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## GENERAL NOTICE

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### NOTICE 1538 OF 2009



### INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA (ICASA)

#### NOTICE OF PUBLICATION OF FINAL TERRESTRIAL BROADCASTING FREQUENCY PLAN, 2008

The Independent Communications Authority of South Africa ("The Authority") hereby gives notice in accordance with section 34 of the Act. After due consideration of comments and representations received pursuant to the two published draft terrestrial broadcasting frequency plans, the Authority has now determined the Final Terrestrial Broadcasting Frequency Plan 2008 and hereby publishes the plan accordingly.

Copies of the plan are available from ICASA offices at Pinmill Farm, 164 Katherine Street, Block D, Sandton and on ICASA website <http://www.icasa.org.za>

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## ACKNOWLEDGMENT

The Authority would like to acknowledge the contribution of all individuals and organizations who participated in the production of the drafts and the Final Terrestrial Broadcasting Frequency Plan 2008.

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The Authority would like to thank the following organizations and individuals who made submissions and representations:

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2. All Media
3. Cell-C (Pty) Ltd
4. Ericsson
5. eTV
6. FLO Forum
7. ISPA (Internet Service Providers' Association)
8. MNET
9. MTN
10. Nation Association of Broadcasters (NAB)
11. Neotel (Pty) Ltd
12. On Digital Media
13. Orbicom
14. Qualcomm
15. Radio Pulpit
16. Radio Veritas
17. SABC
18. Sentech (Pty) Ltd
19. Square Kilometre Array (SKA)
20. Smile (Pty) Ltd
21. SUPER5 MEDIA
22. Telkom (Pty) Ltd
23. Telkom Media (Pty) Ltd
24. Vodacom (Pty) Ltd
25. Walk on Walter Television (WOWTV)

## INTRODUCTION AND BACKGROUND

The Authority is publishing final draft terrestrial broadcasting frequency plan 2008 in terms of in terms of sections 30 (1) and 34 of the ECA, as an annexure to the National Radio Frequency Plan. This document should thus be read together with the National Radio Frequency Plan. The document is published for the purposes of adding further detail to the allotment of broadcasting frequencies, with a specific emphasis on frequencies that will be assigned for digital migration purposes.

After due consideration of comments and representations received pursuant to the two published draft broadcasting frequency plan 2008, the Authority has made a determination on the allotment and assignment of frequencies for the dual illumination period. This determination will, in particular, assist the electronic communications network services (ECNS) in the rollout of an electronic communications network for digital terrestrial television across the country. In the interest of providing the necessary clarity in respect of the Authority's perspective of the whole broadcasting sector, the document also highlight the allotment of frequencies for the purposes of sound broadcasting services.

The Authority published the first final Terrestrial Broadcast frequency plan in October 1999. Two revisions have since been published in July 2002 and December 2005 respectively. To incorporate frequencies for digital terrestrial television a draft plan based on GE06 was published in 2008 as part of public consultative exercise for public comments. In response to the draft, public comments were received and a workshop was held with industry on 11 - 12 March 2009.

The second draft terrestrial broadcasting frequency plan 2008 was published on 6 July 2009 for the public to make further comments before a final determination is made and subsequently public hearing were held on 16 to 18 September where representations were made on all pertinent issues.

The main objective of the second consultative process was to elicit final comments from stakeholders to finalize the terrestrial broadcasting frequency plan for dual illumination period.

The following section clearly depicts the views, determinations and the final position taken by the Authority on all pertinent areas.

### **Multiplex 3**

Views were expressed on the creation of Multiplex 3 and the need to list the frequencies as part of the plan. However multiplex three will be exclusively built on existing Mnet and CSN frequencies. The Authority is of view that Multiplex 3 will only emulate existing Mnet and CSN coverage and the network will not affect the DTT frequencies. Frequencies that will be relinquished through the hard switch over exercise will be used to optimise DTT frequency networks and for analogue switch off and new DTT services re-planning exercise.

### **Square Kilometre Array (SKA)**

Further comments were received on the need to consider all frequencies in the Northern Cape according to the requirements of the Astronomy Geographic Advantage Act (Act no. 21 of 2007).

