



SUBMISSION BY SENTECH SOC LIMITED

**ON THE
2nd DRAFT FREQUENCY MIGRATION REGULATION AND RADIO FREQUENCY
MIGRATION PLAN AS PUBLISHED ON NOTICE 1064 IN GOVERNMENT GAZETTE
NO. 36031 ON 24 DECEMBER 2012**

**SUBMISSION DATE
18 FEBRUARY 2013**

SENTECH'S WRITTEN SUBMISSION ON THE SUBMISSION BY SENTECH SOC LIMITED ON THE 2nd DRAFT FREQUENCY MIGRATION REGULATION AND RADIO FREQUENCY MIGRATION PLAN

1. Introduction

- 1.1. Sentech thanks the Independent Communications Authority of South Africa ("Authority") for the opportunity presented to make written comments on the 2nd Draft Frequency Migration Regulation and Radio Frequency Migration Plan as published on Notice 1064 in Government Gazette No. 36031 on 24 December 2012, ("2nd Draft FMR and RFMP").
- 1.2. Sentech requests the Authority to take into consideration its previous submissions on the first Draft Frequency Migration Regulation and Radio Frequency Migration Plan.
- 1.3. Should the Authorise hold public hearings, Sentech would like the opportunity to make an oral presentation.

2. 2nd Draft FMR and RFMP

2.1. Purpose

- 2.1.1. As stated in the previous public process, Sentech reiterates that the Radio Frequency Migration Plan can not only be premised on s2(e) of EC Act, whilst ignoring the entire objectives of the ECA.
- 2.1.2. The concept of spectrum efficiency should also be aligned with Government imperatives and plans as outlined in the National Development Plan: Vision for 2030 ("NDP").
- 2.1.3. Sentech has recognised and accepted its role in insuring that the future plans of the NDP¹ are fulfilled as stated in the section *Information and communications infrastructure: Vision*, specified below for ease of reference with own emphasis;
"By 2030, ICT will underpin the development of a dynamic and connected information society and a vibrant knowledge economy that is more inclusive and prosperous.
*A **seamless information infrastructure** will be universally available and accessible and will meet the needs of citizens, business and the public sector, providing access to the creation and consumption of a wide range of converged services required for effective economic and social participation – at a cost and quality at least equal to South Africa's main peers and*

¹ National Development Plan: 2030 – Our Future-Make It Work, page 190

*competitors. Within this vision, the underlying ICT infrastructure and institutions will be the core of a widespread digital communications system. **This ecosystem of digital networks, services, applications, content and devices, firmly integrated in the economic and social fabric, will connect public administration and the active citizen; promote economic growth, development and competitiveness; drive the creation of decent work; underpin nation building and strengthen social cohesion; and support local, national and regional integration.** Public services and educational and information products will be accessible to all, and will build on the information, education and entertainment role envisaged for public broadcasting. The human development on which all this is premised will have created an e-literate (online) public able to take advantage of these technological advances and drive demand for services.”*

National Development Plan: 2030

Chapter 4: Economic Infrastructure – The Foundation of Social and Economic Development

- 2.1.4. The NDP recognises the important role of the convergence of networks, services and devices in the economic growth and social development of the country as a result of the changing functions of ICT industry due to technology developments.
- 2.1.5. Product developers, marketing strategists and service providers have begun to appreciate the benefits of combined features of telecommunications, broadcasting, information technology and consumer devices.
- 2.1.6. It is therefore important for the framework governing spectrum efficiency not only to be aligned with objective of the ECA, but also with the broader Government development plans.
- 2.1.7. Convergence of networks, services and devices will play a very important role in determine spectrum usage efficiency.
- 2.1.8. Sentech therefore appeals with the Authority not to take a narrow view on spectrum efficiency.

3. Overview of rights

3.1. Radio frequency spectrum rights

- 3.1.1. By assigning spectrum to a licensee, the Authority subsequently confers spectrum usage rights to the licensee under specified conditions.
- 3.1.2. The conferred spectrum usage rights are valid for the duration of the services licence unless the Authority proceeds in terms of s31(8), (9) and (10) of the ECA.
- 3.1.3. It is therefore incorrect for the Authority to state that the "*spectrum licence is valid for one year only and a spectrum assignment can be revoked at any time*".

