Keetmanshoop	26 34 38.1 S	18 8 6.5 E	2	178	5	100	20.00	4.5	Vertical	57.1	Karas
Keetmanshoop	26 34 38.1 S	18 8 6.5 E	3	506	25	100	20.00	4.5	Vertical	57.1	Karas
Keetmanshoop	26 34 38.1 S	18 8 6.5 E	4	538	29	100	20.00	4.5	Vertical	57.1	Karas
Khorixas	20 21 33.4 S	14 58 52.8 E	1	202	8	2000	33.01	11.7	Vertical	140	Kunene
Khorixas	20 21 33.4 S	14 58 52.8 E	2	538	29	2000	33.01	11.7	Vertical	140	Kunene
Khorixas	20 21 33.4 S	14 58 52.8 E	3	570	33	2000	33.01	11.7	Vertical	140	Kunene
Khorixas	20 21 33.4 S	14 58 52.8 E	4	602	37	2000	33.01	11.7	Vertical	140	Kunene
Klein Waterberg	20 41 11.0 S	17 3 49.0 E	1	186	6	4500	36.53	13.3	Vertical	110	Otjozondjupa
Klein Waterberg	20 41 11.0 S	17 3 49.0 E	2	530	28	4500	36.53	13.3	Vertical	110	Otjozondjupa

Klein Waterberg	20 41 11.0 S	17 3 49.0 E	3	618	39	4500	36.53	13.3	Vertical	110	Otjozondjupa
Klein Waterberg	20 41 11.0 S	17 3 49.0 E	4	650	43	4500	36.53	13.3	Vertical	110	Otjozondjupa
Koes	25 55 22.8 S	19 9 20.0 E	1	474	21	500	26.99	10.5	Horizontal	92.42	Karas
Koes	25 55 22.8 S	19 9 20.0 E	2	490	23	500	26.99	10.5	Horizontal	92.42	Karas
Koes	25 55 22.8 S	19 9 20.0 E	3	578	34	500	26.99	10.5	Horizontal	92.42	Karas
Koes	25 55 22.8 S	19 9 20.0 E	4	690	48	500	26.99	10.5	Horizontal	92.42	Karas
Kongola	17 48 37.5 S	23 23 16.7 E	1	538	29	500	26.99	12.9	Horizontal	122.23	Caprivi
Kongola	17 48 37.5 S	23 23 16.7 E	2	474	21	500	26.99	12.9	Horizontal	122.23	Caprivi
Kongola	17 48 37.5 S	23 23 16.7 E	3	554	31	500	26.99	12.9	Horizontal	122.23	Caprivi
Kongola	17 48 37.5 S	23 23 16.7 E	4	618	39	500	26.99	12.9	Horizontal	122.23	Caprivi
Krantsberg	27 8 35.7 S	18 55 38.4 E	1	178	5	2000	33.01	11.3	Horizontal	110	Karas
Krantsberg	27 8 35.7 S	18 55 38.4 E	2	482	22	2000	33.01	11.3	Horizontal	110	Karas
Krantsberg	27 8 35.7 S	18 55 38.4 E	3	498	24	2000	33.01	11.3	Horizontal	110	Karas
Krantsberg	27 8 35.7 S	18 55 38.4 E	4	514	26	2000	33.01	11.3	Horizontal	110	Karas
Leonardville	23 29 31.2 S	18 47 15.6 E	1	506	25	500	26.99	10.5	Horizontal	122.42	Omaheke
Leonardville	23 29 31.2 S	18 47 15.6 E	2	554	31	500	26.99	10.5	Horizontal	122.42	Omaheke
Leonardville	23 29 31.2 S	18 47 15.6 E	3	586	35	500	26.99	10.5	Horizontal	122.42	Omaheke