The Authority concurs with such sentiments and an insertion has been included in the documents which state that "all existing and future assignments/allotments in the frequency bands depicted in Table 1(all terrestrial broadcasting Bands) for the Northern Cape Province will be subjected to the restrictions prescribed by the Astronomy Geographic Advantage Act (Act No. 21 of 2007)". In the plan all high power theoretical sites have been excluded to ensure compliance to the AGA requirements.

The Authority endeavours to initiate a separate process for further engagement of affected broadcasting industry to device alternative broadcasting transmission facilities/means for the SKA demarcated area.

### **Re-categorization of MW frequencies and Proposed FM Frequencies,**

Discontent was expressed by some sound broadcasting services on Authority's continued refusal to assign spare commercial MW for community sound broadcasting purposes. The suggestion was to re-categorize the channels as "open use". The Authority has taken initiatives to deal with the issue around MW frequencies. This includes the recent ITA gazette for additional commercial sound broadcasting in the Primary Markets.

The Authority is of the view that the current licensing process should be allowed to run its course before AM frequencies can be made available for community broadcasting.

The Authority concurs with the sentiments and a separate process for re-categorization of AM frequencies outside the Primary Markets for community broadcasting purposes process will be undertaken to ensure that these new MW requirements are thoroughly addressed. It is envisaged that, such a process will be concluded by the end of June 2010.

New pre-coordinated frequencies were proposed for community sound broadcasting services for inclusion in the list of FM frequencies annexure. The Authority has reanalysed, co-ordinated as per proposed list, however only 15 of the proposed frequencies were suitable for inclusion in the plan and are included as part of FM frequencies on annexure A.

### **DTT planning approach**

Views were raised that the broadcasting frequency plan should be based on digital migration regulations and the plan and the regulations must support each other. Further it was argued by some stakeholders that mobile broadcasting should not be a priority, but could be considered when the allocation of multiplexes to the DTT services has been concluded.

The Authority concurs with the view that the broadcasting frequency plan and digital migration regulations must be supportive of each other. The Authority endeavours to ensure that such is always the case. As a case in point, the draft Digital Terrestrial Television Regulations are based on the two Multiplexes as recommended in the GE 06.

Mobile broadcasting was identified as the country's strategic intent prior to RRC-06 and it was included in the GE-06. The introduction of mobile broadcasting is also one of the deliverables that the country has promised to FIFA ahead of the World Cup. Therefore, the plan caters for mobile broadcasting.

While the Authority intends licensing of mobile television services, that would be handled as a separate exercise from the planning process. In the interest of transparency, the Authority has already signalled its intention to issue an Invitation to Apply for this purpose. Mobile television will be licensed on technology neutral basis, where potential investors will retain their right to choose their own technology/standard amongst the existing options such as DMB and DVB-H.

As indicated above, the introduction of mobile broadcasting will not affect the future licensing of additional DTT services. Based on the GE06 Plan, the Authority is of the view that digital migration will free additional frequencies in the 470-790 MHz. Although the Authority is committed to further consultation on the distribution on the digital dividend, there is no doubt that a significant part of this band will be allocated back to television for the purposes of providing High Definition Television (HDTV) as well as cater for the introduction of competition in both the pay and free -to- air markets (FTA).



## Digital Dividends and 790 to 862 MHz band

There was a strong lobby to have the band 790 to 862 MHz to be made available for IMT immediately, just as there was an equally strong lobby against immediately releasing the band for IMT. Those who wanted the band to be made available immediately argued that South Africa is party to decisions of WRC-07 final regulations, enabling countries to make the band available before June 2015.

The other lobby argued that there are existing analogue services which need protection in this band. Furthermore, there is a risk of non-usable frequencies during dual illumination.

There was a lot of anxiety around the distribution of the digital dividend between broadcasting and electronic communications services. Some stakeholders argued that it is premature to start considering digital dividends at the moment, before the end of the dual illumination period.

