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GOVERNMENT NOTICE

DEPARTMENT OF COMMUNICATIONS

No. 958 **8 September 2008**

MINISTER OF COMMUNICATIONS

ELECTRONIC COMMUNICATIONS ACT, 2005 (ACT NO. 36 OF 2005)

BROADCASTING DIGITAL MIGRATION POLICY

I, Dr. Ivy Matsepe-Casaburri, Minister of Communications, hereby in terms of section 3(1) of the Electronic Communications Act, 2005 (Act No. 36 of 2005), make the Broadcasting Digital Migration Policy in the Schedule.

Dr. Ivy Matsepe-Casaburri
Minister of Communications

SCHEDULE

the doc

Department:
Communications
REPUBLIC OF SOUTH AFRICA

BROADCASTING DIGITAL MIGRATION POLICY FOR SOUTH AFRICA

AUGUST 2008

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List of Acronyms

AAC	Advanced Audio Coding
ABA	African Broadcasting Area
AM/FM	Amplitude Modulation/Frequency Modulation
DMWG	Digital Migration Working Group
DOC	Department of Communications
DTH	Direct to Home
DTT	Digital Terrestrial Television
DVB	Digital Video Broadcasting
DVB-T	Digital Video Broadcasting – Terrestrial
ECA	Electronic Communications Act
EPG	Electronic Program Guide
EPI	Electronic Programme Information
ERP	Effective Radiated Power
GE	Geneva
HDMI	High Definition Multimedia Interface
HDTV	High Definition Television
HF	High Frequency
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communications Technology
IRD	Integrated Receiver/Decoder
ISAD	Information Society and Development
ITU	International Telecommunications Union
ITU-RRC	International Telecommunications Union – Regional Radio Conference
KHz	Kilohertz, a unit or measure of frequency spectrum
LSM	Living Standard Measure
MHz	Megahertz, a unit or measure of frequency spectrum
MF	Medium Frequencies
MPEG	Moving Picture Experts Group
MPEG-4	Improved compression technology developed by Motion Picture Experts Group currently being introduced globally for digital broadcasting
NEPAD	New Partnership for Africa's Development
SADC	Southern African Development Community
STB	Set-Top Box
UHF-VHF	Ultra-High Frequency- Very High Frequency

FOREWORD BY THE MINISTER

The migration of our country's broadcasting system from analogue to digital is set to revolutionize the world of broadcasting across the globe. For South Africa, this is an opportunity to position the country alongside leading countries in Region 1 comprising Africa, Europe, the Middle East and the Republic of Iran. As a country, the migration is set to accelerate our economic growth, thus assisting in the achievement of the development goals particularly our quest to eradicate poverty.

This Broadcasting Digital Migration (BDM) policy sets our parameters of migrating the country's broadcasting from analogue to digital. The parameters were planned around the three-year dual illumination period commencing on 1 November 2008 as approved by Cabinet in 2007. The policy is an outcome of a strong collaboration between government and industry and their firm commitment in building a people-centred and inclusive information society, thus improving the lives of our people.

In this era of heightened demand for spectrum, digital migration will provide us with opportunities to offer different services and applications to our people. It brings with it a lot of benefits including, but not limited to:

- multiple channels prioritizing parliamentary services, education, Small , Micro and Medium Enterprises (SMMEs) and youth. The provision of these channels will enhance the diversity of our content;
- opportunity to upgrade our aging broadcasting infrastructure;
- e-government services which should be seen as a fulfillment of government's contract with our people relating to the provision of services;
- the local manufacturing of STBs as a critical step to reinvigorate the country's electronic industry, thus creating jobs;
- overcoming the country's perennial broadcasting coverage problems by using satellite in areas with difficult topography. This is part of our vision to realize universal access.

In conclusion, the time to migrate to digital broadcasting system has inevitably arrived. We need to embrace it because it is a major step in improving our people's lives and I sincerely hope that this policy is a bold step in our quest to achieve that goal. The looming switch-on date on 1 November 2008 requires us to work at a lighting speed concomitant with our business unusual strategy as announced by the President of the Republic in his state of the Nation address earlier this year because the future is digital.