Leonardville	23 29 31.2 S	18 47 15.6 E	4	546	30	500	26.99	10.5	Horizontal	122.42	Omaheke
Luderitz	26 45 22.2 S	15 20 49.7 E	1	546	30	500	26.99	10.5	Vertical	92.42	Karas
Luderitz	26 45 22.2 S	15 20 49.7 E	2	474	21	500	26.99	10.5	Vertical	92.42	Karas
Luderitz	26 45 22.2 S	15 20 49.7 E	3	562	32	500	26.99	10.5	Vertical	92.42	Karas
Luderitz	26 45 22.2 S	15 20 49.7 E	4	594	36	500	26.99	10.5	Vertical	92.42	Karas
Maltahohe	24 53 26.7 S	16 53 35.9 E	1	586	35	2000	33.01	12.1	Horizontal	200	Hardap
Maltahohe	24 53 26.7 S	16 53 35.9 E	2	498	24	2000	33.01	12.1	Horizontal	200	Hardap
Maltahohe	24 53 26.7 S	16 53 35.9 E	3	562	32	2000	33.01	12.1	Horizontal	200	Hardap
Maltahohe	24 53 26.7 S	16 53 35.9 E	4	658	44	2000	33.01	12.1	Horizontal	200	Hardap
Mariental	24 27 19.2 S	17 54 52.6 E	1	202	8	250	23.98	8.1	Horizontal	72	Hardap
Mariental	24 27 19.2 S	17 54 52.6 E	2	618	39	250	23.98	8.1	Horizontal	72	Hardap
Mariental	24 27 19.2 S	17 54 52.6 E	3	650	43	250	23.98	8.1	Horizontal	72	Hardap
Mariental	24 27 19.2 S	17 54 52.6 E	4	682	47	250	23.98	8.1	Horizontal	72	Hardap
Klein Windhoek	22 23 24.6 S	16 59 1.3 E	1	194	7	800	29.03	10.7	Horizontal	110	Khomas
Klein Windhoek	22 23 24.6 S	16 59 1.3 E	2	530	28	800	29.03	10.7	Horizontal	110	Khomas
Klein Windhoek	22 23 24.6 S	16 59 1.3 E	3	642	42	800	29.03	10.7	Horizontal	110	Khomas
Klein Windhoek	22 23 24.6 S	16 59 1.3 E	4	658	44	800	29.03	10.7	Horizontal	110	Khomas
Nkurenkuru	17 40 38.6 S	18 36 6.0 E	1	210	9	2000	33.01	14.7	Vertical	184.53	Kavango
Nkurenkuru	17 40 38.6 S	18 36 6.0 E	2	602	37	2000	33.01	14.7	Vertical	184.53	Kavango
Nkurenkuru	17 40 38.6 S	18 36 6.0 E	3	634	41	2000	33.01	14.7	Vertical	184.53	Kavango
Nkurenkuru	17 40 38.6 S	18 36 6.0 E	4	666	45	2000	33.01	14.7	Vertical	184.53	Kavango
Noordoewer	28 40 55.0 S	17 38 16.7 E	1	690	48	400	26.02	9.9	Vertical	85	Karas
Noordoewer	28 40 55.0 S	17 38 16.7 E	2	474	21	400	26.02	9.9	Vertical	85	Karas
Noordoewer	28 40 55.0 S	17 38 16.7 E	3	498	24	400	26.02	9.9	Vertical	85	Karas
Noordoewer	28 40 55.0 S	17 38 16.7 E	4	570	33	400	26.02	9.9	Vertical	85	Karas
Okongo	17 23 24.0 S	17 37 52.0 E	1	178	5	2000	33.01	11.6	Vertical	218.6	Ohangwena

