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Per email: rmakgotlho@icasa.org.za / jdikgale@icasa.org.za

11 February 2022

RE: ICASA NOTICE REGARDING THE FINDINGS OF ITS INQUIRY

Dear Mr Makgotlho

Introduction

1. We refer to the Independent Communications Authority of South Africa's (**ICASA** or the **Authority**) findings of its inquiry (Government Gazette No. 45247 of 30 September 2021) (the **Findings**), the Authority's position and the draft implementation of the radio frequency migration plan, and the international mobile telecommunications (**IMT**) roadmap in terms of section 34(16) of the Electronic Communications Act (**ECA**).
2. ICASA has called for written submissions on the draft implementation of the Radio Frequency Migration Plan and of the IMT Roadmap by 11 February 2022.

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3. The National Association of Broadcasters (**NAB**) thanks the Authority for the opportunity to provide a written submission in respect of the Findings and the NAB further requests the opportunity to make oral representations on the Findings, should public hearings be held by ICASA.

Background to the current uses of C-Band

4. The NAB previously provided written comments on C-Band throughout ICASA's public processes on Frequency Migration and on national Spectrum Considerations by the Minister of Communication and Digital Technologies in October 2019.
5. During these policy and regulatory processes, the NAB submitted that before any future C-Band spectrum considerations be made, all current spectrum usage should be carefully assessed. The C-Band spectrum (from 3.4 to 4.2GHz) is used extensively by fixed-satellite services (**FSS**) and operation of IMT services in this band will potentially cause excessive levels of harmful interference - and might preclude future use of this band for satellite services. The C-Band is used extensively by a variety of services, and any re-allocations will therefore potentially impact on these important services, some of which are of national security importance.
6. In Africa, the C-Band spectrum is used, *inter alia*, for the following:
 - 6.1 Wireless Extension Services;
 - 6.2 Aviation Security;
 - 6.3 Broadcasting (TV & Radio);
 - 6.4 Contribution links into TV/Radio Stations;
 - 6.5 Distribution links to terrestrial transmitter sites;
 - 6.6 Maritime Communications;



- 6.7 Telemedicine;
- 6.8 Corporate VSAT Networks;
- 6.9 Peace Keeping;
- 6.10 Internet Connectivity;
- 6.11 Distance Education; and
- 6.12 Disaster Preparedness.

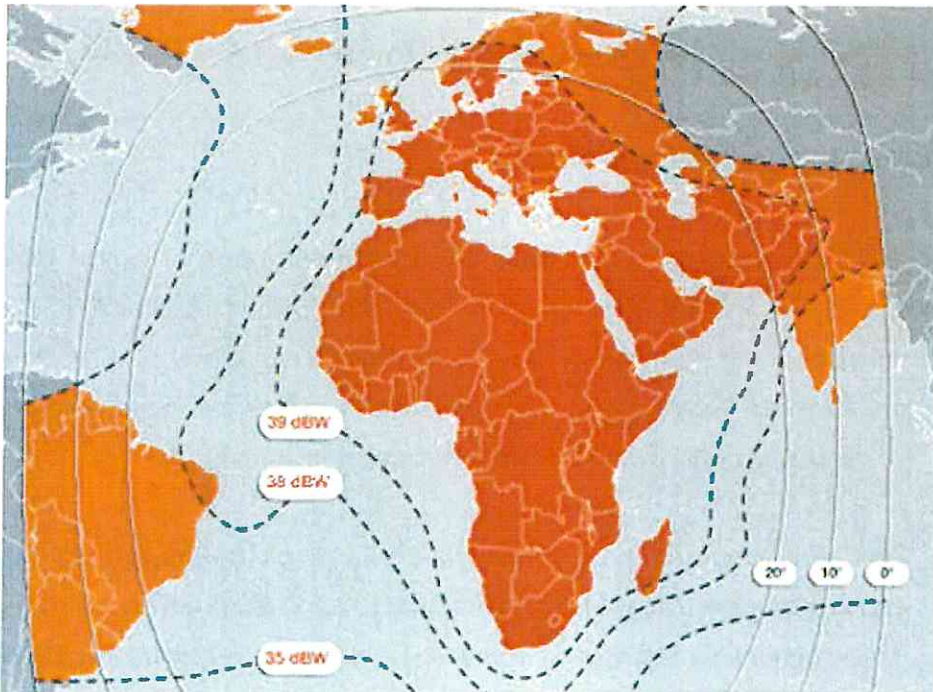
7. Both globally and in South Africa, the C-Band spectrum is regarded as being extremely robust and reliable enough for many applications, such as:

