GENERAL NOTICES

NOTICE 346 OF 2011

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

ICASA REGULATORY FRAMEWORK FOR BROADCASTING TRANSMISSION SERVICES

DISCUSSION PAPER FOR COMMENT

1. The Independent Communications Authority of South Africa (herein after referred to as "the Authority") hereby gives notice of the Electronic Communications Act No. 36 of 2005 (herein after referred to as "the Act") ....

2. The purpose of this Discussion Document is to outline the Authority's initial views on a number of aspects of the broadcasting transmission market in South Africa. The Authority accordingly seeks the views of interested stakeholders on these issues.

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APPROVED BY

DR STEPHEN MNCUBE
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DATE 30/05/2011

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ICASA REGULATORY FRAMEWORK FOR BROADCASTING TRANSMISSION SERVICES

DISCUSSION DOCUMENT FOR COMMENT

JUNE 2011

1. The Authority invites written submissions on issues and questions raised in the discussion document from all interested parties and stakeholders. The closing date for submissions is **13 September 2011** by no later than 16h00, by post, hand delivery, facsimile transmission or email for the attention of and directed to:

   Lufuno Sigwavhulimu
   Independent Communications Authority of South Africa
   Private Bag X10002
   Sandton
   2146

2. Delivery address: Block A, Pinmill Farm, 164 Katherine Street, Sandton. Where possible written representations should also be e-mailed to: lsigwavhulimu@icasa.org.zaand copypcokie@icasa.org.za

   Enquiries can be directed to the Project Leader on:
   Landline: 011 566 3683
   Fax: 011 566 3684

3. All written representations submitted to the Authority pursuant to this notice will be made available for inspection by interested persons at the Authority's library and copies of such representations will be obtainable on the payment of the prescribed fee.Stakeholders are kindly advised to indicate any objection to the release of information contained in a submission, which is considered as confidential. Motivations in this regard shall include reason(s) for such information not to be made public. The Authority will take into account all such objections when responding to requests for copies and information on submissions to this document.

4. Persons submitting written representations are further invited to indicate, as part of their submissions, whether they require an opportunity to make oral representations and the estimated duration thereof, which duration shall not exceed one hour.

5. The Authority will review and analyse all submissions received from stakeholders in response to this discussion document. Findings emanating from this consultation exercise will form a foundation in the development of the framework for the regulation of Broadcasting Transmission Services.

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1. EXECUTIVE SUMMARY

The purpose of this Discussion Document is to seek information from interested stakeholders on a number of aspects of the wholesale broadcasting transmission market in South Africa. This is a Discussion Document, and does not reflect the Authority's final views. In particular, the Authority is interested in gaining a comprehensive understanding of the current structure and the level of competition in the market.

This Discussion Document sets out the Authority's initial views on the market definition, operator(s) that may have Significant Market Power (SMP) in these markets, and possible pro-competitive measures that might be applied in these markets where competition may be found to be ineffective.

The Authority accordingly provides stakeholders with its preliminary views on a range of matters and seeks the views of industry on these issues.

The key areas to be covered in this document include:

- A description of the Wholesale Broadcasting Transmission Services market in South Africa (including likely future technological and commercial developments);
- Initial views for discussion on Market Definition issues in terms of Section 67 of the Electronic Communications Act No. 36 of 2005 ("ECA");
- Initial views for discussion on an assessment of the competitive conditions on the defined markets;
- Initial views for discussion on Identification of licensees with Significant Market Power (SMP) in the defined markets and/or market segments; and
- Initial views for discussion on possible pro-competitive remedies that could be imposed on licensees found to have SMP to remedy any identified market failures.

The Authority puts forward a range of questions in this Discussion Document in order to obtain a better understanding of the markets discussed and welcomes feedback from the industry regarding the Authority's preliminary observations.

The product markets that have been initially identified in this document are:

- The provision of managed transmission services (MTS) for satellite broadcasting;
- The provision of managed transmission services for the purpose of providing analogue (and digital, when available) terrestrial broadcasting transmission services within South Africa to deliver television broadcasting services;

- The provision of MTS for the purpose of providing terrestrial broadcasting transmission services within South Africa to deliver radio broadcasting services at a regional level;
- The provision of MTS for the purpose of providing terrestrial broadcasting transmission services within South Africa to deliver radio broadcasting services at a location other than at a regional level.

After consideration of the relevant factors discussed in this document, the Authority's preliminary view is that the following markets may not be effectively competitive:

- The market for MTS for the terrestrial television broadcasting market (analogue and digital);
- The market for MTS for radio broadcasting in areas that are national or regional in scope (non-local terrestrial);
- The market for MTS for radio broadcasting in small geographic areas (local terrestrial).

In addition, the Authority has come to a preliminary view that Sentechmay have Significant Market Power (SMP) in each of the above wholesale broadcasting transmission markets where competition is ineffective.

There are a range of pro-competitive remedies available to address the potential impact of SMP in a market. The ECA provides a non-exhaustive list of remedies or pro-competitive terms and conditions that may be imposed; including:

- timely compliance with license terms and pro-competitive conditions.
- to act fairly and reasonably in relation to provisioning of services, facilities leasing and access;
- transparency through obligations to publish terms and conditions;
- non-discrimination;
- accounting separation, and compliance to prescribed accounting methods; and
- price controls, such as cost orientation.

The Authority must, in terms of the ECA, consider all of the potential remedies and decide which are the most appropriate to impose, if any, based on an assessment of the markets. This Discussion Document, therefore, also puts forward a preliminary view of potential remedies that may be appropriate to be imposed in those wholesale broadcasting transmission markets where competition may be found to be ineffective.

2. BACKGROUND AND LEGAL FRAMEWORK

2.1 Background

The Authority published a notice in, Government Gazette No. 33599 of 30 September 2010, of its intention to embark on a section 4B inquiry on wholesale transmission services in terms of the Independent Communications Authority of South Africa Act, Act 13 of 2000 ("the ICASA Act".)

Following the Notice the Authority published a questionnaire on its website on 6 October 2010 and as an additional measure circulated the Questionnaire directly to licensees, to the extent possible. In addition information gathering meetings were held with representatives of the industry including broadcasters, signal distributors and industry associations. The objective of the questionnaire was to enhance the Authority's knowledge about the broadcasting transmission markets. The information assisted the Authority in preparing preliminary definitions of the market by:

- identifying the products and services provided;
- the suppliers and customers in the market;
- the geographic market;
- market size and share of the market; and
- providing insight into challenges experienced in the market.

One of the outcomes of this process could be a decision by the Authority to pursue a formal market review in terms of Chapter 10 of the ECA. Section 67(4) of the ECA (Chapter 10) allows the Authority to prescribe regulations defining the relevant markets and market segments, as applicable, where pro-competitive conditions may be imposed upon licensees having significant market power, if the Authority determines such markets or market segments have ineffective competition[1]. Prior to potentially embarking on a section 67(4) process, the Authority has made a decision as a first step to conduct an inquiry to allow all interested parties to provide information to the Authority on all matters that it is required to consider.

It is in terms of this process that this Discussion Document is published. Respondents have 60 days[2]from the date of publication of this Discussion Paper to provide written

[1] Section 67(4)(a) of the Electronic Communications Act, 2005 (Act No. 36 of 2005)

[2]Working days

submissions to the Authority and make an indication whether a respondent wishes to make an oral presentation during public hearings.