The Authority takes the view that to minimise risks and to protect consumers, 790 to 862 MHz should be released for IMT after November 2011 or when and where analogue services have been switched off. The Authority will endeavour to limit new assignments made in this band. The freeing of this band will also allow the creation of a unified 800MHz for the purposes of providing electronic communications services such as broadband. This is in line with emerging international practice.

On digital dividends, based on international benchmark, the Authority anticipates frequency spectrum in the region of 300MHz to be released after dual illumination. Consideration for utilization of this spectrum will include additional broadcasting services, high definition TV, return paths for interactive TV, and others. The process around this will be informed by national objectives and policy intent. The Authority will continue engagements on market studies to ascertain needs and advise on policy issues.

## Other issues

The Authority will endeavor to remain technology neutral as far as it is practically possible. However, where necessary, the Authority will engage industry on the adoption of certain standards in line with the objectives of the ECA.

- A number of errors and omissions have been highlighted in the submissions. The Authority has taken every effort to make appropriate amendments to the current draft.
- Issues around the Joint Spectrum Advisory Committee were raised. Terms of reference as the structure of the JSAC will be finalized as part of the finalization of digital terrestrial television regulations.
- The Authority also took note of the views expressed by stakeholders on the need to include, as part of the broadcasting plan, all available community radio frequencies.
- The workshop suggested that a technical committee be formed to look at all technical issues at hand and prepare a consolidated recommendation before the finalization of the plan. On further deliberations the Authority felt that the exercise would not add any substantial value, given that all views have been gathered from submissions and further canvassed during the workshop.
- The Authority also wishes to state that, subsequent to the workshop, it has received numerous uninvited correspondences from interested parties clarifying their various positions. None of these correspondences have had any substantial influence on positions expounded above.

## Conclusion

Although, two widely diverging sentiments were raised in the submissions of both published drafts; during the workshop; and the public hearings. One predominant view was that the plan should be based on GE-06 which would allow speedy implementation. However, there was also a strong view that GE-06 plan was not optimal hence the slight deviation by the second ICASA draft to have a coverage that is comprehensive for dual illumination. The advocates of the second view proposed an allotment based plan, which would result in larger SFNs and contiguous blocks of channels.

The advantage in this approach is that it would make the broadcasting spectrum more organised and becomes easier to identify spectrum for digital dividends. The Authority accepts the view that an allotment based approach would be ideal. However, this exposes the plan to a huge risk of too many frequencies requiring international coordination. It also brings to question the country's commitment to international treaties and cooperation with our neighbouring countries. To determine the basis for delineation of service areas would require a lot time and effort. The GE-06 based plan attempts to minimise consumer disruptions by minimising changes on analogue services. This is the view that most of the representations alluded to during the public hearings. The Authority received a number of independent analysis from various broadcasters, which indicated no constraints with the implementation of the draft plan, their report only emphasised the suitability of the published plan for dual illumination.

In view of the above, it stands to reason that the final Terrestrial Broadcasting Plan should not deviate considerably from GE-06. The time, cost and effort far outweigh the benefits. There are indications that the identified limitations of the GE-06 based plan can be addressed satisfactory. It is worth noting that a number of countries avoid huge deviations from GE-06 for similar reasons.

The Authority has considered the following factors in making its overall assessment:

- Compliance with GE-06 Plan
- The extent of co-ordination required
- Existing analogue frequency changes
- Number of interference cases

The Authority has taken into account all workable modifications suggestions for enhancement of the published drafts which were based on GE-06 and has incorporated them in the Final Terrestrial Broadcasting Frequency plan 2008.



