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| **THE NAB WRITTEN SUBMISSION ON** **THE POLICY DIRECTIVE REGARDING THE INTRODUCTION OF DIGITAL SOUND BROADCASTING IN SOUTH AFRICA**  **9 NOVEMBER 2018** |

**THE POLICY DIRECTIVE REGARDING THE INTRODUCTION OF DIGITAL SOUND BROADCASTING IN SOUTH AFRICA**

**Introduction**

1. The National Association of Broadcasters (NAB) is a leading representative of South Africa’s broadcasting industry, representing the interests of all three tiers of broadcasters. Our members include the public broadcaster, commercial and community broadcasters, signal distributors, as well as industry associates.
2. On 28 September 2018 the Department of Communications (DoC) published a notice inviting comments on the policy directive in respect of the introduction of digital sound broadcasting (DSB) in South Africa. Interested persons were given 30 (thirty) days, which were clarified as working days, to submit their input.
3. Currently there is no spare high-power FM spectrum available particularly in the major metropolitan areas and large cities. This scarcity has become a barrier to entry into the radio broadcasting industry for new entrants as evidenced through the moratorium imposed by the Independent Communications Authority of South Africa (ICASA) on class licences. This scarcity has also hampered the coverage growth of existing broadcasters.
4. The NAB therefore welcomes this much anticipated policy directive from the DoC as there is a dire need for the introduction of spectrum efficient technologies which will serve as an additional platform for sound broadcasting services.

**Technical considerations**

1. DSB technologies offer a range of benefits including efficient use of spectrum and energy, multiple channel capability, consistent quality of reception, advanced audio quality, as well as value added services, including dynamic label system and display of information. There has been extensive research and investment in preparation for the adoption and implementation of DSB technologies for the South African market. To this end, the broadcasting industry has been testing DAB+ through the trial license granted to the SABC, and DRM30 through Pulpit Media. Both these technologies are recommended in the policy directive.
2. The objective of the DAB+ trial was to asses *inter alia* the technical functionality, coverage, signal permeability, interference and clutter on coverage areas as well as to demonstrate value added services offered by these technologies. So far, the findings indicate that DAB+ uses spectrum efficiently, it provides advanced audio quality and visual information displayed on screens.
3. With regards to DRM+ various studies conducted including laboratory trials in Germany and other European cities have found that cross modulation interference can occur in existing FM analogue receivers and the possible degradation of existing analogue FM broadcasts. This particular test was not conducted in the South African DRM+ trial. OFDM technologies used in band II can cause interference above 108MHz (adjacent band) and interfere with aeronautical radio direction devices. Furthermore, correct frequency allocation in an already congested band is not technically feasible.
4. The current FM band in Region 1 has specific specifications allocated for each frequency within the band to allow for proper planning co-ordination of an FM network. This allows for the network to be planned in such a way that enables the allocation of adjacent FM frequencies without causing interference. The maximum effective radiated power of each allocated frequency is stated as part of the planning process to mitigate against possible knock on interference.
5. The NAB submits that the current Region1 FM band has not been planned optimally for a new technology such as DRM+. The FM band plan is currently based on the “Final Acts of the Regional Administrative Conference for the Planning of VHF Sound Broadcasting (Region 1 and Part of Region 3) Geneva, 1984”. Chapter 3.1 (page 28) provides that “as an alternative, other systems having different characteristics (e.g. other pre-emphasis characteristics, digital modulation) may be used, provided that such use does neither cause greater interference nor demand higher protection than the reference system indicated in the Plan.” Whilst this allows other technologies to be considered, this proposal was advanced well before digital sound broadcasting terrestrial technologies were developed therefore making it difficult at the time to predict the necessary specifications to be included in the plan to mitigate against possible interreference and disruption to services.
6. The limited South African DRM+ trial conducted during 2017 was conducted on a non-Region 1 standard FM frequency allocation. The trial was conducted on an offset frequency at low power, and not at high power in a congested spectrum environment. As a result, the maximum effective radiated power could not be accurately defined in order to mitigate against possible interreference to existing services. In light of this limitation the NAB recommends that additional trials be conducted to establish these parameters and ensure that DSB technologies are able to co-exist with FM in the same area without interference. Existing public, commercial and community broadcasters need absolute assurance that their licenced FM services will not be interfered with. Whilst DRM states that DRM+ technology operates at less power to achieve the same coverage as analogue FM, the frequency plan does not distinguish between these two technologies.

**Continued availability of analogue services**

1. The NAB notes that the policy directive envisages AM analogue sound broadcasting services being replaced in the longer term. The NAB respectfully submits that digital sound broadcasting is meant to be a complementary service that can be used simultaneously with AM and FM analogue transmission. In a developing democracy and economy such as South Africa, universal access and universal reach of radio services must be guaranteed and affordable, it is therefore important for the market of DSB services to be allowed time to grow and establish itself before there can be any consideration of a total switch-off of analogue transmission. Currently, the price of DAB+ receivers varies from $18US approximately R260 (two hundred and sixty Rands) to R1,500 (one thousand five hundred Rands) and may not be affordable, particularly in rural areas, where citizens depend on radio as a primary means of accessing information.
2. The NAB therefore recommends that analogue sound broadcasting services must continue to be available. Any consideration of phasing out analogue transmission will have to be informed by a robust socio-economic impact study.

**Licensing of DSB services**

1. The NAB recommends that the licensing of DSB services must also be guided by the availability of spectrum, market readiness and the uptake of DSB services by consumers. In considering the financial implications of having DSB and analogue sound broadcasting services simultaneously available to consumers, the NAB respectfully submits that broadcasters who are already bearing significant transmission costs for analogue broadcasting should be prioritised.

**Current capacity constraints**

1. The roll out of DSB services is also largely dependent on full DTT migration which will free up spectrum. The NAB further notes that the policy directive makes reference to the Terrestrial Broadcasting Frequency Plan published by ICASA which provides for an allotment of two multiplexes for each of the nine provinces. The NAB has previously submitted that these allotments may not be sufficient for all the major metropolitan cities and recommends that the allotment be increased to a minimum of 4 Muxes.

**Conclusion**

1. In conclusion, the NAB thanks the DoC for the opportunity to make input to the policy directive. We look forward to future engagements towards finalising this policy process.