Table 1 provides a summary of the responses from industry.

Table 1: Industry Responses to the Authority Questionnaire

	Television		Radio			Signal Distributors	Other	Total
	Commercial/ Public	Community	Commercial	Community	Public			
Total No of Licensees	5	7	16	171	18	3	n/a	220
No of Responses	5	0	0	14	18	3	2	42
Total % from licensees	100%	0%	0%	8.19%	100 %	100%	-	19%

The Authority notes that the response from industry to the questionnaire was lower than anticipated. In addition, some of the responses that were received were incomplete. Further information is still required from industry in order for the Authority to fully define the market, assess the level of competition and (if needed) propose pro-competitive remedies.

2.2 Relevant Legislation and Regulations

Broadcasting legislation and policies in South Africa are aimed at providing all South Africans with access to broadcasting services and a diverse range of information, education and entertainment. The following is the main legislation regulating broadcasting:

- The Electronic Communications Act 36 of 2005
- The Broadcasting Act 4 of 1999 as amended
- The Sentech Act 63 of 1996

The ECA was promulgated in 2006. The ECA is aimed at promoting convergence between broadcasting and telecommunications and ensuring that the regulatory approach to both

sectors is similar. The Broadcasting Act (introduced in 1999) sets out specific requirements for broadcasting – including particular stipulations for the public broadcaster. Many of the provisions in the Broadcasting Act were moved to the ECA. The Broadcasting Act provides for a three tier broadcasting system for sound or television classified as – public, commercial and community – and further categorised as free-to-air, terrestrial subscription, satellite subscription, cable subscription, low power sound broadcasting service and any other class of licence prescribed by the Authority from time to time[3]. The Broadcasting Act gives effect to the fundamental constitutional principles with respect to freedom of expression and the journalistic, creative and programming independence of the broadcasters and independence of regulation of broadcasting as guaranteed by the Constitution. In addition, the Broadcasting Act provides for the establishment of the South African Broadcasting Corporation Limited as a public company (SABC Ltd) with the state as the sole shareholder.

In 1996, all units of the SABC dealing with signal distribution were incorporated into a new public company – Sentech (Ltd). The Sentech Act (No 63 of 1996) was promulgated and the company was licensed in terms of the then Independent Broadcasting Authority Act (IBA Act) as a "common carrier" signal distributor. Sentech was given all existing signal distribution equipment and granted exclusivity over transmitter high sites critical for effective transmission. In exchange the signal distributor was obligated to provide equitable signal distribution upon request. The IBA Act was repealed in its entirety by the ECA. As such, Sentech no longer has exclusivity over transmission high sites[4].

Following on the discussion of market developments, this section explores the relevant provisions contained in the ECA that may have an impact on the broadcasting industry. In particular the impact of the Facilities Leasing Regulations, "common carrier status", "must carry obligations" and the provisions of Chapter 10 will be discussed. Related to these regulations is the Digital Switchover process, which will be discussed in a separate section hereunder.

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3 Section 5 of the Broadcasting Act 4 of 1999

4 Section 5(a) of the Sentech Act 63 of 1996 stipulated that the main object and the main business of Sentech shall be to provide, as a common carrier, broadcasting signal distribution for broadcasting licensees in accordance with the provisions of the IBA Act. However, section 93(8) of the ECA stipulates that any monopoly or exclusive rights existing by virtue of the related legislation, the IBA Act, the Sentech Act or the Telecommunications Act is null and void. The ECA further amended the Sentech Act with the substitution of section 5 to the effect that "the main object and business of the Company shall be to provide electronic communications services and electronic communications network services in accordance with the ECA", thus effectively repealing the "common carrier" status of Sentech.

The ECA created a technologically neutral environment wherein no licensee is restricted in terms of the types of services it is entitled to provide. The only restrictions would be due to the type of Electronic Communications Network Service (ECNS) or Electronic Communications Service (ECS) licence which could either be class or individual. This means that with the appropriate licence, any licensee could provide broadcasting transmission services, should it wish to do so.

The ECA introduced a new licensing regime applicable to both broadcasting and electronic communications services (telecommunications services). In terms of this regime, there are two categories of licence:

- individual licences (which in relation to broadcasting apply to public and commercial broadcasting services and are granted for a maximum of 20 years, with the actual term to be determined by ICASA; and
- class licences (which apply to community and low power stations are granted for a maximum of 10 years)[5].

The Standard Licence Terms and Conditions Regulations determined the licence terms to be 15 years for public and commercial free-to-air television and subscription services, 10 years for public and commercial radio stations and 5 years for community and low power stations.

An important consideration for broadcasting transmission services are the facilities leasing provisions contained in the ECA. The Authority issued Facilities Leasing Regulations in terms of section 44 of ECA. The Authority is of the view that broadcasting transmission services are facilities as contemplated in the ECA. Section 43 of ECA is therefore applicable to broadcasting transmission services and provides that ECNS licensees must, on request, lease electronic communications facilities, to any other person licensed in term of this Act, if it is technically and financially feasible.

The Must Carry Regulations[6] requires all subscription broadcasters to carry public broadcasting services. The intention of these requirements is to extend the reach of public broadcasting services. Accordingly, public broadcasting services are carried via terrestrial and satellite networks. The Must Carry Regulations oblige a subscription broadcasting service (SBS) to carry the television programmes broadcast by a public broadcasting service (PBS) licensee. The purpose of the must carry regulations is amongst others, to

[5] Section 5 of ECA

[6] Gazette No. 31500 dated 10 October 2008

provide for the terms and conditions under which the SBS licensee will carry the programmes of the PBS licensee. In terms of the current regulations, all television programmes comprising a channel and broadcast by a PBS licensee as part of its broadcasting service are subject to must carry obligations. The regulations stipulate that the SBS licensee must bear the costs of carriage of the television programmes of the PBS licensee on its distribution platform in compliance with the regulations. The PBS licensee must offer its television programmes, at no cost, to a SBS licensee upon request from the SBS licensee, and must deliver the signal in an un-encoded and compatible format. The PBS licensee bears the costs of transmission of the broadcast signal to the SBS licensee, and the SBS licensee is required to transmit simultaneously and without any alteration, the entire television programmes of the PBS licensee.

Chapter 10 of the ECA provides the Authority with an *ex-ante* regulatory process to review and, if required, introduce pro-competitive remedies to address problems in defined markets where competition is ineffective and licensees have been identified as having Significant Market Power.