**PARIS MASHILE**  
**CHAIRPERSON**  
**INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA**



**Independent Communications Authority of South  
Africa**

**Final Terrestrial  
Frequency Plan 2008**

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**ACRONYMS**

AGA	Astronomy Geographic Advantage Act (Act No. 21 of 2007)
AM	Amplitude Modulation
Cat	Category
CML	Commercial National Service
COFDM	Coded Orthogonal Frequency Division Multiplexing
CSP	Content Service Provider
CTY	Community District Service
DAB	Digital Audio Broadcasting
dB	Decibels
DOC	Department of Communication, Republic of South Africa
DTT	Digital Terrestrial Television
DVB-H	Digital Video Broadcasting-Handheld
DVB-T	Digital Video Broadcasting-Terrestrial
ECA	Electronic Communications Act, 2005 (Act No. 36 of 2005)
ECNS	Electronic Communication Network Services
EMRP	Effective Monopole Radiated Power
EPG	Electronic Program Guide
ERP	Effective Radiated Power
FM	Frequency Modulation
FTA	Free To Air
GE06	Analogue and digital frequency plan as per RRC-06
HDTV	High Definition Television
HF	High Frequency
IBA	Independent Broadcasting Authority
ICASA	Independent Communications Authority of South Africa
IMT	International Mobile Telecommunication
IRD	Integrated Receiver Decoders
ITA	Invitation To Apply
ITU	International Telecommunication Union
kHz	Kilohertz
Kw	Kilowatts

LI	Licensed
LIC	Licensed
MDTT	Mobile Digital Terrestrial Television
MHz	Megahertz
MPEG	Moving Picture Expert Group-Advanced coding and tx of video
MUX	Multiplex Operator
MW	Medium Wave
OP	Operational
OPE	Operational
PAL	Phase Alternating Line
PNS	Public National Service
Pol	Polarization
PSB	Public Service Broadcaster
RRC-06	Regional Radiocommunication Conference 2006
SABC	South African Broadcasting Corporation
SAFTA	South Africa Frequency Table Allocations
SFN	Single Frequency Network configuration
SKA	Square Kilometer Array
SPA	Spare
STB	Set-Top-Box
T-DAB	Terrestrial Digital Audio Broadcasting
TV	Television
UHF	Ultra high Frequency
VCR	video cassette recording
VHF	Very High Frequency

## 1 INTRODUCTION AND BACKGROUND

The Authority is publishing final terrestrial broadcasting frequency plan 2008 in terms of in terms of sections 30 (1) and 34 of the ECA, as an annexure to the National Radio Frequency plan. This document should thus be read together with the National Radio Frequency plan. The document is published for the purposes of adding further detail to the allotment of broadcasting frequencies, with a specific emphasis on frequencies that will be assigned for digital migration purposes.

After due consideration of comments and representations received pursuant to the two published draft terrestrial broadcasting frequency plan 2008, the Authority has made a determination on the allotment and assignment of frequencies for the dual illumination period as depicted on the annexure G and H. This determination will, in particular, assist the electronic communications network services (ECNS) in the rollout of an electronic communications network for digital terrestrial television across the country. In the interest of providing the necessary clarity in respect of the Authority's perspective of the whole broadcasting sector, the document also highlights the allotment of frequencies for the purposes of sound broadcasting services.

The Authority published the first Final Terrestrial Broadcast Frequency Plan in October 1999. Two revisions have since been published in July 2002 (Gazette no 23695, notice 1341 of 2002) and December 2005 (Gazette no. 28299, notice no. 1513 of 2005) respectively. The 2009 Final Terrestrial Broadcasting Frequency Plan was to facilitate comprehensive deliberations on digital planning parameters and to incorporate frequencies for digital terrestrial television and mobile digital terrestrial television for dual illumination period.

## 2 GUIDING PRINCIPLES

The Authority's approach to this document was informed by a number of principles as outlined below:

### **Categorization of Services**

The categorisation was informed by the following:

- Expressions of interest for commercial, community and digital broadcasting services;
- The Triple Inquiry Report, including language obligations<sup>1</sup>;
- The current licensed broadcasting services;
- The SABC radio language service expansion;
- Coverage and ERP requirements of broadcasters;
- Additional regional public broadcasting services licenses.
- Restrictions prescribed by the Astronomy Geographic Advantage Act (Act No. 21 of 2007).

The Authority may consider re-categorisation where a request is made. In analysing the request, the Authority will consider optimum usage of the broadcast frequency spectrum and changes (technology or otherwise) in the broadcasting industry.

### **Contribution to the Diversity Requirements of the Act**

Section 2(s) (i) of the ECA promotes a diversity of services. The Terrestrial Broadcasting Frequency Plan is aimed at contributing to diversity by amongst other things ensuring audiences have access to different categories of broadcasting services on different technological platforms.