Dr. I. Matsepe-Casaburri

Acknowledgements

The Minister of Communications, Dr Ivy Matsepe-Casaburri would like to thank the Digital Migration Working Group (DMWG) established in 2005 which made far-reaching recommendations that paved the way for the migration of South Africa's broadcasting systems from analogue to digital. Members of these working committees were obtained from Government, broadcasting industry, organised labour and civil society.

The tireless effort displayed by Mr Aynon Doyle, Mr Linden Petzer, Ms Lara Kantor, Mr Johan Koster and Karen Willenberg as the leaders of four specialised working committees of DMWG (Policy, Technical Content, and Economics) deserve special accolades.

Members of the public and the industry are recognised for their valuable inputs into the draft of this Policy when it was released in March 2007. It is through these inputs that this Policy is complete and tabled for implementation.

The Consultants commissioned by the DOC to support the work of the DMWG, particularly on a substantive economic model for broadcasting digital migration as a tool to identify possible policy option, should also be acknowledged.

EXECUTIVE SUMMARY

1. CONTEXT

The 2006 Regional Radiocommunication Conference (RRC-06), resolved to switch from analogue to digital broadcasting services by 2015. Broadcasting Digital Migration is the process of converting the broadcast of television and radio signals from analogue to digital technology. This policy document focuses on the migration to digital terrestrial television. Globally digital sound broadcasting (radio) has, for various reasons, not been given the same sense of urgency. However, after analogue television switch-off more radio frequency spectrum will become available to accommodate digital sound broadcasting in the allocated Band.

The migration of the national broadcasting system from analogue to digital promises not only a variety of opportunities, but it also places a number of challenges which require robust policy approaches if national development outcomes are to be achieved. This process is critical not only for the future of the local broadcasting industry but also has significant implications for the whole South African economy.

The South African Society is confronted by a wide range of developmental challenges such as reducing the digital divide and the information gaps, as well as building social cohesion and a common national identity, poverty eradication, and employment creation. Digital broadcasting has the potential to contribute significantly to addressing these challenges. Accordingly, the South African Government has identified broadcasting digital migration as a national priority.

The key benefit of digital broadcast technologies is that they use scarce national radio frequency spectrum far more efficiently than analogue technologies. This means that existing broadcasting services can be provided using less of the radio frequency spectrum they currently occupy, hence the additional and dedicated delivery of government information, education, health and SMME programmes, digital broadcasting facilitates the delivery of e-government services, the opportunity for developing new skills and the creation of new jobs, and new investment opportunities. In this way broadcasting digital migration can directly contribute to the Accelerated Shared Growth Initiative of South Africa (ASGISA).

The radio frequency spectrum freed-up through the digital migration process, often referred to as 'digital dividend', has the potential not only to provide new and improved broadcasting, but also to enable additional ICT services traditionally not provided in the broadcasting radio frequency Band, such as mobile telephony and wireless broadband. The digital dividend, however, can only be realised after the migration process is completed.

Digital migration begins with the 'switch-on' of broadcasting digital transmission signals and ends with the 'switch-off' of analogue ones. Until analogue switch-off occurs there is a period of 'double illumination' during which both analogue and digital services are simultaneously broadcasted.

In order to continue viewing television using the current analogue TV sets, the public will be required to use Set-Top-Boxes (STBs) which convert the transmitted digital signal to analogue.

For the digital migration process in South Africa to be successful within the three year dual illumination, it is necessary to have a clear government policy and Implementation Plan. Also critical is the co-operation of all the relevant stakeholders working together with government. Given the country's socio-economic status, it may also be necessary to consider incentive schemes to support a significant number of households.

This policy draws on the outputs generated and key recommendations made by the Digital Migration Working Group (DMWG) established by the Minister in 2005 as well inputs received from the public through public participation process during March/April in 2007.

2. SUMMARY OF KEY POLICY DECISIONS

The switch-on date of the broadcasting digital terrestrial television signal is 01 November 2008 and the switch-off date of the analogue terrestrial television signal is 01 November 2011. This shorter 3-year dual illumination period will reduce the costs of digital migration.