Okongo	17 23 24.0 S	17 37 52.0 E	2	682	47	2000	33.01	11.6	Vertical	218.6	Ohangwena
Okongo	17 23 24.0 S	17 37 52.0 E	3	514	26	2000	33.01	11.6	Vertical	218.6	Ohangwena
Okongo	17 23 24.0 S	17 37 52.0 E	4	586	35	2000	33.01	11.6	Vertical	218.6	Ohangwena
Omitara	22 20 11.3 S	17 55 27.0 E	1	610	38	250	23.98	7.5	Horizontal	91.1	Omaheke
Omitara	22 20 11.3 S	17 55 27.0 E	2	642	42	250	23.98	7.5	Horizontal	91.1	Omaheke
Omitara	22 20 11.3 S	17 55 27.0 E	3	658	44	250	23.98	7.5	Horizontal	91.1	Omaheke
Omitara	22 20 11.3 S	17 55 27.0 E	4	626	40	250	23.98	7.5	Horizontal	91.1	Omaheke
Omuthiya	18 22 0.0 S	16 34 19.8 E	1	514	26	2000	33.01	10.5	Horizontal	182.42	Oshikoto
Omuthiya	18 22 0.0 S	16 34 19.8 E	2	498	24	2000	33.01	10.5	Horizontal	182.42	Oshikoto
Omuthiya	18 22 0.0 S	16 34 19.8 E	3	554	31	2000	33.01	10.5	Horizontal	182.42	Oshikoto
Omuthiya	18 22 0.0 S	16 34 19.8 E	4	626	40	2000	33.01	10.5	Horizontal	182.42	Oshikoto
Onesi	17 33 54.6 S	14 33 59.4 E	1	554	31	2000	33.01	14	Vertical	214.5	Omusati
Onesi	17 33 54.6 S	14 33 59.4 E	2	610	38	2000	33.01	14	Vertical	214.5	Omusati
Onesi	17 33 54.6 S	14 33 59.4 E	3	514	26	2000	33.01	14	Vertical	214.5	Omusati
Onesi	17 33 54.6 S	14 33 59.4 E	4	474	21	2000	33.01	14	Vertical	214.5	Omusati
Opuwo	18 10 7.0 S	13 55 50.0 E	1	178	5	2000	33.01	11.6	Horizontal	119.2	Kunene
Opuwo	18 10 7.0 S	13 55 50.0 E	2	626	40	2000	33.01	11.6	Horizontal	119.2	Kunene
Opuwo	18 10 7.0 S	13 55 50.0 E	3	642	42	2000	33.01	11.6	Horizontal	119.2	Kunene
Opuwo	18 10 7.0 S	13 55 50.0 E	4	658	44	2000	33.01	11.6	Horizontal	119.2	Kunene
Oranjemund	28 33 15.2 S	16 25 34.2 E	1	602	37	250	23.98	7.5	Horizontal	91.1	Karas
Oranjemund	28 33 15.2 S	16 25 34.2 E	2	514	26	250	23.98	7.5	Horizontal	91.1	Karas
Oranjemund	28 33 15.2 S	16 25 34.2 E	3	626	40	250	23.98	7.5	Horizontal	91.1	Karas
Oranjemund	28 33 15.2 S	16 25 34.2 E	4	634	41	250	23.98	7.5	Horizontal	91.1	Karas
Oshakati	17 47 26.0 S	15 42 36.0 E	1	682	47	2000	33.01	13.3	Vertical	260	Oshana
Oshakati	17 47 26.0 S	15 42 36.0 E	2	482	22	2000	33.01	13.3	Vertical	260	Oshana
Oshakati	17 47 26.0 S	15 42 36.0 E	3	490	23	2000	33.01	13.3	Vertical	260	Oshana
Oshakati	17 47 26.0 S	15 42 36.0 E	4	618	39	2000	33.01	13.3	Vertical	260	Oshana
Otjimbingwe	22 21 25.0 S	16 7 41.0 E	1	578	34	500	26.99	10.5	Horizontal	92.42	Erongo
Otjimbingwe	22 21 25.0 S	16 7 41.0 E	2	194	7	500	26.99	10.5	Horizontal	92.42	Erongo
Otjimbingwe	22 21 25.0 S	16 7 41.0 E	3	626	40	500	26.99	10.5	Horizontal	92.42	Erongo
Otjimbingwe	22 21 25.0 S	16 7 41.0 E	4	658	44	500	26.99	10.5	Horizontal	92.42	Erongo
Otjinene	20 50 42.0 S	18 59 18.6 E	1	634	41	2000	33.01	10.5	Horizontal	212.42	Omaheke
Otjinene	20 50 42.0 S	18 59 18.6 E	2	498	24	2000	33.01	10.5	Horizontal	212.42	Omaheke
Otjinene	20 50 42.0 S	18 59 18.6 E	3	562	32	2000	33.01	10.5	Horizontal	212.42	Omaheke
Otjinene	20 50 42.0 S	18 59 18.6 E	4	690	48	2000	33.01	10.5	Horizontal	212.42	Omaheke
Ovitoto	21 57 54.0 S	17 12 52.5 E	1	514	26	100	20.00	7.5	Horizontal	81.1	Otjozondjupa
Ovitoto	21 57 54.0 S	17 12 52.5 E	2	490	23	100	20.00	7.5	Horizontal	81.1	Otjozondjupa
Ovitoto	21 57 54.0 S	17 12 52.5 E	3	554	31	100	20.00	7.5	Horizontal	81.1	Otjozondjupa
Ovitoto	21 57 54.0 S	17 12 52.5 E	4	634	41	100	20.00	7.5	Horizontal	81.1	Otjozondjupa
Paresis	20 20 1.0 S	16 19 10.0 E	1	178	5	100	20.00	10.5	Horizontal	45	Otjozondjupa
Paresis	20 20 1.0 S	16 19 10.0 E	2	498	24	100	20.00	10.5	Horizontal	45	Otjozondjupa
Paresis	20 20 1.0 S	16 19 10.0 E	3	546	30	100	20.00	10.5	Horizontal	45	Otjozondjupa
Paresis	20 20 1.0 S	16 19 10.0 E	4	690	48	100	20.00	10.5	Horizontal	45	Otjozondjupa
Rietfontein	21 51 2.0 S	20 45 21.0 E	1	650	43	1000	30.00	12.6	Vertical	70.7	Omaheke
Rietfontein	21 51 2.0 S	20 45 21.0 E	2	626	40	1000	30.00	12.6	Vertical	70.7	Omaheke
Rietfontein	21 51 2.0 S	20 45 21.0 E	3	594	36	1000	30.00	12.6	Vertical	70.7	Omaheke