3. BROADCASTING TRANSMISSION SERVICES MARKET IN SOUTH AFRICA

3.1 Introduction

In this section the Broadcasting Transmission Services Market will be discussed broadly and the terminology for the market analysis explained. Throughout the document broadcasting transmission services will be used as a general term to describe the following services:

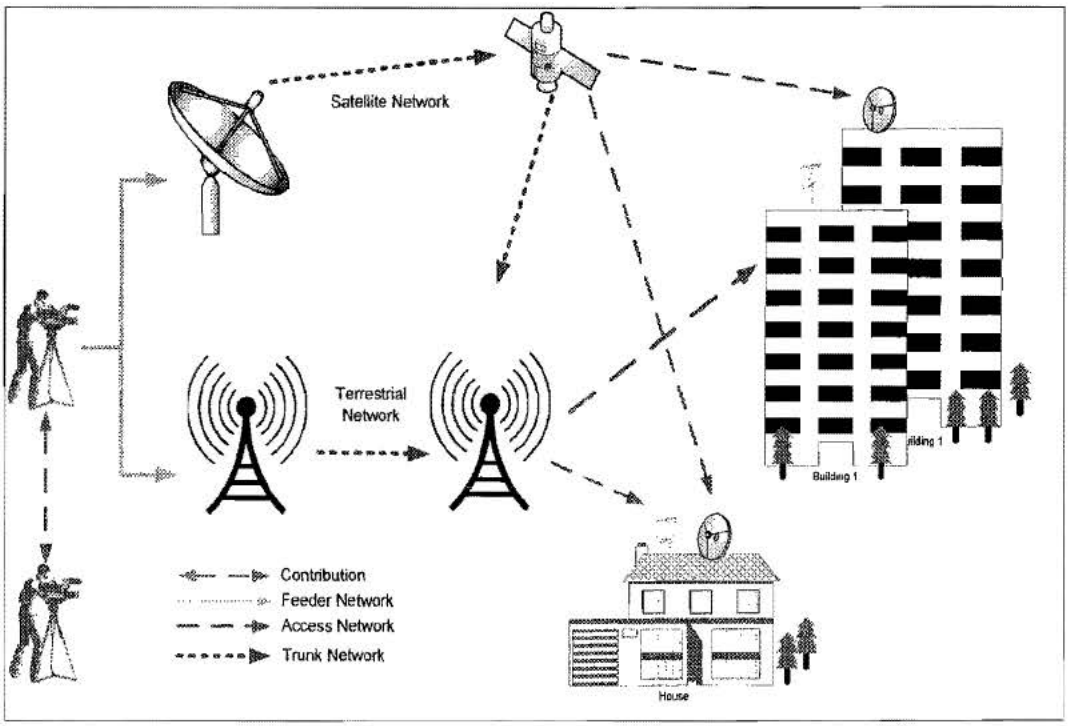
- UHF and VHF television transmission (SABC 1, 2, and 3, e.tv, M-Net, community TV etc.);
- FM Radio transmission (SABC national, regional, commercial and community radio);
- AM Radio transmission;
- SW Radio transmission;
- Satellite TV (DSTV, TopTV etc.) transmission;
- Digital Terrestrial Television (DTT) transmission; and
- Digital Audio Broadcasting (DAB).

Broadcasting transmission services can generally be divided into four main types:

- Transmission between production sites (contribution);
- Transmission for feeding signals to transmitter station(s);
- Transmission for relaying signals between main transmitters (on cable TV networks from the head end to local node); and
- Transmission for distribution to end users (access network).

The actual infrastructure of the broadcasting networks is presented in **Figure 1**.

Figure 1: Schematic presentation of the infrastructure for Broadcasting Transmission in South Africa



The contribution network is the part of the network where broadcast content is carried e.g. between recording/production sites and studio.

The feeder network is the portion of the network that runs from the broadcaster out to the first point of connection in a transmitter network or trunk network (terrestrial antenna or satellite earth station). Feeder networks can be developed using various technologies such as fibre or radio relay links.

The trunk network is the portion of the network where broadcast signals are carried between the first point of connection with the broadcaster up to the interface with the access network.

The access network is the last portion of the network and is used to distribute broadcast signals to the end user. In a broadcasting context such networks are usually called signal distribution networks. In South Africa, broadcasting content can be distributed either using the terrestrial network or by satellite. Technological developments have meant that other technologies may increasingly be used for broadcasting in the future. On the feeder, trunk and contribution networks, the Authority understands that the infrastructure used to deliver broadcasting transmission services can be used both for transmission of broadcasting services and for telecommunications.

The Authority understands that there are a range of providers in the market currently providing broadcasting transmission conveyance (i.e. point to point transmission services on feeder, trunk and contribution networks). These include Sentech, Telkom, Neotel, Globecast, Telcordia. It is the Authority's initial view that any consideration of these services in terms of market definition would need to consider the broader range of providers that provide similar types of transmission services in the telecommunications market. In many other countries, these 'leased line' transmission services (which can be provided at both the retail and wholesale level) have been considered as part of a broader market (including both transmission services used by broadcasters and fixed and mobile telecommunication service providers). The Authority considers that it is beyond the scope of this review to consider the market for leased lines. This market may be subject to a separate market review by the Authority in terms of section 4B of the ICASA Act and/or as part of future Chapter 10 inquiry under the ECA.

As discussed in the introductory section, the focus of this review is on broadcasting transmission services, which the Authority defines as the transmission of content to end-users once the content has been delivered to the Access or Signal Distribution network[7]. For terrestrial networks the access network begins at the transmission site or mast. For satellite networks, the Authority considers that the access network begins from the satellite ground station. The different types of broadcasting transmission will be discussed in greater detail below.

[7] The conveyance of broadcasting content from the production studio to the access network can sometimes be arranged by the supplier of broadcasting transmission as part of an end-to-end managed transmission service to broadcasters. However, this conveyance is not considered in detail in this review.

Transmission equipment is used as a generic term to describe all of the equipment (other than masts) which is used by signal distributors to transmit the broadcast signal (i.e. transmitter, combining unit, feeder and antenna) received via the signal distribution network.

As explained above, the conveyance of broadcasting content from studios to transmission masts (i.e. "point-to-point" transmission or "linking") forms part of broadcasting transmission. This "conveyance" service will be discussed briefly in this Discussion Paper but it is not intended to be a key focus of the review.

3.2 Market Developments

Due to the introduction of the ECA and related regulations, different market opportunities and considerations arise for broadcasters. In this section the impact of issues such as the regulatory regime and new technologies (including IPTV, Mobile TV and Cable TV) will be discussed. Importantly, the basic principles of competition regulation will be introduced.

The Authority in its position paper on IPTV and VOD services[8]has chosen to differentiate between Internet TV and IPTV, namely, that Internet TV is an unmanaged service using the same publishing model that exists on the public Internet and can be accessed globally in the same way and fashion as any other website. In contrast, IPTV is the making available of video and television-type content through secure and protected Internet Protocol (IP) telecommunications networks.

The term VOD refers to a number of technologies offered over private networks and the Internet, all of which allow the selection and rental or download to own, in a virtual or electronic form of video content for immediate or later viewing on a range of devices such as computers, television sets, portable players and mobile phones. There are a broad range of business models for VOD such as the traditional rental model or free VOD (FVOD) financed by advertising, but the most common model is subscription VOD (SVOD).

The Authority sought to clarify the manner in which IPTV and Video on Demand (VOD) services are to be treated in the context of the regulatory framework established by the ECA and the types of licences which will be required to provide such services. IPTV services have been determined to be broadcasting services for the purposes of the ECA

[8]Position Paper in relation to Internet Protocol Television (IPTV) and Video-on-Demand (VOD) services. Gazette33436.

and as such a broadcasting service licence is required to provide this service. In contrast, VOD services (not including on-demand services provided over the public internet) have been determined to be ECS for the purposes of the ECA and as such an ECS licence is required.