Achieved in a phased manner, national broadcasting digital signal coverage shall be covering 50% of population by 2008, 80% of population by 2010 and close to 100% by 2011 enabling analogue switch-off.

During dual illumination period, two (2) national multiplexes will be reserved for incumbent broadcasters, designated for public as well as commercial broadcasting services.

The network of radio frequencies dedicated for public broadcasting shall be co-assigned to and managed by Sentech as the common carrier on a non-preferential and non-discriminatory basis.

Sentech must also provide broadcasting signal distribution to commercial broadcasters, taking into consideration rights of commercial broadcasters to self-provide as contained in the existing legislation. Such services shall also be provided on non-preferential and non-discriminatory basis.

The public broadcaster shall cater for public regional television channels as well as channels prioritising education, health, youth, sports, SMME, Parliamentary and government and interactive services needs.

Regional Television services will be required to provide an open window for community television broadcasting for a minimum period to be determined. ICASA will provide the necessary regulations and guidelines for implementing this policy provision.

Two metropolitan networks of frequencies designated for the provision of mobile broadcasting service, shall be operated by a single network operator with a possibility to achieve national coverage.

The following Technical Standards are approved:

- DVB-T (EN 300 744) is adopted as the national standard for broadcasting digital terrestrial television in South Africa.
- DVB-S (EN 300 421) is adopted as the national standard for broadcasting digital satellite television in South Africa.
- MPEG-4 is adopted as the compression standard for South Africa's Digital Terrestrial Television (DTT) rollout, while existing direct-to-home (DTH) services continue to use MPEG-2 with the option to migrate to MPEG-4 when commercially viable.

The STBs shall be enabled to receive services from different platforms and operators. STBs will have standardised operating systems prioritising security features, interoperability and inter-connectability.

As a means to achieve universal service and access in digital terrestrial broadcasting basic STBs will be made affordable and they shall be sourced primarily from South African manufacturers. This is part of government's vision to contribute to job creation and South Africa's global excellence in the manufacturing of STBs.

Digital broadcasting must contribute significantly to accelerating the building of social cohesion and achieving national identity in South Africa through the dissemination of appropriate content that adequately reflect the country's cultures.

Noting the challenges relating to infrastructure, Digital Content Generation Hubs (DCGHs) aimed at generating content for the digital broadcasting shall be established. The DCGHs will also contribute to the development of the Creative Industries as well as job creation.

A special skills development programme through digital content generation hubs will be established to support the growth of the Creative Industries as part of ASGISA.

ICASA shall ensure that access to public broadcasting services by all South Africans, regardless of their economic status, remains a fundamental principle that should continue to be upheld in the digital broadcasting era.

1. INTRODUCTION

1.1 Context

1.1.1 The 2006 Regional Radiocommunication Conference (RRC-06) of the International Telecommunication Union (ITU) resolved that all countries of Europe, Africa, Middle East as well as the Islamic Republic of Iran should migrate from analogue to digital broadcasting services by 2015. This is set to mark the beginning of the end of analogue broadcasting in these regions.

1.1.2 Broadcasting Digital Migration is the process of moving the broadcasting of television and radio from analogue to digital. This policy document focuses on the migration to digital terrestrial television (DTT).

1.1.3 Although there are challenges, the migration of the national broadcasting system from analogue to digital brings with it a variety of opportunities. The process is also critical for the future of the local broadcasting industry as well as the South African economy as a whole.

1.1.4 South Africa is confronted with a wide range of developmental challenges such as the digital divide as well as building social cohesion and a common national identity, poverty eradication, and employment creation. Digital broadcasting has the potential to contribute significantly to addressing these challenges. Accordingly, the South African Government has identified broadcasting digital migration as a national priority.

1.1.5 The key benefit of digital broadcasting is that it uses the scarce national radio frequency spectrum far more efficiently than analogue technologies. This means that existing broadcasting services can be provided using less of the radio frequency spectrum they currently occupy.