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<sup>1</sup> See page 8 of the Triple Inquiry Report 1995.

**Protection of national and regional Identity, Character and Culture**

The Terrestrial Broadcasting Frequency plan attempts to give every citizen access to at least one broadcast frequency assignment for a service in his or her language of choice. In areas of greatest demands, such as Johannesburg, a greater number of frequency assignments are grouped together to address this need. The Authority has noted that the roll out of digital terrestrial and satellite broadcasting would go a long way to help alleviate the shortage of frequency assignments in some geographic areas.

**Balance between protection of existing broadcasting services and the need for digital migration**

The Terrestrial Broadcast Frequency Plan does not deprive any existing licensed broadcaster of any frequency assignment. Future assignments though might necessitate some frequency changes to existing broadcasting services. These changes will as far as possible be limited to stations that have a low ERP and a small coverage area<sup>2</sup>. The GE-06 plan has made provisions for 2x1.5 MHz of a national T-DAB network for the whole country from 214-230MHz.

It was agreed with the SADC countries, that in areas where there is more demand, each country could add more channels after consultation with the affected neighbouring countries. T-DAB allotment can only be available once the current analogue services have migrated to digital.

**Protection of the integrity and viability of the public broadcaster**

Section 2(t) of the ECA advocates the protection of the integrity and viability of public broadcasting services. The plan protects all operational PBS services and reserves frequency assignments to cater for public broadcasting.

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<sup>2</sup> Frequency changes will be made in accordance with Section 31(4) of the EC Act

Television frequency assignments with a low ERP (less than 1 kilowatt) were not considered for co-ordination and are therefore not protected.

### **Efficient Use of the National Frequency Spectrum**

Section 2(e) of the Act provides for the efficient use of the radio frequency spectrum. The terrestrial broadcasting Frequency plan is developed in line with global spectrum management principles as prescribed by the ITU recommendations.

### **Fair Competition between Broadcasting Services**

Section 2(f) of the ECA mandates the Authority to promote competition within the ICT sector. In order to fulfil this mandate, the plan allows, in most cases, for frequency assignments with similar coverage area (CML, PBS, PNS) in the same licence areas. This will allow for effective competition between different private broadcasters due to the equal potential listener- and viewer-ship from a transmitter site. The responses for the expressions of interest for radio (community and commercial) were taken into account in developing the Plan. The Community frequency assignments vary in ERP from area to area, and sometimes in the same area, depending upon the coverage requirements for each Community.

### **Promotion of stability in the broadcasting Industry**

The Authority has attempted to make frequency assignments available according to demand, need and population distribution.

### **Promotion of research into broadcasting policy and technology**

The Authority has actively supported the promotion of research into broadcasting policy and technology and has licensed test broadcasts for both T-DAB Eureka 147 as well as DVB-T. Tests have been conducted by Sentech in Johannesburg and Pretoria for T-DAB on 239.2 MHz and 1466.656 MHz. Test for DTT has been carried out on channel 58 in Johannesburg. Orbicom

and MNET have also conducted DTT tests in Johannesburg, Kyalami and Helderkruijn on channel 62. The Authority has also issued DVB-H test licenses to MNET, Vodacom and Sentech. The feedback received from the tests assist the Authority in acquiring insight on pertinent issue of the technology.

### **3 DIGITAL MIGRATION PLAN**

#### **3.1 Preparatory Stage**

The Authority has in 2007 issued DVB-H test licenses to MNET, Vodacom and Sentech. The feedback received from the tests assisted the Authority in acquiring knowledge and insight from industry of the potential that such a broadcasting service could have in the development of digital broadcasting in the country.

The Department of Communications in preparing the country for the Regional Radiocommunications Conference (RRC-06) that was held in May/June 2006 established a National Preparatory Task Team, with the view of developing a digital plan for South Africa. The National Preparatory Task Team subsequently agreed on a plan that was submitted to the International Telecommunications Union (ITU). These processes culminated in the draft terrestrial broadcasting frequency plan 2008 which was gazetted in October 2008 and subsequently the publication of the final terrestrial broadcasting frequency plan 2008 for dual illumination.