4. Principles Governing Frequency Migration

4.1. Identification of Bands which are subject to Frequency Migration

- 4.1.1. As stated in section 2 above, the NDP plays a fundamental role in the RFMP and therefore should have first level priority.

4.2. Time Frame for Migration

- 4.2.1. The Time Frame for Migration should consider the Final Terrestrial Broadcasting Frequency Plan Regulations for broadcasting services.
- 4.2.2. The Authority needs to be aware that with regard to broadcasting services in the 790 – 862 MHz, even if mobile operator are ready to start transmitting by June 2015, the band will only be available after DTT-to-DTT migration, which can only commence after ASO. Due to on-going delays in the announcement/publication of the commencement date of the Analogue TV- to - DTT migration period and anticipated lengthy delays in the availability of government subsidised DTT set-top-boxes (due to the STB control issue), the required DTT-to-DTT migration is likely to only be completed well after 2015.
- 4.2.3. Therefore the critical determinant in this case will be the earliest time broadcasting services can migrate all services to below 790 MHz.

5. **Proposed Migration Plan**

5.1. 470 – 790 MHz

5.1.1. Resolution 232 never invited studies to look at the possibility of migration broadcasting services to below 694 MHz.

5.1.2. This is consistent with *resolves* 1 of Resolution 232;

to allocate the frequency band 694-790 MHz in Region 1 to the mobile, except aeronautical mobile, service on a co-primary basis with other services to which this band is allocated on a primary basis and to identify it for IMT;

5.1.3. *invites* ITU R 1 and 4 of resolution 232 clearly state the following;

1 to study the spectrum requirement for the mobile service and for the broadcasting service in this frequency band, in order to determine as early as possible the options for the lower edge referred to in *resolves* 4;

4 to study the compatibility between the mobile service and other services currently allocated in the frequency band 694-790 MHz and develop ITU-R Recommendations or Reports;

5.2. 790 – 862 MHz

5.2.1. The Final Terrestrial Broadcasting Frequency Plan Regulations 2008 has digital assignments above 790 MHz. Therefore Digital Dividend I, 790 – 862 MHz, will not be available from June 2015.

5.2.2. Should the Ministers of Communications agree with the proposal for Digital Dividend II in terms of s34(2) of the ECA, Digital Dividend I and II will be available at the same time. That is DTT-to-DTT migration will only occur once.

5.2.3. It is also important to note that ASO does not end with the switching off of analogue services. Analogue equipment that cannot be reused and must be decommissioned before the installation for the DTT-to-DTT migration begins.

5.2.4. From 1 April 2012, 44 sites (24%) of the planned 183 Sentech sites were activated to transmit digital broadcasting services on the DVB-T2 standard reaching 60.9% of the population – within which each of the country's nine provinces will have an active transmitter network.

Province	Number of Stations	Additional Stations	Cumulative Population Coverage %	Additional Population Coverage %	Additional Population Coverage per Station %
Limpopo	52	8	63.85	2.95	0.37
Free State	63	11	66.32	2.47	0.22
Mpumalanga	73	10	68.84	2.52	0.25
Kwazulu Natal	94	21	75.00	6.16	0.29
Eastern Cape	33	33	82.60	2.60	0.08
North West	46	13	83.89	1.29	0.10
Western Cape	69	23	85.67	1.78	0.08
Northern Cape	83	14	88.00	2.33	0.17