1.1.6 The Broadcasting Digital Migration Policy (herein after referred to as the Policy) sees the delivery of quality education, health and small, medium and micro enterprises (SMMEs) programmes, the opportunity for developing new skills and the creation of new jobs, and new investment opportunities as an important component of digital broadcasting in South Africa. In this way, broadcasting digital migration can directly contribute to the Accelerated Shared Growth Initiative of South Africa (ASGI-SA) and be another tool in the war against poverty.

1.1.7 The radio frequency spectrum freed-up through the digital migration process, often referred to as 'digital dividend', has the potential not only to provide new and improved broadcasting, but also to enable additional ICT services traditionally not provided in the broadcasting radio frequency band, such as mobile telephony and wireless broadband as well as dedicated delivery of government information and services.

1.1.8 Digital migration begins with the 'switch-on' and transmission of broadcasting digital signals and ends with the 'switch-off' of analogue ones. Until analogue switch-off occurs, there is a period of 'dual illumination' during which both analogue and digital signals are simultaneously transmitted.

1.1.9 In order to continue viewing television using the current analogue TV sets, the public will be required to use Set-Top Boxes (STBs) which convert the transmitted digital signal to analogue. Otherwise, it will be necessary to acquire digital-enabled TV sets.

1.1.10 For the digital migration process in South Africa to be successful within the three year dual illumination or transitional period decided by Government, it is necessary to have a clear

government policy and Implementation Plan. Also critical is the co-operation of all the relevant stakeholders working together with the public.

1.1.11 A Digital Migration Working Group (DMWG) was established by the Minister of Communications in 2005 to develop key practical recommendations and to contribute to the development of a national policy for South Africa. This Policy draws on the outputs generated by the DMWG as well inputs received from the public and other stakeholders through public participation process and special meetings held.

1.2 Digital Broadcasting: New Horizons

1.2.1. The future development of the broadcasting industry globally will be impacted by the process of digitization and convergence of communication technologies. These trends and pressures impact not only on legacy broadcasting operations, but also brings to bear new and emerging businesses based on the provision of innovative digital services and applications. For the purpose of this Policy, digital broadcasting refers to what is defined in *Digital Migration Working Group Report* (2006: 10) as *"the practice of using advanced compression techniques to encode and transmit audio, video and image signals resulting in more efficient bandwidth usage"*. This allows content providers room to provide more services or a higher quality signal than has previously been available.

1.2.2. Given the increasing uptake and usage of mobile services and the need to increase broadband access in South Africa, this Policy takes into account and provides for new developments in ICT services and also provides for the allocation of frequency spectrum to enable the licensing of mobile broadcasting services.

1.2.3. The Policy aims to:

a) to establish a policy environment within which broadcasting digital migration is implemented;

b) create an environment for the uptake of digital terrestrial television by TV households, including the poor;

c) ensure a future for broadcasting existing services and introducing new services, taking into account the gasp related to programming of provincial content as well as parliamentary and government information, especially for the poor;

d) give effect to the decision to implement digital migration within a three-year dual illumination period;

e) provide a framework for the provision of community television and mobile broadcasting services;

f) provide for television services in more South African languages;

g) provide for access to broadcasting service to people with disabilities;

h) the development of a South African world-class electronic manufacturing industry

i) the development of the creative industries; and

j) provide for the establishment of a body referred to as Digital Dzonga to monitor the implementation of and raise public awareness about digital migration in South Africa.

1.3 Legislative Framework

1.3.1 Broadcasting digital migration in South Africa does not take place in a legislative vacuum. Digital Broadcasting was initially mooted in the *White Paper on Public Broadcasting* of 1998. Currently, the broadcasting digital migration process is catered for in the following legislation:

a) *Broadcasting Act* (1998), which provides the legislative framework for broadcasting in South Africa;

b) *The Electronic Communications Act* (2005), which provides the legal framework for the convergence of communications technologies in South Africa;

c) *The ICASA Amendment Act* (2006), which enables the effective and independent regulation of the ICT sector in South Africa;

1.3.2 The migration to digital broadcasting will result in the availability of more channels, thus bringing more access to broadcasting and content diversity to the public. This will enhance the country's ability to provide universal services and to ensure more equitable access to information.