Rietfontein	21 51 2.0 S	20 45 21.0 E	4	666	45	1000	30.00	12.6	Vertical	70.7	Omaheke
Rooidag	19 16 48.2 S	19 11 51.6 E	1	178	5	2000	33.01	11.7	Horizontal	200	Oshikoto
Rooidag	19 16 48.2 S	19 11 51.6 E	2	578	34	2000	33.01	11.7	Horizontal	200	Oshikoto
Rooidag	19 16 48.2 S	19 11 51.6 E	3	618	39	2000	33.01	11.7	Horizontal	200	Oshikoto
Rooidag	19 16 48.2 S	19 11 51.6 E	4	554	31	2000	33.01	11.7	Horizontal	200	Oshikoto
Rosh Pinah	27 58 17.8 S	16 44 28.1 E	1	634	41	100	20.00	10.5	Horizontal	92.42	Karas
Rosh Pinah	27 58 17.8 S	16 44 28.1 E	2	514	26	100	20.00	10.5	Horizontal	92.42	Karas
Rosh Pinah	27 58 17.8 S	16 44 28.1 E	3	602	37	100	20.00	10.5	Horizontal	92.42	Karas
Rosh Pinah	27 58 17.8 S	16 44 28.1 E	4	610	38	100	20.00	10.5	Horizontal	92.42	Karas
Rossing	22 31 37.6 S	14 49 20.8 E	1	194	7	2000	33.01	11.5	Vertical	110	Erongo
Rossing	22 31 37.6 S	14 49 20.8 E	2	594	36	2000	33.01	11.5	Vertical	110	Erongo
Rossing	22 31 37.6 S	14 49 20.8 E	3	666	45	2000	33.01	11.5	Vertical	110	Erongo
Rossing	22 31 37.6 S	14 49 20.8 E	4	690	48	2000	33.01	11.5	Vertical	110	Erongo
Sesfontein	19 6 12.3 S	13 43 1.1 E	1	186	6	2000	33.01	12.1	Vertical	110	Kunene
Sesfontein	19 6 12.3 S	13 43 1.1 E	2	498	24	2000	33.01	12.1	Vertical	110	Kunene
Sesfontein	19 6 12.3 S	13 43 1.1 E	3	530	28	2000	33.01	12.1	Vertical	110	Kunene
Sesfontein	19 6 12.3 S	13 43 1.1 E	4	562	32	2000	33.01	12.1	Vertical	110	Kunene
Shamvura	18 2 35.5 S	20 51 38.2 E	1	626	40	500	26.99	14.5	Vertical	214.5	Kavango
Shamvura	18 2 35.5 S	20 51 38.2 E	2	506	25	500	26.99	14.5	Vertical	214.5	Kavango
Shamvura	18 2 35.5 S	20 51 38.2 E	3	538	29	500	26.99	14.5	Vertical	214.5	Kavango
Shamvura	18 2 35.5 S	20 51 38.2 E	4	570	33	500	26.99	14.5	Vertical	214.5	Kavango
Signalberg	19 34 29.0 S	17 42 39.1 E	1	194	7	4500	36.53	12.3	Horizontal	119.1	Otjozondjupa
Signalberg	19 34 29.0 S	17 42 39.1 E	2	666	45	4500	36.53	12.3	Horizontal	119.1	Otjozondjupa
Signalberg	19 34 29.0 S	17 42 39.1 E	3	594	36	4500	36.53	12.3	Horizontal	119.1	Otjozondjupa
Signalberg	19 34 29.0 S	17 42 39.1 E	4	602	37	4500	36.53	12.3	Horizontal	119.1	Otjozondjupa
Stampriet	24 20 31.5 S	18 25 8.6 E	1	186	6	1000	30.00	14.9	Horizontal	217.2	Hardap
Stampriet	24 20 31.5 S	18 25 8.6 E	2	594	36	1000	30.00	14.9	Horizontal	217.2	Hardap
Stampriet	24 20 31.5 S	18 25 8.6 E	3	530	28	1000	30.00	14.9	Horizontal	217.2	Hardap
Stampriet	24 20 31.5 S	18 25 8.6 E	4	634	41	1000	30.00	14.9	Horizontal	217.2	Hardap
Steinhausen	21 37 45.5 S	18 15 33.7 E	1	210	9	1000	30.00	12.3	Horizontal	75	Omaheke
Steinhausen	21 37 45.5 S	18 15 33.7 E	2	490	23	1000	30.00	12.3	Horizontal	75	Omaheke
Steinhausen	21 37 45.5 S	18 15 33.7 E	3	522	27	1000	30.00	12.3	Horizontal	75	Omaheke
Steinhausen	21 37 45.5 S	18 15 33.7 E	4	586	35	1000	30.00	12.3	Horizontal	75	Omaheke
Terrance Bay	19 57 44.5 S	13 1 16.7 E	1	178	5	50	16.99	7.7	Vertical	45	Kunene
Terrance Bay	19 57 44.5 S	13 1 16.7 E	2	682	47	50	16.99	7.7	Vertical	45	Kunene
Terrance Bay	19 57 44.5 S	13 1 16.7 E	3	618	39	50	16.99	7.7	Vertical	45	Kunene
Terrance Bay	19 57 44.5 S	13 1 16.7 E	4	650	43	50	16.99	7.7	Vertical	45	Kunene
Tsumeb	19 16 44.0 S	17 41 24.8 E	1	626	40	20	13.01	7.5	Horizontal	92.42	Oshikoto
Tsumeb	19 16 44.0 S	17 41 24.8 E	2	658	44	20	13.01	7.5	Horizontal	92.42	Oshikoto
Tsumeb	19 16 44.0 S	17 41 24.8 E	3	690	48	20	13.01	7.5	Horizontal	92.42	Oshikoto
Tsumeb	19 16 44.0 S	17 41 24.8 E	4	674	46	20	13.01	7.5	Horizontal	92.42	Oshikoto
Tsumkwe Bay	19 35 36.0 S	20 30 8.0 E	1	602	37	100	20.00	10.5	Horizontal	92.42	Otjozondjupa
Tsumkwe Bay	19 35 36.0 S	20 30 8.0 E	2	618	39	100	20.00	10.5	Horizontal	92.42	Otjozondjupa
Tsumkwe Bay	19 35 36.0 S	20 30 8.0 E	3	658	44	100	20.00	10.5	Horizontal	92.42	Otjozondjupa
Tsumkwe Bay	19 35 36.0 S	20 30 8.0 E	4	562	32	100	20.00	10.5	Horizontal	92.42	Otjozondjupa
Uis	21 13 21.6 S	14 53 5.1 E	1	490	23	100	20.00	10.5	Horizontal	62.42	Erongo