The Authority furthermore published Mobile Television Regulations[9] on 16 April 2010 wherein the Authority set out the regulatory framework for licensing of radio frequency spectrum for the provision of mobile television. Accordingly, two Mobile TV broadcast frequency licenses were issued to provide mobile broadcasting services using the Digital Video Broadcasting Handheld (DVB-H) standard. On September 10, 2010 ICASA announced that it had awarded e.tv 40% of the capacity on multiplex 1, and the remaining 60% of the multiplex being awarded to MultiChoice. In late November 2010, both e.tv and DStv launched mobile TV services.

3.3 Digital Switchover and the re-negotiation of wholesale broadcasting transmission agreements

The migration from analogue to digital broadcasting will have far reaching implications on the broadcasting industry. In preparation for the migration to digital broadcasting, the industry has already commenced technical trials and pilots.

In 2006 South Africa signed the ITU RRC'06 Agreement, confirming its decision to use Digital Video Broadcasting Terrestrial (DVB-T) as its national digital terrestrial television standard. The government published a Policy Determination on Digital Migration[10] providing amongst others, the following:

- that there would be a 3 year period of dual illumination commencing on 1 November 2008 (when the digital signal will be switched on) and ending on 1 November 2011 (when the analogue broadcast signal will be switched off);
- national broadcasting signal coverage should be achieved in a phased manner so as to reach 50% by 2008, 80% by 2010 and close to 100% by 2011, and areas that are difficult to reach should be covered by satellite;
- during dual illumination, two multiplexes should be reserved for incumbent broadcasters;

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[9] Gazette 33125,16 April 2010.

[10] Broadcasting Digital Migration Policy for South Africa August 2008 Gazette 31408

- approximately eight standard definition digital channels will be created per radio frequency spectrum currently assigned to one analogue channel;
- DVB-T is the national standard for broadcasting digital terrestrial television (DTT) in South Africa, DVB-S is the national standard for broadcasting digital satellite television in South Africa and MPEG-4 is the compression standard for the DTT rollout in South Africa. The South African Bureau of Standards has already published DVB-T and DVB-S as the South African standards respectively[11];
- Set-top-boxes (STBs) to be used to receive DTT services will have standardised operating systems prioritising security features, interoperability and inter-connectivity;
- A body known as the Digital Dzonga was to be established comprising representatives from the public, government, industry, organised labour and consumer groups and aimed at consumer education and awareness, stakeholder liaison including the Authority and STB manufacturers, and monitoring.

The Authority published Digital Migration regulations[12]on 15 February 2010 prescribing the dual illumination period to run from 1 November 2008 to 30 April 2011. The Authority also introduced a definite performance period during which the industry shall commence the rollout of public DTT services to commence from 1 April 2010 to 30 March 2012. However, with regard to the commencement of the dual illumination period, the Authority noted the delays that have been experienced by the Department of Communications which is driving the STB manufacturing and distribution process. Consequently, the Authority decided that the performance period during which broadcasters are required to dual illuminate will now commence on a date to be set by the Authority by notice in the Government Gazette for a period of 36 months after commencement date. Recently, on 14 January 2011, Communications Minister Padayachie made an announcement[13] that served to extend the switch off date to November 2013 and also changed the standard to DVB-T2.

The multi-channel environment, for which digital broadcasting allows, has raised questions regarding the appropriate role to be played by the entities which provide signal distribution services to the broadcasters. It is likely in the future, to become difficult to allow broadcasting service licensees operating on the DTT platform to enter into their own commercial arrangements with ECNS licensees who provide signal distribution services. This is because a single multiplex, which must be transmitted by a single provider of signal

[11] https://www.sabs.co.za/webstore/standards/product.php?id=14016150

[12] Gazette 32956, 15 February 2010

[13] Statement by Minister of Communications Mr R L. Padayachie on progress made with regards to the Digital Migration process. Available at http://www.doc.gov.za

distribution services, may be allocated to two or more different broadcasting service licensees.

The Authority has been informed in some responses to the Questionnaire that licensees are currently re-negotiating Master Signal Distribution Agreements with the view of migrating to digital broadcasting.

3.4 Relevant Licensees

A broadcaster wishing to deliver broadcast content to end users in South Africa may obtain such transmission services from a limited number of providers and across a limited number of technology platforms. The choice of provider is based on a number of factors, including:

- Coverage and penetration;
- Technical aspects, including the degree of digitisation and quality of service;
- Capacity availability and limitations;
- Regulatory requirements and restrictions; and
- Cost differentials and revenue impact of acquiring transmission over different platforms.

In South Africa there are two major technology platforms for the delivery of broadcasting content; namely terrestrial (analogue and digital) and satellite.[14] Subscription broadcasters are obliged under certain circumstances to carry PBS channels at no cost to the PBS licensee[15] in terms of the Must Carry regulations.

In addition, licence obligations such as the requirement to broadcast to a certain specific proportion of the population may have the effect of forcing broadcasters to use a particular technology platform to broadcast content to end-users (i.e. viewers and listeners).

In the absence of "Must Carry" regulations, the broadcaster itself may decide whether the programmes are to be transmitted over an additional platform. This decision is based on the greater number of end users it wants to reach within its licensed area compared with the costs/revenues involved in reaching these extra viewers and/or listeners.