#### **3.2 Issues Covered in the Plan**

The Plan seeks to address the introduction of new players in the market from the inception of digital transmission. This plan attempts to meet the digital migration broadcasting frequency requirements as submitted by industry.

The plan permits new players, albeit limited and as services begin to switch off analogue transmissions a further freeing of spectrum will permit more role players to enter into the market.

The Plan also addresses the Digital Audio Broadcasting (DAB) services needs by the industry. The occupancy of the Very High Frequency Band (VHF) by television services further limits the introduction of Digital Audio Broadcasting in the short term.



Due to the limited number of VHF channels available and the intensive occupancy of VHF band, use of these frequencies for DAB and DTT can only occur once existing analogue television services have migrated to a digital platform. The VHF band has only seven frequency assignments, and all these frequencies are extensively used for television transmission in analogue format. It is therefore essential that in order for Digital Audio Broadcasting to be deployed in this band some services will have to be migrated .

The Plan proposes that should there be a need for introduction of DAB before some television assignments have migrated; the L-Band should be used in the short term. The bands that DAB can operate are the VHF band, the L-Band and through satellite. Therefore in as far as terrestrial transmission is concerned the only option is to deploy DAB in the L-Band in the short term until such time that the television services have migrated.

The ideal requirements for DTT spectrum were compiled by the National Preparatory Task Team which included of all broadcasters and signal distributors in consultation with the industry through an exercise carried out by the Department of Communications (DOC) in preparation for RRC-06.

The planning principles supported by South Africa are those that provide balance between the protection of existing services and the introduction of a spectrum efficient digital broadcasting. The introduction and migration strategy for digital broadcasting hinges on the availability of spectrum.

The Authority decided to prioritize the allocation of frequencies for digital broadcasting, taking into account both legislative obligations and practical limitations. This includes availability of spare usable frequencies to be used for digital broadcasting. It might not always be possible to have analogue coverage and digital coverage at the same time in some areas.

The Authority is also proposing that due to the nature of digital broadcasting, there might be a need to establish more gapfiller sites to ensure that the analogue network is emulated, and would therefore propose that in the interest

of ensuring that the network reception is sufficient, there would be an authorization process to assist in making sure that network rollout happens quickly, and timely.

The Authority also encourages the early migration of services that could, especially if such a migration would result in the freeing of spectrum. This is to ensure that spectrum is freed early to the benefit of the efficient use of spectrum and for the post dual illumination re-planning exercise. On the basis of the technical analysis and limited spectrum resource the authority produced a plan for digital migration as articulated below.

### **3.3 Digital Terrestrial Television and Mobile TV**

The Frequency Plan incorporates the two national Digital Terrestrial Television (DTT) frequency networks using the Digital Video Broadcasting – Terrestrial (DVB-T) standard that were submitted to the ITU for incorporation in the GE-06 plan. In addition to the above two metropolitan DTT frequency networks using the Digital Video Broadcasting – Handheld (DVB-H) standard were submitted to the ITU for incorporation in the GE-06 plan.

The Introduction of mobile television services using DVB-H were further endorsed in the policy directions issued by the Minister of Communications in terms of section 3(1) and (2) of the ECA in Government Notice 876, Government Gazette Vol. 507, No. 30308, on 17 September 2007..

After considering both the GE 06 Plan and the Ministerial Policy directives, the Authority proposes that mobile television services be licensed on technology neutral basis. While DVB-H is preferred, as reflected in the ministerial policy directives, other technologies and standards should be encouraged. The Two multiplexes (MDTT1 and MDTT2) for mobile television services have been indicated in the table of assignments as a way forward to secure a smooth analogue-digital migration.

In line with the above-mentioned considerations, two UHF channels were planned for mobile DTT use in Gauteng and surrounding areas, Durban and surrounding areas, Cape Town and surrounding areas. These channels will be below 700 MHz to allow for mobile television applications. Additional channels have been added to extend the mobile DTT coverage to other metropolitan areas. Further channels for digital mobile broadcasting services will be available after analogue switch-off. In planning for digital services, coverage equivalent to that currently provided by analogue services must be ensured. This could necessitate additional low power gap fillers.