Uis	21 13 21.6 S	14 53 5.1 E	2	594	36	100	20.00	10.5	Horizontal	62.42	Erongo
Uis	21 13 21.6 S	14 53 5.1 E	3	506	25	100	20.00	10.5	Horizontal	62.42	Erongo
Uis	21 13 21.6 S	14 53 5.1 E	4	530	28	100	20.00	10.5	Horizontal	62.42	Erongo
Ur	27 31 33.5 S	18 33 14.1 E	1	658	44	1000	30.00	13.6	Horizontal	75	Karas
Ur	27 31 33.5 S	18 33 14.1 E	2	594	36	1000	30.00	13.6	Horizontal	75	Karas
Ur	27 31 33.5 S	18 33 14.1 E	3	546	30	1000	30.00	13.6	Horizontal	75	Karas
Ur	27 31 33.5 S	18 33 14.1 E	4	626	40	1000	30.00	13.6	Horizontal	75	Karas

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

**COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA**

No. 167

2013

**DETERMINATION OF DOMINANT POSITION**  
**TELECOMMUNICATION SERVICE LICENCES**

The Communications Regulatory Authority of Namibia, in terms of section 78 of the Communications Act, 2009 (Act No. 8 of 2009) herewith gives notice of determination of dominance in the telecommunications market and publishes this;

- (a) Study of determination of dominant position as set out in schedule 1; and
- (b) Notice of determination of dominant position in the telecommunications market.

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

**SCHEDULE 1**

**STUDY OF DETERMINATION OF DOMINANT POSITION**

The Communications Regulatory Authority of Namibia, in terms of section 78, read with section 129 of the Communications Act herewith gives notice that the following is the determination of dominance in the telecommunications market in Namibia.

**Definitions**

1. In this notice, any word or expression to which a meaning is assigned in the Act, shall have the same meaning and –

“Act” means the Communications Act, 2009 (Act No. 8 of 2009).

**Introduction**

2. In terms of section 78 of the Act, the Authority must hold a hearing within one year from the date of commencement of the Act, in order to determine which telecommunications licensees hold a dominant position in the market. Prior to initiating the hearing process, the Authority’s view was to include the broadcasting sector in the hearing. The Authority published a notice of intention to hold the hearing in Government Gazette No. 4905,

Notice No. 62, dated 20 March 2012. Attached to the notice was a discussion paper, titled *'Telecommunication Market Study and Dominance'* setting out some of the issues that the Authority would consider during the hearing. The notice further invited the public to submit comments and all telecommunications and broadcasting licensees to submit audited financial statements for the most recent year end, by no later than thirty calendar days from date of Notice. In Government Gazette No. 4938, Notice No. 109, dated 27 April 2012, the Authority gave notice of the hearing, which was held on 11<sup>th</sup> May 2012.

### **Telecommunications market study and dominance**

3. In the discussion document, the Authority highlighted the specific provisions of the Act, which require prescription of regulations and imposition of obligations in respect of dominant licensees. The main aim of these provisions is to promote competition by leveraging Namibia's infrastructure given Namibia's small population, limited resources and small market size. The intent is to let existing networks be used by competitors to avoid duplication while achieving the highest level of competition. The document also listed the sections of the Act that allow special regulatory treatment of dominant licensees.

While acknowledging that there is no universally accepted definition of dominance, the Authority made a jurisdictional comparison in assessing the concept. It also had regard to the Competition Act, 2003 (Act No. 2 of 2003), which, in section 25, stipulates that the Commission must prescribe criteria to be applied in determining whether an undertaking has, or two or more undertakings have, a dominant position in a market, which may be based on any factors that the Commission considers appropriate.