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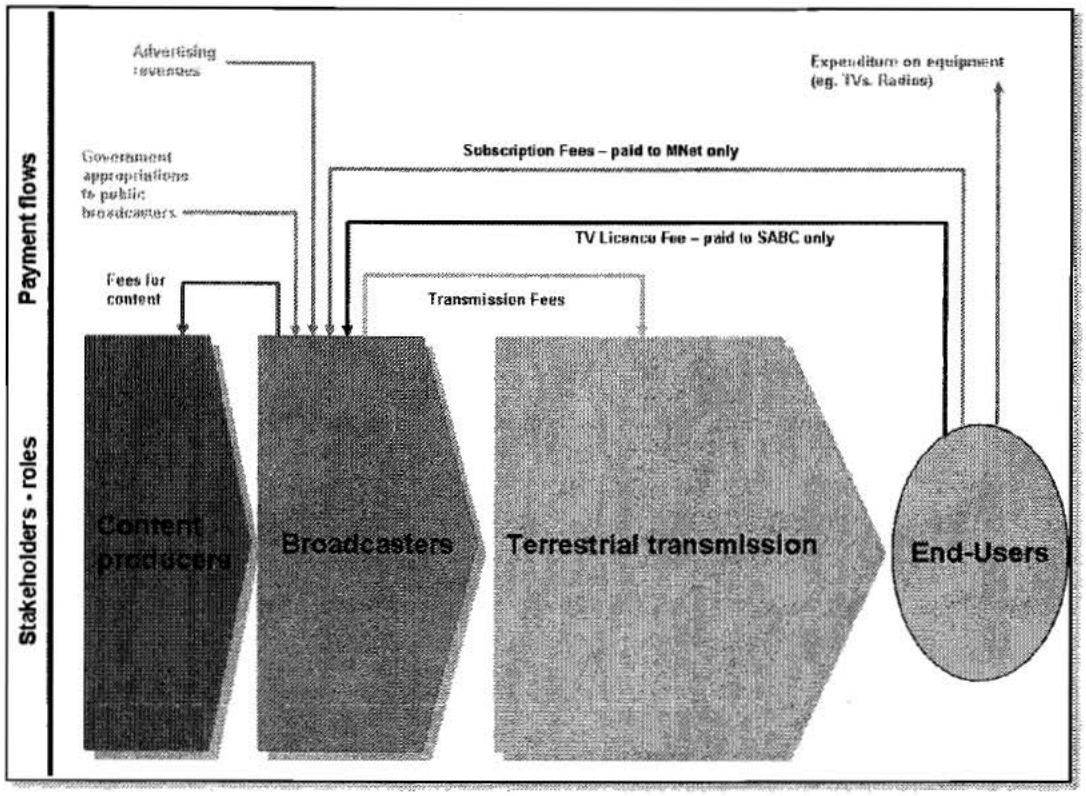
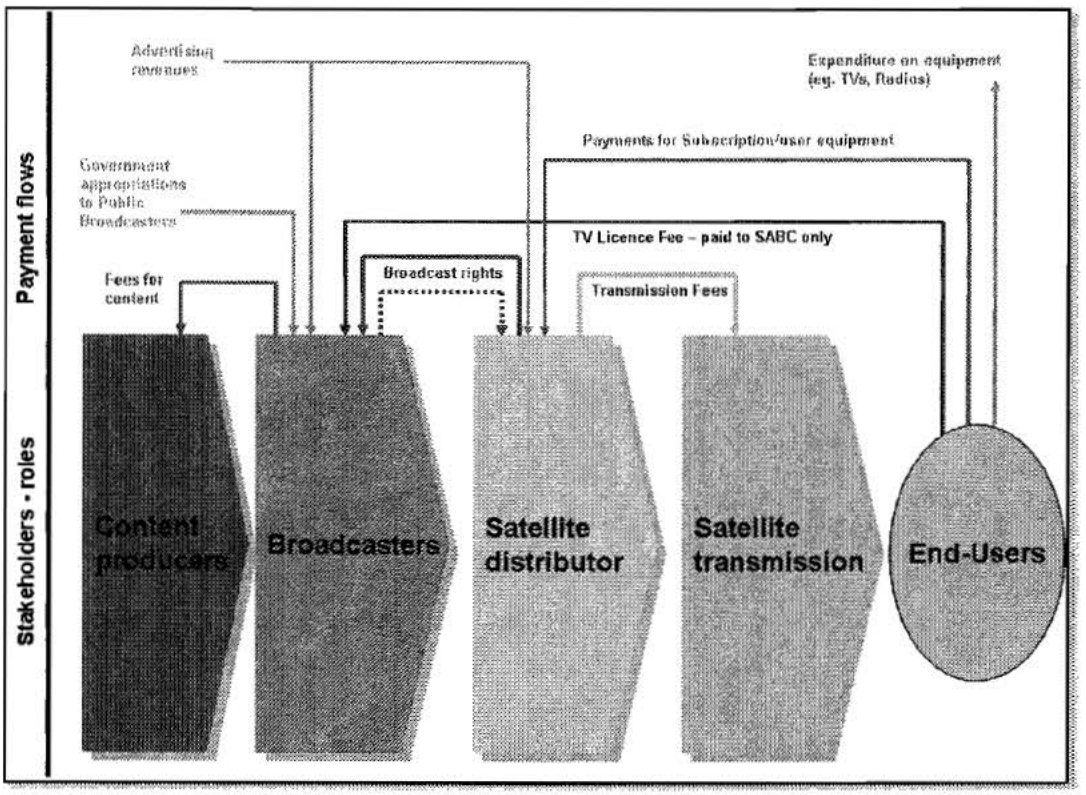
[14] Other technology platforms such as using broadband or mobile networks to deliver broadcast content to end-users is not considered sufficiently developed in South African at the present time. These emerging technology platforms are discussed in more detail later in the Discussion Paper.

[15] Gazette 31500, October 2008. Must carry obligations are discussed in more detail later in the Discussion Paper.

Figure 2: Schematic presentation of the value chain and payment flows for Broadcasting Transmission in South Africa (Terrestrial and Satellite Broadcasting





The broadcasting market consists of the following main categories of operator:

- **Content producers**, such as movie studios and television and radio production companies;
- **Broadcasters** (including SABC, MultiChoice and e.tv);
- **Providers of transmission capacity** (owners of infrastructure, e.g. satellite broadcast distributors such as Orbicom, owners of satellite transponder capacity, such as Intelsat, SES ASTRA, Eutelsat, and Sentech as the owner of the terrestrial transmission network);
- **Distributors** (companies that distribute broadcast programming by subscription agreements out to viewers, such as TopTV on satellite networks); and
- **End users** (viewers and listeners).

The relationship among the various operators can be briefly explained as follows: Broadcasters' programming consists of content produced in-house as well as content purchased from other content producers. To get content distributed out to end users, broadcasters have to contract directly with providers of broadcasting transmission services (e.g. Sentech) or with a distributor of broadcast content (such as DSTV or Top TV). The responses from industry as part of the questionnaire circulated as part of this inquiry indicated that Master Signal Distribution Agreements have been agreed between broadcasters and the providers of broadcasting transmission services.

Depending on the type of broadcaster, funding can come from TV licence fees, customer subscriptions, advertising or through direct government funding.

3.5 Types of Wholesale Broadcasting Transmission Networks

Today in South Africa the majority of end users receive radio and television via terrestrial networks or by satellite. The Authority notes that there is the potential for some end-users to access broadcasting content over alternative delivery platforms such as using broadband connections (such as streaming services) and using existing mobile networks. However, the Authority's view (which is discussed in more detail below) is that these alternative technology platforms are not sufficiently pervasive at the present time and are not considered in detail in this document.

There are an estimated 12.7 million households in South Africa[16]. The Authority estimates that approximately20% of the population currently are subscribers to satellite television services (in addition to any terrestrial service those households may take)[17]. The remaining 80%of the population are therefore currently reliant only on terrestrial broadcasting for their television service.

In order to deliver television or radio content to end-users (viewers and listeners), the content can be transported over a number of 'networks' including:

- Content delivery from one production site to another (contribution network)
- Delivery of content from the production studio to the first transmitter station (feeder network)
- Delivery of content between main transmitters (trunk network)
- Transmission for distribution to end users (access or 'Signal Distribution' network)

3.6 Wholesale Broadcasting transmission on Terrestrial networks

A key input required for radio and television broadcasting transmission is the network of antennae support structures ('masts') at specific locations ('sites'). Masts may be located on sites that have been purchased by the terrestrial network operator for broadcasting transmission services and are owned outright by them. Masts may also be installed on sites that are leased from a freeholder (such as a farmer) who receives revenue for allowing installation and access. Finally, masts (or small antennae structures) may be installed by the terrestrial network operator on infrastructure owned by other organisations such as fixed or mobile communication operators, rooftops of tall buildings or different types of structures that provide the required height.

In South Africa Sentech is the main provider of wholesale broadcasting transmission on terrestrial networks. The Authority understands that Orbicom has a network of terrestrial transmission sites but only provides transmission services to MNet andMultichoice(both Orbicom and MNet are wholly owned subsidiaries of MultiChoice). As such, the great majority of masts suitable for national television and radio broadcasting transmission are controlled by Sentech.