1.4 The Benefits of Broadcasting Digital Migration

1.4.1 Broadcasting Digital migration presents the country with a unique opportunity to positively shape the future dynamics of the Information and Communications Technology (ICT) sector. Broadcasting digital migration will bring with it many benefits including:

a) efficient use of the frequency spectrum, a public and scarce resource;

b) more channels and, therefore, more diverse content delivered to the South African public;

c) better picture quality; and,

d) potential for special interactive services to cater for people with visual and hearing impairments such as audio description and subtitling, and e-government delivery.

1.4.2 These benefits provide a clear case for South Africa to prioritise the migration to digital broadcasting. Digital broadcasting provides not only the space within which new and cutting-edge technologies can be developed, but more importantly, it has the potential to directly contribute to socio-economic development and the improvement of the quality of life of all the people in South Africa.

2 BROADCASTING DIGITAL MIGRATION AS PART OF THE NATIONAL DEVELOPMENT AGENDA

2.1 Bridging the Digital Divide and Building an inclusive Information Society and Knowledge Economy in South Africa

2.1.1 Digital broadcasting has a key role to play in the socio-economic and cultural development of South Africa. It is of fundamental importance in the emerging Information Society and knowledge economy, in which access to information and knowledge is regarded as a prerequisite to economic and societal development. The Policy deliberately takes advantage of the opportunity provided by the process of migrating from analogue to digital broadcasting to accelerate the achievement of the country's socio-economic development goals in general and the Millennium Development Goals (MDGs) in particular.

2.1.2 In South Africa digital broadcasting will play a key role in building an inclusive development-oriented Information Society in accordance with and towards meeting South Africa's commitments with respect to the World Summit on Information Society. The country's Information Society vision is to *"establish South Africa as an advanced information society in which Information and Communication Technology tools and information are key drivers of economic and societal development"*.

2.1.3 Universal Service and Access or the availability and accessibility of broadcasting services to all citizens is a key component of successful digital migration. In order for households to continue to receive television services on their current analogue TV sets after the analogue signal is switched off on 1 November 2011, Set-Top-Boxes (STBs), which convert the digital signals into analogue signals, are required. The total TV-owning households in SA are estimated at 7.5 million, of which approximately 94% rely exclusively on free-to-air broadcasting services. Of these 7.5 million TV households, about 4.5 million are poor households who would find it very difficult to afford STBs by November 2011.

2.1.4 Government has decided, as a matter of policy, to consider finding means of making the STBs affordable and available to the poorest TV-owning households. This support by Government should be seen as part of its commitment to bridging the digital divide in South Africa. Accordingly, for South Africa, the STBs will have special features which enable access to e-government services for all citizens, especially those who thus far have had limited or no access. Digital broadcasting also enables the provision of services in a multiplicity of languages, thus increasing access to information which in line with Government's Information Society vision, is an important tool for societal and economic development. This is essential to meet our poverty reduction goals.

2.2 Increasing Access to Information and Services through e-Government

2.2.1 The South African Government adopted ASGI-SA in 2005. This initiative aims to guide and improve the country's economic growth. South Africa's economy is projected to reach 6% growth rate by 2010.

2.2.2 The ICT sector is one of the sectors identified as having the potential to contribute to the achievement of ASGI-SA objectives through infrastructure roll-out, reducing cost of doing business, small business development and contributing to creating a macro-economic climate conducive for economic growth.

2.2.3 Globally poverty is associated with low access to information and knowledge. Government therefore regards greater information and communication flows within and between

communities and regions as an important tool in the war agaist poverty in South Africa. The digital divide is to some extent a cause as well as a consequence of poverty.

2.2.4 Access to government information and services, in particular, is fundamentally important in poverty eradication efforts. Through the effective application and use of ICTs (e-government), opportunities are created for the efficient management of information to the citizen, better service delivery, the empowerment of people through access to information and participation in public policy decision-making[1]. Government therefore decided that as a matter of policy the South Africa STB will be a tool for access to information and services for all South Africans.

2.3 Building National Identity and Social Cohesion

2.3.1 The migration to digital broadcasting will create opportunities for the development, use and wide dissemination of local content in all eleven (11) official languages. It will also advance the expression and the efficient communication of the knowledge and experience of all communities and the country as a whole. It could contribute to the integration of people from different ethnic or racial backgrounds, thus contributing to nation building.