The document then focused on section 78(4) of the Communications Act, which sets out the criteria to be used by the Authority in determining dominance, which states as follows:

*"Subject to subsection (5), the Authority must find a licensee to be dominant if it is of the opinion that –*

*(a) the licensee in question has such a share of the market in the class of telecommunications services in question, that it is able to act independent of its competitors;*

*(b) the licensee controls some infrastructure that is necessary for the provision of the services in question;*

*(c) the licensee in question is dominant as provided in paragraph (a) or (b) in respect of a class of related services (which need not be telecommunications services) and the licensee can use that dominance to exercise power in the market for the telecommunications services in question; or*

*(d) the licensee in question has a position in a market in another country or a relationship with providers in another country that can be used to exercise market power in respect of the relevant class of telecommunications services in Namibia."*

Section 78(5) further provides that the Authority must consider the market power that may be exercised by a competitor of the licensee concerned in order to determine whether any of the matters referred to in subsection 4 will give the licensee concerned market power.

Section 78(5) therefore, means that if, for example, A and B are competitors, with 35% and 65% of market power, respectively, in considering whether A is dominant in respect of any of the categories in section 78(4), we must have regard to A's competitor (i.e. B's) market power of 65%. Therefore, a licensee's market power is relevant in the application of the criteria in section 78(4) and also in determining the extent of a competitor's market power.

In view of the above provision, the Authority suggested the following definition of market power based on section 78(4) of the Act:

A licensee is dominant in a market if:

- It has at least 35% of market share based on revenues;
- It controls some infrastructure that is necessary for the provision of the services in question;
- It has less than 35% market share but has dominance in a related market and therefore is able to exercise power in the market for the services in question; or
- It has less than 35% market share but has a position in a market in another country or a relationship with providers in another country that can be used to exercise market power in respect of the relevant class of services in Namibia.

The document also focused on the definition of markets and suggested the following principles for defining markets:

- effective in implementing the objectives of the law;
- practical to implement and measure;
- minimize reporting burden for licensees; and
- suitable for a converged ICT sector based on technological and service neutral regulation.

From the principles, the following five approaches can be deduced and briefly summarized as follows:

#### **Approach 1: Service and technological neutral market definition**

In terms of this approach, the Authority will be issuing service and technology neutral telecommunications licenses for telecommunication licensees. The convergence of voice and data services as well as the mix in technologies (mobile, fixed, fixed wireless) should bring more competition and new products and services to the Namibian market. This requires market definitions that will stand up to the changes that this new converged environment will bring. In terms of this approach, dominance should be based on the revenue shares of all licensees.

#### **Approach 2: Technology neutrality (but not service neutrality)**

A further approach could be to define markets based on technological neutrality i.e. voice and data, but not distinguishing between mobile, fixed or fixed wireless. For broadcasting there would still only be one market. This market definition does, however not improve the ability of the Authority to implement the objectives of the Act compared to the single telecommunications market. The same licensees would be declared dominant.

#### **Approach 3: Service and technological neutrality but distinguished by distribution channel**

A further approach could be to define markets based on service and technological neutrality but distinguishing by distribution channels i.e. retail and wholesale markets. The Authority currently does not have revenues broken down by retail and wholesale. It must be noted however, that this market definition does not improve the ability of the Authority to implement the objectives of the Act compared to the first approach and is not suitable for the broadcasting sector.

#### **Approach 4: Demand –side and supply side substitutability**

A much more sophisticated and complex process would be to define markets based in customer and supplier substitutability.

- Demand-side substitutability: measures the extent to which customers are prepared

or able to substitute other telecommunications services for the telecommunications services under consideration.

- Supply-side substitutability: measures the extent to which suppliers are able to supply other telecommunications services under consideration.

Given that these more sophisticated market definitions would not increase the Authority's ability to safeguard fair competition, it would not be an advisable route.

### **Approach 5: Based on license categories**

The Authority has published Regulations Setting out Broadcasting and Telecommunications Service License Categories, in Government Gazette No. 4714, Notice No. 124, dated 18 May 2011.

In terms of this approach, all licensees with an ECNS and ECS licence falls into the ECNS market and a licensee with a signal distribution and a commercial, community or public licence falls into the Broadcasting Network market. This is because it is difficult for the Authority to separate revenues by licence. In conclusion, it was recommended that the approach that minimises the burden on the licensees and the Authority while allowing the Authority to implement the objects of the Act is approach 1.

### **Public Comments**

4. In response to the Notice in the *Gazette*, the comments that were submitted are summarized below based on written submissions and the hearing transcript.