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[16]Population and Household Projection for South Africa 2001 – 2021 Research Report No. 364 Bureau of Market Research, UNISA (2007.8)

[17]This is based on MultiChoice data from its 2010 Annual Report that it had 2.85m households subscribing to its DSTV satellite service as of March 2010 (see page 30 of its annual report). The average household size in South African is 3.69 and total population is estimated at 49 million (taken from Population and Household Projection for South Africa 2001 – 2021 Research Report No. 364 Bureau of Market Research, UNISA (2007.8)). Based on this data, around 20% of the population has the necessary equipment to view satellite pay-TV broadcasting content.

The Authority notes that digital television broadcasting is being trialled as part of the migration process. Further, Digital Audio Broadcasting (DAB) is also being trialled. Thus two forms of terrestrial transmission are currently being used for the delivery of both radio and television broadcasting: analogue and digital. Both analogue and digital terrestrial transmission have similarities in respect to some of the inputs used (e.g. masts, maintenance) and may have common end-users (viewers and listeners). However, they differ in certain respects. The differences include the power of transmission level used, the transmission equipment used, capacity (digital transmission can carry significantly more content than analogue) and end-users. As digital television is rolled out nationally end-users that wish to view and listen to digital content would need to invest in new receiving equipment and may need aerial adjustments to receive digital signals.

Broadcasters are the immediate customers for terrestrial television transmission. As a condition of their broadcasting licence, some television broadcasters have national coverage requirements (e.g. SABC and MNet have licence obligations to provide national coverage for their broadcasting services while e.tv is required to cover a minimum of 77% of the population). The Authority estimates that around 20% of the population has adopted the necessary equipment (such as a satellite dish and decoder) to receive satellite broadcast signals[18]. With the remaining 80% of the population reliant on receiving television content over the terrestrial network, television broadcasters with licence obligations regarding population coverage have no alternative but to obtain broadcast transmission services over the terrestrial network.

The service that Sentech, as the only provider of a national terrestrial network, provides is termed a Managed Transmission Service (MTS) since it represents an end-to-end service including the installation and operation of the broadcasting equipment, the management of broadcast quality and maintenance of the equipment. Customers accordingly have a single entity to deal with for all transmission requirements.

There are also regulations in place in order to effectively manage broadcasting spectrum interference. This is likely to reduce the flexibility of broadcasters in changing to alternative suppliers of broadcasting transmission. In addition, where a television broadcaster has been transmitting from a particular location, all of their viewers will have their aerials pointed in that direction. Changing to an alternative supplier of broadcasting transmission

[18]See earlier discussion on the logic of this estimate.

in a different location is likely to be very disruptive for viewers who might have to adjust their antennae.

There are similar constraints on radio broadcasters for the following reasons:

- For particular frequencies used by radio broadcasters, only particular masts or sites may be suitable;
- In order to service large and profitable audiences, broadcasters may be constrained to use sites that can provide them such coverage;
- The lack of alternative sites at particular locations means that only existing sites can be used and there are planning and cost barriers to entry that make erecting a new mast difficult,if not impossible;
- Due to the spectrum availability, broadcasters may have limited options available to expand their usage of sites (as such use may interfere with adjacent broadcasts); and
- Transmission of certain frequencies from specific sites will have been cleared internationally for use, and the use of a new site may mean repeating the process, which will have time and cost implications.

Digitisation provides a substantial increase in transmission capacity in the physical infrastructure. It is expected that in a few years the entire value chain in the television market, except for the television sets, will be completely digitised. Once Digital Switchover has been implemented, the analogue network is intended to be switched off.

With regard to television, SABC, MNet and e.tv have nearly national distribution via terrestrial networks alone. Sentech has indicated in its latest Annual Report that it has infrastructure and systems that enable it to provide coverage to 92% of the South African population which it estimates at 48 million people[19].

End users receive signals from analogue terrestrial networks via an ordinary roof/indoor aerial. There are no costs directly connected with receiving such signals aside from the television licence fee.

[19]Sentech (2010), *Annual Report*, page 4.

3.6.1 The value chain for terrestrial broadcasting transmission

The retail market of broadcasting is comprised of end-users (views and listeners). The wholesale market is comprised of suppliers and consumers of MTS. This applies for both radio and TV, though in some cases, radio broadcasters self-provide broadcasting transmission as an alternative to purchasing MTS from the owner of the terrestrial broadcasting network (i.e. Sentech).

For terrestrial broadcasting, the MTS supplier takes responsibility for a broadcast stream arriving at a transmission site and makes arrangements necessary for it to be transmitted from an antenna at that site, monitoring and assuring quality of the transmitted signal and making arrangements for the maintenance of the transmission equipment. The MTS supplier also operates the transmission site, which involves the provision of space to establish a building, or maintenance of buildings, facilitation of power etc. Broadcasting transmission is often effected using equipment, in particular a combiner, feeder and a shared antenna which is shared between several analogue broadcast channels or digital multiplexes, in the case of digital broadcasting. The MTS provider is responsible for the installation, operation and maintenance of such equipment.

For satellite broadcasting, the MTS supplier takes responsibility for a broadcast stream when it reaches the access network (the satellite ground station), which is then transmitted to satellites and distributed to end-users that have the necessary equipment to receive such signals.

Sentech indicated in its response to the Questionnaire that it provided a MTS to all national radio and TV broadcasters as well as significant number of community radio and regional TV and radio broadcasters.

In its latest annual report, Sentech states that it has 7 customers of MTS for terrestrial television broadcasting (SABC, e.tv, MultiChoice, Soweto TV, Bay TV, Cape TV and Trinity Broadcasting). Sentech states that all these customers cover approximately 92% of the population. Sentech also operates a Satellite broadcasting network (Vivid) and has 11 customers transmitting on this platform (SABC, God TV, ASTV, France 24, Christian TV, Hope TV, Love World, WRS, Maranatha, Kruiskyk and Ezekeil TV). Sentech states that it provides MTS to all 21 SABC public radio broadcasters and TV broadcasters/stations. It provides MTS to 17 commercial radio broadcasters and 59 community radio broadcasters.

Some community radio broadcasters self-provide all or some of their transmission requirements. Other broadcasters purchase elements of their transmission requirements from suppliers other than Sentech. For instance, TopTV indicated that it purchases leased lines from Telkom and Globecast. The Authority is not aware of any regional or national broadcasters (radio and TV) who self-provide their broadcasting transmission services on a terrestrial network.

A review of the services actually purchased by broadcasters (as outlined in the responses to the Industry Questionnaire) as well as face-to-face discussions with broadcasters and signal distributors conducted as part of this review has confirmed that MTS is the main product supplied by Sentech to radio and television broadcasters seeking access to the terrestrial network. In discussions with Sentech and with other industry stakeholders, it was indicated that broadcasters were discouraged from seeking to 'unbundle' the MTS service and only purchase a sub-set of the services offered by Sentech.

Although in principle, many of the elements of a MTS may be obtained separately, the Authority understands that, in practice, all television broadcasters and most radio broadcasters in South Africa purchase a MTS from Sentech.