2.3.2 During dual illumination, during which both analogue and digital signals are simultaneously transmitted, community television services will be accommodated on the public national frequency network.

2.3.3 The traditional model for South African content regulation is based on minimum percentages and took into account factors which applied in a single channel analogue environment. Given the new digital broadcasting era, these content quotas shall be reviewed by the Independent Communications Authority of South Africa (ICASA) to reflect the multi-channel digital environment.

2.3.4 Although coverage limitations will be overcome in the digital environment, access to public broadcasting services by all South Africans, regardless of their economic status, remains a fundamental principle that should not be diluted by the digital migration process.

2.3.5 This Policy provides that the "must carry" arrangements, which require broadcasting services to carry public broadcasting services, continue in the new digital environment, fulfilling the important aspect of providing public broadcasting services to all citizens.

2.4 Digital Broadcasting Serving the Needs of the Disabled

2.4.1 Closed Captioning is embedded in the television signal and becomes visible when a special decoder is used. The South African decoder will, as a matter of policy, enable viewers to see captions which assist them to read what is being said in that particular programme.

2.4.2 Captioning is helpful in the following ways:

a) It can be used to assist hearing-impaired television viewers;

b) It can be helpful in noisy environments; and

c) It can also be used to follow programming which is in a different language.

2.4.3 Captioning services are therefore essential for addressing the needs of many people, especially those with hearing disabilities.

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[1] UN Global e-Government Readiness report, 2005

2.5 Development of the electronics and local content industries

2.5.1 Currently, South African firms are manufacturing STBs for the local subscription TV market as well as some for foreign countries. The country also has greater export capabilities and potential as global demand for decoders increased in the previous few years. In this regard, South Africa is one of the pioneers in STB technologies with the initial design and manufacturing of decoders in the early 1990s.

2.5.2 Building our STB manufacturing capabilities, Government has decided to support the industry through the development of a world class South African electronics industry.

2.5.3 This means that the industry will need to increase investment in capital production machineries to meet the expected demand for electronic equipment, particularly STBs. A strategy to develop this electronics industry, building on the current an new players in the STB manufacturing sector will be developed with business unusual speed.

2.5.4 The local development of STBs will bring to bear a whole new value chain required to meet the production levels. It will enable the training and employment of local people in different sections of the industry.

2.5.5 As part of contributing to the objectives of ASGI-SA through enhancing global excellence in the manufacturing of electronic goods, the manufacturing of STBs locally will be implemented within the context of the National Industrial Policy Framework.

2.5.6 The experience of manufacturing of STBs in South Africa will accelerate the development of the integrated digital television manufacturing capacity. This will result in the manufacturing of TV sets that will no longer require STBs to receive a digital signal post dual illumination as the electronics of the STB will be integrated into the TV sets.

2.5.7 As part of contributing to job creation and South Africa's global excellence in electronics manufacturing, STBs shall be sourced primarily from South African manufacturers.

2.5.8 Digital broadcasting will require concerted efforts to increase the pace of generating digital content. Digital Content Generation Hubs (DCGHs) aimed at generating content for digital broadcasting shall be established. The DCGHs will also contribute to the development of the Creative Industries as well as job creation.

2.5.9 The development of Creative Industries will be implemented within the context of the National Industrial Policy Framework. In addition, the development of Creative Industries will provide an opportunity for the coverage of South African stories, entertainment and cultures in multi-channel digital broadcasting, thus contributing towards building national identity and social cohesion, further providing an African perspective of South Africa as an integral part of the African continent

3 THREE-YEAR DUAL ILLUMINATION PERIOD, ACCELERATING THE BENEFITS OF DIGITAL TV

3.3 Digital switch-on and analogue switch-off

3.3.1 Taking into account the resolution of the ITU that the transition from analogue to digital terrestrial television broadcasting should end on 17 June 2015, the Cabinet decided that in South Africa, the switch-on date of the broadcasting digital signal and the switch-off date of the analogue signal should be on 01 November 2008, and 01 November 2011 respectively.