#### **4.1 Multichoice Namibia (Pty) Ltd**

The purpose of section 78 is for the Authority to conduct a hearing to determine which telecommunications licensees are dominant in the market. Once this process is completed, the Authority may then impose certain *ex ante* requirements on those telecommunications licensees, which have been found to be dominant.

Further that *ex ante* prohibitions may be imposed on dominant telecommunications licensees and then in very limited circumstances to broadcasting licensees in terms of section 33, which deal with *ex post* regulation.

Multichoice Namibia (Pty) Ltd also indicated that section 78 is in chapter 5 of the Act, which is headed '*Telecommunications Services*' and for purposes of section 78 licence means the telecommunications licensee and is not applicable to broadcasting.

In interpreting the application of section 78, Multichoice Namibia (Pty) Ltd further distinguished between *ex ante* and *ex post* regulation. An enquiry in terms of section 78 is *ex ante* regulation. *Ex post* regulation on the other hand does not set up any rules in advance, and does not require any findings, for example of dominance. What it requires is, at a particular point in time where there is an allegation of an abuse of dominance as contemplated in section 33(2), is for the Authority to identify whether the person concerned is dominant in that market and whether they have abused their dominant position in that market.

Further that section 38(11) allows the Authority to impose specific obligations on a licensee when the licensee has a dominant position in relation to the provision of any class of telecommunication services and there is no equivalent provision for broadcasting services.

#### **4.2 Mobile Telecommunications Limited**

The idea is to divide the markets; telecommunication and broadcasting markets and then analyse the four criteria and take into account the market power exercised by the competitors. The test is then whether that power is exercised and if yes, there will be obligations on the dominant licensee.

Mobile Telecommunications Limited's benchmark is showing that from Europe and Africa the relevant markets defined by the national regulators vary between countries, however all regulators that perform market analysis have defined relatively narrow markets and at least five separate relevant telecommunications markets.

Further that market definitions are also key in the selection of relevant remedies, as these have to be related to the boundaries of relevant markets. Although both European Union and Kenya promote service and technology neutral licences, introducing the unified licensing framework, they used an approach based on demand/supply side substitutability.

Regarding the remedies, all countries in the benchmark imposed regulatory obligations that relate to the scope of the market, that they have previously defined and there is no one size fits all approach for the selection of the remedies. However, it is clear that the remedies range instead of price control and in some cases obligations to share infrastructure, but always regarding which specific market.

Mobile Telecommunications Limited preferred Approach 4: Demand-side and supply-side substitutability, which would lead to narrower market definitions including separation of fixed and mobile markets as well as retail and wholesale.

#### **4.3 Telecom Namibia Limited**

Telecom Namibia Limited questioned, how in the age of convergence the 35% market share will be determined, because some of the IT players who make up the market, are unlicensed and consequently not regulated by the Authority and their financial statements will not be subject to analysis in the determination.

Because of the services and technology neutral licensing regime, infrastructure has become irrelevant, as infrastructure alone cannot determine market power. Telecom Namibia Limited confirmed verbally at the hearing agreement with only defining two markets, a broadcasting market and a telecommunications market.

#### **4.4 The Authority's Response**

The industry feedback from the hearing that was held 11 May 2012 was supportive of the proposed market and dominance definitions except from Multi-Choice Namibia and Mobile Telecommunications Ltd.

- Multi-Choice was of the opinion that there is no legal mandate to define dominance for broadcasting.
- Mobile Telecommunications Ltd preferred more detailed market definitions differentiating between retail fixed voice, retail mobile voice and SMS, wholesale leased lines and broadband.
- Mobile Telecommunications Ltd raised in the hearing the interpretation of Section 78(5).

These three concerns are discussed in the sections below.

## Market definitions

5. Approach one, set out in the discussion document, has been adopted by the Authority as the most suitable approach for Namibia. The Authority issued service and technologically neutral telecommunications licenses in 2012. The convergence of voice and data services as well as the mix in technologies (mobile, fixed, fixed-wireless) will bring more competition and new products and services to the Namibian market. This requires market definitions that will stand up to the changes that this new converged environment will bring.

The Authority is of the view that Mobile Telecommunications Limited's reference to the EU is not appropriate in this case. In the case of market definitions, market size plays a crucial matter.

Namibia's market is very small compared to EU markets. And the same operators would be dominant in each market segment in any event based on how the section 78(4) of the Act is formulated. This was demonstrated during the hearing held on 11 May 2012.

Two markets result from service and technological neutrality, a telecommunications market and a broadcasting market. Dominance then is determined based on the revenue shares of all licensees.

This simple market definition is suitable for a converged telecommunications sector, it is practical and simple to implement for the Authority and minimizes reporting burdens for licensees. The objectives of the Act with respect to dominant operators can be implemented through licence conditions and regulations. There is thus no need from a regulatory perspective for a more detailed market definition.