3.6.2 The wholesale broadcasting transmission needs of different types of broadcasters

Broadcasting transmission requirements may differ according to geographical area of the licence, the audience size and the terrain. The larger the geographic area, the bigger the audience and the more undulating the terrain the more likely are broadcasters to require transmission from tall purpose-built transmission masts. This is due to the need to propagate the broadcast signal over a wide area or because of a signal transmitted from a low vantage point would be poor in an urban environment. They are also likely to need high power transmissions in order to reach their target audience. This requires a specialised workforce to handle this equipment and power levels. These broadcasters may also need to broadcast from more than one location (for a national licensee, this may require a large network of sites). To provide this transmission and its ongoing maintenance, a broadcaster may prefer to contract with one firm, for both convenience and for consistency of quality. These broadcasters may also have greater start-up and ongoing costs when compared to smaller broadcasters. The basic equipment is likely to be expensive and sophisticated, its installation may be more specialised, the power needs are higher and the equipment itself may need more frequent replacement and maintenance due to the stress of high power use.

3.6.3 The type of sites used by different types of broadcasters

Broadcasters who have a larger geographic footprint are likely to require purpose-built transmission sites compared to those licensees with smaller geographic footprints, which may be able to install transmission equipment on sites that are not necessarily purpose built to provide broadcasting transmission services.

3.7 Broadcasting Transmission on Satellite Networks

Satellite broadcasting transmission commences at a transmitting antenna located at an uplink facility or ground station which may not necessarily be located in the same country as the audience for the broadcast. Uplink satellite dishes are very large, as much as 9 to 12 meters in diameter, to provide aiming accuracy and increased signal strength at the satellite. The uplink dish is targeted at a specific satellite and the up-linked signals are transmitted within a specific frequency rangeto the appropriately tuned transponder aboard that satellite. The transponder 'retransmits' the signals back across the satellite's 'footprint' (downlink) but at a different frequency band (a process known as translation, used to avoid interference with the uplink signal), typically in the C-band (4–8 GHz) or Ku-band (12–18 GHz) or both.

The down linked satellite signal, is typically collected by satellite dishes on each of the end-user's premises, which collect the relatively weak signal andconducts it to a low-noise block down converter or LNB. The LNB amplifies the relatively weak signals, filters the block of frequencies in which the satellite TV signals are transmitted, and converts the block of frequencies to a lower frequency range.The satellite receiver or Set-top boxcoupled to the end-user's television demodulates and converts the signals to the desired form (outputs for television, audio, data, etc.). Sometimes, the receiver includes the capability to decrypt the received signal; the receiver is then termed an integrated receiver/decoder or IRD.

The following licensees offer managed transmission services for broadcasting via satellite in South Africa; Sentech (on the Vivid platform), Orbicom and ODM. Satellite networks cover 100% of households in South Africa, though households require specialised equipment as well as a subscription to one of the satellite broadcasting distributors in order to receive satellite broadcasting content.

DSTV's digital broadcasting service is transmitted direct-to-home via satellite. MultiChoice (who owns DSTV) leases 8 KU-band transponders on the satellite, and its uplink facilities are provided by Orbicom (Pty) Limited and British Telecom. Customers receive these

signals on a satellite dish mounted on or near their homes. The signal is then descrambled and decompressed for viewing using a conditional access system, set-top box and smart card.

ODM self provides in terms of satellite 'direct to home' services using satellites owned by SES Astra (one of its shareholders). The company provides satellite up-link services from its satellite ground station in Germany. ODM leases point to point conveyance services from a range of suppliers (using fibre, dedicated leased lines as well as capacity on the underground sea cables) to deliver content from its studio in Johannesburg to its satellite distribution facilities in Europe.

3.8 Other broadcasting technologies

Broadcast content is, to some extent, also transmitted over other technologies. A brief assessment of alternative broadcasting technologies is provided below.

3.8.1 Fixed Network Technology/Xdsl

Further development and establishment of fixed network technology such as xDSL may represent a possible alternative to the existing technology platforms for broadcast content in the future. Such technology will only make possible fixed reception, i.e. no mobility or portability.

Web TV and IP TV exist, but in the Authority's view, the technology has not been adopted widely enough for such services to constitute an alternative for a significant number of end users within the time horizon of this analysis. The Authority's assessment is primarily based on the fact that live TV via the Internet is limited in scope driven by the low penetration of the internet at speeds necessary to support such services. Access and affordability issues still hamper the widespread availability of broadband internet services in South Africa. The Authority considers that IPTV and associated services will not be a realistic alternative distribution platform for broadcasting content until internet services at broadband speeds are available to a significant portion of population. This is unlikely to occur over the period of a market review (the next 2-3 years).

3.8.2 Mobile

Two forms of mobile TV have recently been launched in South Africa. One uses the data networks of existing mobile networks (3G) and allows the streaming of broadcast content.

The other is the introduction of a purpose built mobile TV network which sits alongside the existing mobile network and allows users to access a dedicated network for TV content. E.tv and DStv have both recently launched a dedicated mobile TV network (using spectrum allocated to them by the Authority). This service can be accessed on a DVB-H enabled mobile phone or via a Mobile TV decoder (of the DStv service). The DStv offering is a subscription service while the e.tv is offered at no charge to end-users.

The Authority considers that mobile TV could become a viable alternative to existing distribution platforms for content, especially given high mobile penetration in South Africa. However, until there is a significant take-up of the service, it is unclear whether mobile TV would be a credible substitute for existing distribution platforms or, more likely, a complement to existing broadcasting services.

3.8.3 Cable

Cable TV is still in its infancy in South Africa. The first licence was issued to Telkom Media in 2008. It applied for both a satellite and cable licence, which would allow it to broadcast a satellite service as well as provide an IPTV solution. The original licence had a generic statement in terms of format. However, Super5Media's licence (which was transferred from Telkom Media) stipulates the format. Super5Media wanted to have the format stipulated in its licence[20], while the other broadcasters were happy to have a "technology-neutral" stipulation. Super5Media is still to launch its services and has been granted extension by ICASA for the launch of its service due to delays in it being awarded its individual electronic communications network service (I-ECNS). The company has stated that it plans to offer television content over cable (copper and fibre) and to provide broadband Internet services.

In time, if cable is to be rolled out to cover a significant portion of the population, it could provide an alternative distribution platform for broadcasting content. In other countries, such as the USA and in Europe, cable represents a viable alternative to the existing terrestrial and satellite networks. With a viable cable network, the analysis of market power and the types of remedies considered to address such market power (if found) can be significantly different. However, cable networks are still to be built in South Africa and hence cannot be considered a viable alternative distribution platform for content in the short to medium term.

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[20]Statement made by the Director of Super5Media Tian du Pisanie, 2 February 2010 to the media.

3.9 Conclusion

As of today, the situation in the market for delivering television to end users in South Africa is such that a significant percentage of end users cannot choose other platforms for receiving television programming.

With the exception of xDSL over the fixed access network and perhaps Mobile, no alternative infrastructures will be able to provide geographic coverage sufficient to act as a substitute for the terrestrial and satellite networks currently used by broadcasters. Furthermore, on the supply side, for xDSL technologies to become more pervasive over the fixed access network in South Africa, the existing broadband networks will have to provide higher transmission capacity (bandwidth) than what is commercially available today, or compression technologies must become more advanced.

Eventually, broadcast content may be accessed by a significant number of end users using platforms other than terrestrial networks and satellite. At this point in time, however, there are no platforms that, within the time horizon of this analysis, will imply a real alternative for a significant number of end-users.

As a result, alternative technologies to deliver broadcast content (radio or TV) will not be considered relevant in the definition of markets or the assessment of competition in defined markets.