3.3.2 The Government recognises that the aggressive three (3) year dual illumination period in South Africa will be a significant challenge. However, this shorter period provides a range of national benefits, including the following:

a) The best economic outcome through bringing forward the digital dividend and reducing cost duplication during the transitional period;

b) Room to manoeuvre in relation to the global ITU-RRC agenda for digital migration;

c) Bridging the 'digital divide' between technology have and have-nots; and

d) Support for the emerging digital broadcasting industry in terms of the deployment of services, content and equipment.

3.3.3 The Policy offers certainty and transparency for the public and all stakeholders. Because of its focus on incentives for new investment in network assets and for innovation in digital content services, the phased migration to the new digital services offers existing market participants the scope to plan their own commercial strategies to take advantage of the new digital opportunities.

4 THE TELEVISION SET-TOP-BOX AS A TOOL FOR BRIDGING THE DIGITAL DIVIDE

4.1 The STB will allow users to view digital transmissions on their current analogue TV sets. It decodes the broadcast digital video stream and converts it into a signal that can be displayed on an analogue TV set. The timing of the availability of STBs in South Africa will have a significant impact on terrestrial digital broadcasting rollout decisions.

4.2 These technologies also govern the consumer experience and provide the platform for receiving not only broadcast transmission, but also a range of other advanced applications. Broadcasters are also able to better understand and manage relationships with their consumers.

4.3 The current STB market in South Africa is vertically integrated, with subscription broadcasters controlling the models of STBs that are used on their network platform. In the digital broadcasting era, STBs must be enabled to receive services from different platforms and operators. This will allow different service providers to gain access to the same consumers and vice-versa for the consumers to have inter-changeability between service providers.

5 ADOPTING APPROPRIATE TECHNICAL STANDARDS

5.1 Specifications for STBs in South Africa

5.1.1 The STB specifications will ensure that households continue to have access to television services using their current analogue television sets. These boxes will also serve as important tools for access to government information and services.

5.1.2 In addition the STBs will -

5.1.2.1 have a software solution (MHEG-5), which enables planning on the part of the viewing public to watch programmes of interest at their own convenience;

5.1.2.2 have a control system to prevent STBs from being used outside the borders of South Africa and to disable the usage of stolen STBs;

5.1.2.3 be conditioned to work anywhere provided that the codes are changed to suit the needs of such a country, thus increasing export opportunities for the South African industry;

5.1.2.4 have a secure on screen or over the air software download feature to enable service enhancement over the STB lifetime. This feature will reduce the operational costs of the box as it will enable remote upgrades of the STB centrally, making it unnecessary for providers to visit homes or for the public to go to vendor offices for such upgrades to be done;

5.1.2.5 enable the public to receive and download upgraded or new software and content without leaving their homes or the place where the TV set is located;

5.1.2.6 have a return path capability feature in the STB which enables the public to receive as well as send a message back, as opposed to only receiving messages. This feature enables the full and interactive provision of e-government services such as accessing, filling in and sending back government forms without the viewer leaving home or the place where the TV set is located such as a school, health centre, police station, post office, Thusong centre or place of worship, and;

5.1.2.7 capabilities to unscramble the encrypted broadcast signal so that only fully compliant STBs made or authorised for use in South Africa can work on the network.

5.1.3 There are numerous standards for digital broadcasting in use across the world. After significant technical evaluation and specific consideration of South Africa's unique market requirements, this Policy adopts the following technical standards for type approval by ICASA and for use by industry:

5.1.3.1 DVB-T (EN 300 744) is adopted as the national standard for terrestrial digital television broadcasting in South Africa. DVB is reported to be the fastest growing DTT platform in Europe and other parts of the world. Many governments have started to plan for analogue switch-off and DVB-T has become the de facto standard, which has been adopted by the whole of the ITU Region 1 comprising Europe, Middle East and Africa.

5.1.3.2 MPEG-4 is adopted as the compression standard for South Africa's DTT rollout.

6 DEVELOPMENT-ORIENTED APPROACH TO THE USE OF THE RADIO FREQUENCY SPECTRUM

6.1 Radio Frequency Spectrum as a National Public Resource

6.1.1. This Policy recognises that the Radio frequency spectrum is a national resource and that Government has a responsibility to use such a resource in the public interest, prioritising it for developmental objectives.