- 7.1 Data links (V-SAT);
- 7.2 Air Traffic Control;
- 7.3 Internet access in remote areas (land and sea locations);
- 7.4 Banking point-to-point links;
- 7.5 Emergency services; and
- 7.6 Television & Radio Broadcasting links.

8. Furthermore, C-Band satellites are used for both contribution links (such as backhaul of content from other parts of the world) and distribution links (such as feeders to terrestrial transmission sites).

9. C-Band satellite beams provide coverage of a large geographic area, which allows for whole regions or continents to be connected — resulting in a very cost-effective communications network. For example: Sentech uses a C-Band satellite to deliver all of the SABC and radio stations to all of the terrestrial transmitter sites spread across South Africa. The C-Band range of frequencies is essentially immune to rain fade.

10. By way of further example, Telemedia makes extensive use of the C-Band range of frequencies, for permanent and occasional use satellite downlinks. Telemedia's most recent event was the African Cup of Nations tournament, which was held in Cameroon in January and early February 2022. The Africa distribution platform for this event was on a C-Band satellite, in order to maximise coverage with a single source. There is no other existing technology that is able perform this function. As noted above, C-Band satellite downlinks are much less susceptible to weather interference, which means that during the recent heavy thunderstorms experienced in South Africa, the received signal was not affected. In respect of the African Cup of Nations tournament, Telemedia provided coverage of the tournament to the SABC, and without the C-Band link, none of South Africa's soccer fans would have been able to enjoy watching the live soccer matches.
11. As can be seen from this recent example, while services in higher frequencies (for instance Ku-Band) sometimes experience degradation of their signal, services provided in C-Band offer extremely high reliability, even during heavy rain. Due to its longstanding good experience with and dependence on C-Band, many signal distributors have made a considerable investment into developing an overall network (ground infrastructure, satellite connectivity, and remote equipment) that is heavily reliant upon, and communicates with, C-Band satellites.
12. As can be seen from the image below, C-Band coverage is extremely broad and highly reliable.



Typical C-Band Coverage

Comments by the NAB on the Findings

13. In light of the above, the NAB has considered the Findings and sets out below some technical considerations in respect of the Findings for consideration by ICASA.

14. Stakeholders

- 14.1 Section 3.3 of the Findings provides the Authority's position regarding specific spectrum bands. It is submitted that section 3.3 of the Findings is inconsistent with section 3.2 of the Findings, specifically regarding the stakeholders identified. In this respect, it is noted that different stakeholders responded to different spectrum bands, and provided comments on the priorities of those bands to their respective

organisations as well as the usage of those bands (both in terms of current and planned usage). Section 3.3 of the Findings does not identify these stakeholders under the relevant column in the table. By way of example, broadcasters commented on their use of terrestrial television broadcasting spectrum bands (see line item 3 of section 3.2 of the Findings), yet the table (see line item 3 of section 3.3 of the Findings) does not identify broadcasters as “identified stakeholders” in these bands.

- 14.2 Identifying stakeholders is key in a findings document, specifically in respect of section 3.3 of the Findings, where the Authority provides its findings and positions. Any decisions made on specific spectrum bands, coming out of the ICASA’s inquiry, should take into consideration the stakeholders that have an interest in those specific spectrum bands. The Authority cannot simply provide a position without noting who the key stakeholders are and how the position is going to affect such stakeholders, as this would be prejudicial to the affected and interested stakeholders. Such affected and interested stakeholders should be afforded the opportunity to engage with the Authority and any engagements from such stakeholders should be considered by the Authority.
- 14.3 The NAB submits that in order to ensure that a fair process and procedure is followed, the Authority should amend the Findings to include all affected and interested stakeholders in all bands under section 3.3 of the Findings.