## Market Power

6. Section 78(5) provides that the Authority must also consider the market power that may be exercised by a competitor of the licensee concerned in order to determine whether any of the matters referred to in subsection 4 will give the licensee concerned, market power. The Authority has determined that any licensee with at least a market share of 35% is able to act independent of its competitors. For telecommunications, this is based on the number of licensees in Namibia. Fewer licensees might require a higher threshold and more licensees a lower threshold.

A licensee is dominant, in terms of the Act, in a market if:

- It has at least 35% of market share based on revenues;
- It controls some infrastructure that is necessary for the provision of the services in question;
- It has dominance in a related market and therefore is able to exercise power in the market for the services in question; or
- It has position in a market in another country or a relationship with providers in another country that can be used to exercise market power in respect of the relevant class of services in Namibia.

In light of this approach, the Authority defines the following two markets in accordance with the Act: Telecommunications Market and Broadcasting Market.

In this document, dominance will only be determined for the telecommunications market. Although the issue of whether the Authority may determine which broadcasting service licensees are dominant absent a specific allegation of abuse has been raised by MultiChoice Namibia (Pty) Ltd, the Authority has not had the opportunity to fully consult all interested parties. Therefore, at this time, market dominance in respect of broadcasting services will not be determined.

In certain matters, the Authority may determine sub-markets and may determine operators other than those identified in these regulations as dominant in those sub-markets. Furthermore, market and dominance definitions will be reviewed from time to time to adjust to market development.

## SCHEDULE 2

### NOTICE OF DETERMINATION OF DOMINANT POSITION IN THE TELECOMMUNICATIONS MARKET

The Authority defines the telecommunications market in accordance with the Act. In terms of Section 78(4)(a)-(d), the Authority considers any licensee to be dominant if:

- It has at least 35% of market share based on revenues;
- It controls some infrastructure that is necessary for the provision of the services in question;
- It has a dominant position in a related market and therefore is able to exercise power in the market for the services in question; or
- It has a dominant position in a market in another country or a relationship with providers in another country that can be used to exercise market power in respect of the relevant class of services in Namibia.

Table 1 below displays a summary of the evaluation of dominance based on the criteria set out in section 78(4) Mobile Telecommunications Limited and Telecom Namibia Limited are dominant for the telecommunications market because they have such a share of the market that they are able to act independent of their competitors (above 35%).

<b>Table 1: Determination of dominance in the telecommunications market As per the hearing held on 11 May 2012</b>							
Licensee	Type of Licence	Date Licence was first issued	Licensee has at least 35% of market share based on revenues	Licensee controls some infrastructure that is necessary for the provision of the services in question	Licensee has dominance in a related market and therefore is able to exercise power in the market for the telecommunications services in question	Licensee has position in a market in another country or a relationship with providers in another country that can be used to exercise market power in respect of the relevant class of telecommunications services in Namibia	Dominant?
Telecom Namibia Limited	Individual (ECNS and ECS)	11 June 2012	Yes (41.5%)	Yes, owns a CDMA, national backbone, (PSTN), WACS	No	No	Yes

Mobile Telecommunications Limited	Class Comprehensive (ECNS and ECS)	14 March 2012	Yes (52.6%)	Yes, owns a national GSM network and WACS	No	No	Yes
Powercom (Pty) Ltd t/a Leo	Class Comprehensive (ECNS and ECS)	16 June 2012	No (4.7%)	Yes, owns a national GSM Network	No	No	Yes
Wireless Technologies Namibia	Class Comprehensive (ECNS and ECS)	14-Mar-12	No	No	No	No	No
Mwireless (Pty) Ltd t/a Africa Online	Class Comprehensive (ECNS and ECS)	14-Mar-12	No	No	No	No	No
Virtual Technologies Services (Pty) Ltd	Class Comprehensive (ECNS and ECS)	19-Nov-12	Not licenced at time of the hearing and will be included in the next dominance determination				
Wilfred Robert Poser	Class Comprehensive (ECNS and ECS)	15-May-12	Not licenced at time of the hearing and will be included in the next dominance determination				
YFI Technologies (Pty) Ltd	Class Comprehensive (ECNS and ECS)	15-May-12	Not licenced at time of the hearing and will be included in the next dominance determination				
Salt Essential IT (Information Technology) (Pty) Ltd	Class Comprehensive (ECNS and ECS)	12-Dec-12	Not licenced at time of the hearing and will be included in the next dominance determination				

Dominant operators in the telecommunications market are Mobile Telecommunications Limited and Telecom Namibia Limited, who each have more than 35% of market share based on revenue and control some infrastructure that is necessary for the provision of telecommunications service. Powercom (Pty) Ltd t/a Leo is dominant in that it controls some infrastructure that is necessary for the provision of telecommunications services.

Powercom (Pty) Ltd t/a Leo is a dominant operator based on the second criteria, the control of infrastructure based on its national mobile GSM network. Mobile Telecommunications Limited and Telecom Namibia Limited are dominant in terms of the first and second criteria.