Questions for stakeholders from Chapter 3:

1. Do you agree with the Authority's characterisation of the Broadcasting Market in South Africa? Please provide any additional information that can be used by the Authority in order to understand in more detail the structure of the market.
2. Do you agree that retail and wholesale leased lines provided for broadcasting transmission conveyance should be considered in a separate market review by the Authority at some point in the future? If not, please provide a detailed response and rationale for your view.
3. Has the Authority correctly characterised the broadcasting value chain in South Africa? If not, please provide additional information.
4. Has the Authority correctly characterised the potential competitive dynamics of alternative distribution platforms in South Africa?
5. How do the transmission requirements of broadcasters differ, depending on the geographic footprint of the licence?

6. Do you agree that the type of sites required by broadcasters will differ according to the geographic footprint of their licence? The larger the footprint of the licence, the greater the likelihood that broadcasters will need to transmit from purpose built transmission sites.

4. MARKET DEFINITION ISSUES

4.1 Introduction

The process of defining a market is not an end in itself. Markets are defined in order to assess whether competition is effective and whether any party has Significant Market Power (SMP) in a particular market or market segment. Following from an assessment of the effectiveness of the competition, it is then relevant to determine whether pro-competitive remedies are required to guard against the risk of anti-competitive behaviour by ECNS, BS or ECS operators who have SMP ("SMP Operators").

This section of the Discussion Document is concerned with reviewing the relevant functional product market and the geographical market for broadcasting transmission services in South Africa in order to define the market for broadcasting transmission services delivered to end-users in South Africa.

Based on its review of the market (including discussions with industry and the collation of responses to an Industry Questionnaire that was circulated to all licensees in October), the Authority's initial view is that broadcasting transmission services in South Africa comprises the following service:

• A Managed Transmission Services (MTS). A MTS provides a customer with a suite of broadcasting transmission services including providing transmission equipment, distributing broadcasting content across the signal distribution network to end-users, handling maintenance and managing quality of service amongst others.

We describe this service in more detail below.

In addition, the following services (which are provided in adjacent markets) are needed to enable the delivery of content to end-users:

• Conveyance or linking services;

- Ancillary technical broadcasting services (e.g. Conditional Access systems, Set-top boxes, Electronic Program Guides); and
- Production of Broadcasting Content.

For the purposes of this inquiry, the services provided in these three 'adjacent' market sectors are outside the scope of this review and are excluded from the analysis.

4.2 Retail Markets

4.2.1 Retail market for television and radio broadcast content

It is the Authority's view that, at the retail level, television and radio cannot be regarded as substitutable product markets. Rather, it is likely that they are complementary services. Radio and television offer quite different broadcasting services to end users (Radio provides audio services only while television offers audiovisual). The costs of producing content are quite different as are the production values. As a result the content produced for TV and for Radio is often essentially different, which results in very different usage and experiences for consumers. For example, music appears to be a key component of the service offering on Radio while for TV it is dramas and series, sports and movies. Hence, the areas of use for radio and TV appear to differ substantially.

Television and radio are also used differently by consumers and radio is often consumed via mobile units such as car radios, portable radio, MP3 players, mobile phones, whilst television programs are usually watched on stationary devices at home.

In light of this, it may be argued that the needs of radio listeners are not met by television and vice versa. Hence, the Authority's initial view is that radio and television are two different products/services at the retail level. As such the initial view of the Authority is that the retail markets for television and radio are in separate functional markets.

4.2.2 Retail market for satellite and terrestrial content; digital and analogue content

The number of programme services that end users can receive via analogue terrestrial networks is limited to 5 national television channels (SABC1, SABC2, SABC3, e.tv MNet), 18 radio channels provided by SABC (which have a mixture of national and regional footprints) , in addition to commercial radio stations and community stations

(both TV and radio). Considerably more television channels are available via satellite, including niche channels, exclusive coverage of sporting events and movie channels.

End users who have a television set are obliged to pay a licence fee and have free access to the television programmes broadcast via analogue terrestrial networks by free-to-air' channels. Receiving radio programming over terrestrial networks is also free of charge to end users.

Satellite services are available by subscription. The Authority considers that one of the main reasons that end users choose to acquire a satellite dish is a desire for services that are different from - and in addition to - the channels broadcast on the terrestrial networks. Another reason may be the poor coverage or quality of the terrestrial transmissions since the satellite broadcasters must carry the South African terrestrial channels in addition to their own channels. As a result, the Authority considers that broadcasting transmission services on satellite networks should not be regarded just as a substitute to free-to-air terrestrial TV channels, but should be regarded more as a complementary service.

On the end user level there are switching costs for consumers who switch from terrestrial networks to satellite (whilst these costs will not arise when switching the other way). The Authority assumes that end users' preferences and choices are primarily governed by coverage, content and price and less by which technical platform is used for transmitting programming.

DTT is still being rolled out in South Africa but digital transmission is already used for satellite broadcasting. Once digital television services are widely available on the terrestrial network and in the period where it co-exists with analogue during the digital switchover there may be a separate retail market for digital content compared to analogue content on terrestrial networks. This is due to the fact that different equipment is needed to receive digital television content compared to analogue content. In addition, those seeking to receive a digital signal are likely to have a preference for multi-channel viewing. These customers may be prepared to pay more to receive digital television and are unlikely to provide a constraint on the providers of analogue content. Similarly, a rise in the TV licence fee is irrelevant for the switching decision from analogue to digital as digital viewers (such as those receiving DSTV) still need to pay the TV licence fee. Advertisers may choose to switch to alternatives as a result of increasing prices but it is unclear how much of a price increase the market can bear. Given that end-users of terrestrial content do not pay for the content (except for the TV licence fee), any rise in

the price of terrestrial broadcasting transmission services will not have any direct impact on the cost of viewing content for the end-user. A potential impact could be a reduction in spending on programmes, but given that Public Broadcasting Services are broadcast on both formats (terrestrial/analogue and satellite/digital), the reduction in programming spending would be evenly spread. For these reasons, the Authority considers that a rise in the price of transmission on the terrestrial network is unlikely to have an impact on the retail market (i.e. through viewer or advertiser switching).

Since DTT is yet to be introduced widely in South Africa (there are currently trials in parts of the country), it is not appropriate to define separate markets at the retail level for digital and analogue broadcast content, though the Authority considers that once DTT is widely available due to switching costs and different coverage for the two technologies, it may be that digital and analogue television are in separate retail markets.

4.2.3 Initial views on the retail market for broadcast of content to end-users

The Authority considers that the following markets may exist at the retail level in South Africa:

- Television content broadcast to end-users by terrestrial transmission;
- Television content to end-users by satellite transmission; and
- Radio content broadcast to end-users by terrestrial transmission.

The Authority notes that the approach used to define retail markets is consistent with the approach used in other countries where the wholesale broadcasting transmission market has been reviewed.

4.3 Wholesale Broadcasting Transmission Market – Managed Transmission Services

Applying the definitions used in the ECA, a MTS for broadcasting services can be considered as a wholesale service.

The ECA defines wholesale as:

"... the sale, lease or otherwise making available an electronic communications network service or electronic communications service by an electronic communications network service licensee or an electronic communications service licensee, to another licensee ..."[21]

[21]Chapter 1 of the ECA