15. Allocation and assignment, pre- or post-WRC23

- 15.1 In a number of spectrum bands under section 3.3 of the Findings, the Findings questions whether the timing of allocating and assigning certain bands, which are part of the World Radiocommunication Conference 2023 (**WRC23**) agenda items, should occur before or after the WRC23. In the interest of regional harmonisation, the process leading up to the WRC23 is key as decisions are made by administrations at the conference and such decisions have an impact on licensees. Further to the interest of harmonisation, licensees have to undergo scenario planning exercises, based on possible conference outcomes. To simply allocate and assign spectrum bands, outside of this process, will have negative implications relating to interference between services in the same band.
- 15.2 The Radio Frequency Migration Regulations, 2013 (Government Gazette No. 36334 of 3 April 2013) provide circumstances under which the Authority may initiate a radio frequency migration process. However, it is noted that section 3.3 of the Findings does not provide any relevant justification for the Authority to contemplate migrating certain spectrum bands prior to WRC23, specifically in respect of those bands that are part of WRC23 agenda items.
- 15.3 On the question of allocating and assigning frequencies before or after WRC23, we urge the Authority to await decisions of the WRC23, which will also afford the current users of a specific band to have sufficient time to plan any migration, if there is to be such migration.

16. *The relationship between Low Internet Connectivity Levels and Spectrum Assignment*

- 16.1 Section 7(c) of the Findings suggests that more spectrum needs to be assigned for broadband purposes in South Africa, in order to meet the “South Africa Connect” broadband policy (**SA Connect Policy**) targets. However, section 7 of the Findings appears to disregard other factors that lead to low levels of internet connectivity. Factors such as a lack of infrastructure, a lack of investments in infrastructure (specifically in rural areas), the affordability levels of internet, education and other factors, which all have an influence on the country’s internet penetration and the levels of internet connectivity in south Africa.
- 16.2 We recommend that the Authority assess the various factors that influence internet penetration and how these factors are preventing the SA Connect Policy targets from being met. The assignment of spectrum alone cannot be seen as the only contributing factor that is hindering South Africa’s ability to meet the SA Connect Policy.

17. *Implementation of the IMT roadmap 2014 and 2019 for the 3300 to 3400 MHz band*

- 17.1 Annex 5 of the Findings is concerned with IMT in the 3300 to 3400 MHz band, to which section 5.4 of Annex 5 of the Findings provides a view that the “*band can also now form a contiguous block of IMT spectrum ranging from 3300 to 3600 MHz*”. As a contiguous block, the Authority should note adjacent band interference cases that have been experienced by FSS in the band 3600 to 3800 MHz from MS in the band 3400 to 3600 MHz.



- 17.2 We would recommend that, given that the Authority views the band 3300 to 3600 MHz as a contiguous block, and that the Authority will be developing a Radio Frequency Spectrum Assignment Plan in this regard, the Authority should note issues of adjacent band interference.
- 17.3 Furthermore, the Authority notes that the band 3300 to 3400 MHz forms part of Agenda Item 1.2 for WRC23, where it is being identified for IMT. We reiterate our view that the Authority should await the outcomes of WRC23, prior to making any amendments to the Radio Regulations.

Conclusion

18. The NAB respectfully reiterates its concerns that satellite spectrum (especially the C-Band range) is an extremely scarce resource, and should be subject to proper planning and design by government and the Authority.
19. The NAB understands and supports ICASA's objectives but encourages the Authority to ensure that any plans in respect of the Findings will not adversely affect local satellite network users such as Sentech, Telemedia, On Digital Media (Startimes/Starsat) and Multichoice (Orbicom).
20. We look forward to engaging further with ICASA in respect of the Findings.

Yours Sincerely

A handwritten signature in dark ink, consisting of a series of loops and a long horizontal stroke, positioned above the printed name and title.

Nadia Bulbulia
Executive Director