6.1.2. Digital broadcasting uses scarce the frequency spectrum far more efficiently than analogue technologies. Research indicates that the largest single benefit of digital migration is the freeing up of valuable radio frequency spectrum that is currently used for analogue television transmission. In broadcasting digital migration processes the freed up spectrum is generally used for the provision of other services in addition to television such as wireless services and mobile television.

6.1.3. South African digital migration is occurring at a time when technological advances in mobile telephony and wireless broadband are making these services increasingly attractive to consumers. This Policy envisages the licensing of such services to the benefit of the majority of South Africans.

6.1.4. Radio frequency spectrum propagation does not respect international country borders. These factors, together with the fact that radio waves are capable of causing harmful interference over very long distances, make it essential for radio frequency usage to be internationally co-ordinated with South Africa's neighbours in the Southern African Development Community (SADC) region to ensure interference-free operation of services.

6.1.5. Where appropriate, South Africa will utilize opportunities provided through NEPAD and within African Union structures to ensure harmonization with neighboring countries. In other instances, bilateral initiatives will be necessary to provide support to neighboring countries with their digital migration processes.

6.1.6. In line with the objectives of ensuring fair, efficient and equitable allocation of radio frequency spectrum for public and private use, this Policy proposes that the public broadcaster, on its own or in partnership, cater for three public regional television channels as well as channels prioritising education, health, youth, SMMEs, interactive services, as well as Parliamentary and government information and services needs. In addition, regional television services offered by the public broadcaster will be required to provide an open window for community television services.

6.1.7. Competition should be promoted within the limits of available spectrum in order to ensure a smooth migration to digital broadcasting in the country and to provide a multiplicity of sustainable services to benefit both the public and the broadcasters.

6.1.8. This Policy contemplates that about eight (8) standard definition digital channels will be created per radio frequency currently assigned to one analogue channel.

6.1.9. During the transitional period two (2) national multiplexes will be reserved for both public and commercial broadcasting services.

6.1.10. In terms of the Broadcasting Act, the network of radio frequencies dedicated for public broadcasting shall be co-assigned to and managed by Sentech as the common carrier on a non-preferential and non-discriminatory basis. Sentech must also provide broadcasting signal distribution to commercial broadcasters, taking into consideration that the ECA allows for self provisioning by broadcasters. Such services shall also be provided on non-preferential and non-discriminatory basis.

6.1.11. Consistent with the ITU Treaty, this Policy further provides for the establishment of two (2) metropolitan frequency networks designated for the provisioning of mobile broadcasting services during dual illumination period.

7 ROLLING OUT OF THE DIGITAL TERRESTRIAL TRANSMISSION INFRASTRUCTURE

7.1. The rollout of the digital terrestrial transmission infrastructure shall aim to achieve the national coverage of the digital broadcasting signal in a phased manner, aiming to cover 50% of population by end of 2008, 80% of population by 2010 and close to 100% by 2011, thus enabling analogue switch-off in South Africa. Areas that are difficult to reach will be covered by satellite means.

8 IMPLEMENTING THE MIGRATION TO DIGITAL

8.1 The Establishment of the Digital Dzonga

8.2 The Policy provides for the establishment of a body to be known as Digital Dzonga. It will comprise representatives from the public, government, industry, organised labour and consumer groups. Key among its functions include: consumer education and awareness, liaison with relevant stakeholders, including ICASA and STBs manufacturers, monitoring the implementation and providing regular reports to the Minister of Communications.

9 CONCLUSION

9.1 This Policy is guided by the unique challenges that the country faces. In addressing these challenges, the Policy seeks to make South Africa as a global leader in harnessing ICTs for socio-economic development. This Policy will assist the Government to meet its commitments to the people of South Africa as well as to the global community, especially the developing world.

9.2 It is Government's intention to continue on an open and inclusive partnership, taking along all stakeholders in an effort to achieve successful migration to digital broadcasting services in South Africa.

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