Table 1: Number of transmitters vs. additional coverage gained

- 5.2.5. Table 1 above clearly illustrates the amount of effort required in order to gain a small percentage of coverage per transmitter station between 63% and 88% population coverage.
- 5.2.6. The efforts and time frames will be increased during the DTT-to-DTT migration as the draft revised Terrestrial Broadcasting Frequency Plan is proposing only provincial SFNs and the current Terrestrial Broadcasting Frequency Plan Regulation 2008 has a mixture of SFNs and MFNs.
- 5.2.7. The requires for DTT-to-DTT will likely be;
- 5.2.7.1. Policy Directive with regard to the cost of the DTT-to-DTT migration;
 - 5.2.7.2. Determining of transmitter and antenna systems required for the migration;
 - 5.2.7.2.1. It is important to note that the requirements determination will take into consideration that DTT services cannot be switched-off during the DTT-to-DTT migration period.
 - 5.2.7.2.2. The decommissioning of analogue equipment and installation of equipment for the DTT-to-DTT migration will coincide.
 - 5.2.7.2.3. There will be a requirement for the receive antennas for gap-fillers to be replaced.
 - 5.2.7.2.4. There will be a second dual illumination period.
- 5.2.8. It is therefore quite clear that any Digital Dividend will only be available a few years after ASO.
- 5.2.9. The Authority also needs to determine which channel arrangement it will implement, taking into consideration the final report of CPM 15 based on ITU R studies in line with Resolution 232. This is premised on the principle that the Minister of Communications has endorsed Digital Dividend II.

5.2.10. It is also important to note the devices availability differences between the APT and Europe for the 700 MHz band. Taking this and the DTT-to-DTT project plan into consideration, the Authority will be best advised on when the 700 MHz band can be available for mobile services.

5.3. Studio Transmission Links: 790 – 869 MHz

5.3.1. Sentech would like to re-iterate its position that STLs should be allowed to continue operation in the 800 MHz band. In terms of s6.1.5 of the Draft Spectrum Assignment Plan Government Gazette No. 34872 Notice 911, the Authority has proposed the frequency arrangement A3 of Rec. ITU-R M.1036-4 (table 3) for IMT services in the 800 MHz band. Sentech therefore believes that the Authority should allow STLs to operate in the bands below;

5.3.1.1. 821 – 832 MHz; and

5.3.1.2. 862 – 869 MHz

5.3.2. Sentech believes that since STLs serve mainly Community Broadcasters, they should be allowed to operate in the bands above on non-interference and no fees basis.

5.3.3. The disadvantage of operating STLs at higher frequency bands is that higher power transmitters and higher gain antennas will be required to compensate, where possible, for the sacrifice in distance covered on the higher frequencies. This will also result in a lot of situations where single hops will now require multiple hops. Community Broadcasters face an increase in costs for STLs.

5.3.4. Sentech also proposes that the band 1479.5 – 1492 MHz be made available primarily for STL services.

5.3.5. Majority of Community Broadcasters are dependent on STL services as a critical medium of delivering content to distribution sites.

5.3.6. Therefore the allocation for FIXED services in the 790 – 862 MHz band should remain.

6. Digital Dividend II

6.1. Sentech would like to know what influences the need for broadcasting services to be migrated to below 694 MHz by June 2015, when WRC12 delayed bringing the band in use until all necessary technical studies are concluded regarding “the compatibility between the mobile service and other services currently allocated in the frequency band”.

6.2. The Draft Spectrum Assignment Plan Government Gazette No. 34872 Notice 911 proposes that South Africa should adopt the European band plan of 2x30 MHz with a duplex gap of 41 MHz and 11 MHz centre gap.

- 6.3. The discussions at WP5D has highlighted the challenges with regard to choosing the appropriate channel plan taking into consideration requirements for harmonisation,
- 6.4. This is as a result of an allocation at WRC07 of 108MHz of Digital Dividend Spectrum from 698 – 806 MHz for Region 2 and 3 countries for IMT services.
- 6.5. The challenge is that the 700 MHz Asia-Pacific Telecommunity's allocation overlaps the European's 800 MHz band plan.
- 6.6. With Europe estimating that the release of 700 MHz spectrum will likely take place after 2018. There is clearly no reason for the Authority to insist on broadcasting services to migrate below 694 MHz by June 2015, also taking into consideration other points mentioned above.

7. Conclusion

- 7.1. Sentech thanks again the Authority for the opportunity presented to make written comments on the 2nd Draft FMR and RFMP.