The Authority is also mindful that for the mobile DTT networks to operate and sufficiently cover the whole metropolitan areas, there would be a need to migrate some services in the identified channels. The Authority is however cognizant that the services that would have to move are in the low power sites and therefore would not significantly hamper the launch of a commercial MDTT network, while services are moved from the occupied channels.

It is the Authority's view that the licensing of mobile television networks could go ahead while at the same time, time frames are established on the migration of the services from the identified channels of mobile television networks in the metropolises. This would ensure that mobile television frequency network licensing does not have to be hampered by the migration of the services from the identified channels.

For the mobile DTT networks, to operate and sufficiently cover the whole metropolitan areas and surrounding areas, there will be a need to migrate some services from identified channels. The services that will have to move are predominantly in the low power sites and therefore will not significantly hamper the launch of a commercial mobile network. Channels 33 and 35 will be used for mobile television services in Gauteng and surrounding areas. Channels 25 and 33 will be used for mobile television services in Durban and surrounding areas. In Cape Town and surrounding areas channels 28 and 32 will be used

for mobile television services. It is therefore the Authority's intention to license these frequencies as per GE-06, while at the same time migrating services from the identified frequencies, in order to facilitate the launching of mobile DTT.

### **3.4 Other Pertinent Issues**

#### **Self- Help Stations**

The Authority does not reserve frequencies for self-help stations due to the very low power used and the uncertainty of the requirement. Assignments are made as and when required. Therefore, the assignments listed in Annexure B and E are all operational. Self-Help frequencies should be proposed by the applicant.

#### **Provincial (Regional) Broadcasting**

It is the Authority's view that the two national DTT frequency networks that are used in GE-06 plan fully accommodate the regional public services of the SABC.

#### **Digital Dividend**

The migration process will release much of the spectrum currently occupied by analog services. After dual illumination more spectrum will be available for additional digital broadcasting, Digital audio services and telecommunications. Broadcasters and other interested stakeholders will be engaged further in a separate process to ensure a fair criterion is used in the distribution of spectrum after dual illumination.

#### **Digital Audio Broadcasting**

Digital dividends in terms of digital audio broadcasting are not attractive. On the other hand the cost, including social cost, of converting existing AM and FM might be high. DAB will be introduced in Band III after digital migration for

television. Authority recommends that DAB be introduced when the market is ready. Ideally, digital audio broadcasting should augment and not replace AM and FM.

Therefore, there is no switch-off date for AM and FM. Rather there should be a commitment to grant fair access to spectrum where the right conditions prevail. The Authority has recommended to the ITU that Channel 9 and 10 (214-230MHz) be identified for DAB.

#### **Digital Television broadcasting**

The anticipated spectrum to be released by analog services from current SABC, eTV and Mnet services which will translate to bandwidth for new services or enhancement of existing services. Frequency 470 MHz to 790 MHz Band will be redistributed for future broadcasting services (additional regional multiplexes, HDTV requirements and for other ICT services).

#### **IMT (International Mobile Telecommunications)**

The band 790 MHz to 862 MHz has been identified for IMT implementation. After dual illumination this spectrum will be freed for IMT. The Authority will undertake a separate process to determine the criteria to be used to access the spectrum.

#### **Square Kilometre Array (SKA)**

All existing and future assignments/allotments in the broadcasting frequency bands depicted in Table 1 for the Northern Cape Province will be subjected to the restrictions prescribed by the Astronomy Geographic Advantage Act, 2007 (Act No. 21 of 2007). In the plan all high power theoretical sites have been excluded to ensure compliance to the AGA Act requirements.

The Authority endeavours to initiate a separate process for further engagement of affected broadcasting licensees to device alternative broadcasting transmission facilities/means for the SKA demarcated area; all affected frequencies are depicted in annexure J. Annexure H has a list of frequencies changes to be effected during the implementation of the DTT frequency plan.