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11 February 2021

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Dear Mr. Makgotlho

NOTICE REGARDING THE FINDINGS OF ITS INQUIRY (GOVERNMENT GAZETTE NO. 45247 OF 30 SEPTEMBER 2021), THE AUTHORITY'S POSITION AND THE DRAFT IMPLEMENTATION OF THE RADIO FREQUENCY MIGRATION PLAN AND THE INTERNATIONAL MOBILE TELECOMMUNICATIONS ROADMAP IN TERMS OF SECTION 34(16) OF THE ELECTRONIC COMMUNICATIONS ACT (ECA)

1. The Findings of the Authority's Inquiry and Position on the draft Implementation of the Radio Frequency Migration Plan and of the International Mobile Telecommunications (IMT) Roadmap ("**Regulations**") for consultation published in *Government Gazette 45690* on 24 December 2021 refers.
2. Cell C welcomes the Authority's invitation to comment on these draft regulations. Cell C confirms that it would be participating in the oral hearings when they are convened.
3. It is Cell C's understanding from the Regulations that the purpose of this exercise is to consult on the identification of the various options for the deployment of the priority bands analysed by the Authority's and its proposed intentions in each case. The focus is on a two (2) to three (3) year time frame for all the bands consulted on in these Regulations.
4. Cell C further understands that the conditions for the use of the frequency bands for IMT will be specified in the appropriate Radio Frequency Spectrum Assignment

Plans (RFSAPs), either to be developed and or amended. The assignment of high-demand frequencies will be made through an Invitation to Apply (ITA).

5. Due to timing and resource constraints, Cell C will set out its submission in two parts. Cell C will provide general comments and specific comments on the in-band migration for the 900MHz band.

Yours sincerely

Mr Themba Phiri

Executive Head: Regulatory

**CELL C WRITTEN COMMENTS ON THE PROPOSED RADIO FREQUENCY MIGRATION
PLAN AND OF THE INTERNATIONAL MOBILE TELECOMMUNICATIONS (IMT)
ROADMAP**

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1. GENERAL COMMENTS

- 1.1. Cell C would like to thank the Authority for the opportunity to present these written comments and requests the opportunity to both elaborate on the points below as well as to raise further points via oral submission when public hearings are convened on the Regulations.
 - 1.2. Cell C supports and recommends the alignment of these Regulations with the resolutions/recommendations as adopted at various international, regional and national levels (ITU, ATU and SADC), including those arising from WRC 2019 ("WRC 19"). This means the same spectrum bands are used country to country, which allows the same equipment, including mobile devices, to be sold across large regions, bringing down the cost while also reducing interference and enabling international roaming. This is likely to enable licensees to achieve economies of scale in terms of the acquisition of subscriber equipment whilst keeping cross-border radio frequency spectrum interference disputes to a minimum.
 - 1.3. In finalizing the Regulations, the migration of licensees including government entities and organizations must follow the process as prescribed in the ECA where relevant. The development of the Radio Frequency Spectrum Assignment Plans ("RFSAP") and Radio Frequency Migration Plan ("FMP") are overseen by different rulemaking provisions. Therefore, there must be no areas of ambiguity, inconsistency or wrongfully placed spectrum events between the processes. Thus avoiding protracted delays due to unnecessary litigation.
 - 1.4. Cell C is in agreement with the Authority that there is a need to consult on identifying suitable radio frequency bands to meet the exponential needs of mobile services that will be deployed under the IMT 2020 family of technologies. The success of delivering and deploying competitive and universal mobile services under IMT 2020 is hugely dependent on the timing of making available appropriately identified radio frequency spectrum bands for IMT.
 - 1.5. Cell C lastly recommends that rules, procedures and conditions regarding spectrum matters such as spectrum migration, sharing, incentives or spectrum surrender for
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spectrum migrating users be prescribed in a manner that consistent with the ECA. No migrating licensees should unfairly benefit or treated in a manner that compromises competition in the sector. Any decision taken by the Authority must be informed by robust consultation with affected licensees whilst taking into account the existing use and value of the affected spectrum bands.

2. **ANNEX 2: 880-960 MHZ BAND: IMPLEMENTATION OF THE IMT ROADMAP 2014 AND 2019**

2.1 Cell C notes that the Authority has designated the in-band migration priority for this band as “11”. Cell C is of the view that the in-band migration priority for this band be classified as low priority and must take place after certain spectrum activities are completed and that all affected migrating licensees are in sync when the in-band migration takes place. We say this for the following reasons.

2.2 The published Final Radio Frequency spectrum assignment plan for the IMT 900 band in Government Gazette 38640 (“IMT 900 RFSAP”) and the final IMT Roadmap 2019 in Government Gazette 42829 had governed the in-band migration process for the 900MHz spectrum band.

2.3 In terms of the IMT 900 RFSAP, subsection 6.2, requires that “*Licensees are required to follow the in-band harmonisation and optimisation process detailed in Chapter 10*” and section 10, titled Radio Frequency Migration requires the in-band migration to be completed as stated below:

“10.1.1 Frequency migration in the case of this IMT900 band consists of the optimisation and harmonisation of existing assignments involving the potential in-band migration of one or more licensees.

10.1.2 The following steps will be followed:

- In the short term, the operators must coordinate on the reduction of guard bands. Disputes will be resolved as per Section 33. (2) of the Act and read with Regulation 13. of the Radio Frequency Spectrum Regulations 2011.*
- The Authority has decided that the following assignments within the IMT900 band are to be achieved by 31st March 2020 at the latest.”*

2.4 Cell C urgently sought an extension to the migration implementation date for the following reasons:

- After initial internal discussions, the two-phase in-band migration exercise is more complex than had anticipated due to the lapse of time, the in-band migration dependencies, change in network characteristics, Cell C operating model, use and dependencies of spectrum has changed.
 - There is a severe impact on QoS to active subscribers in the affected band as it is required to switch off the active users initially and then proceed with the migration. Furthermore, there is a need to analyse
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and quantify the implication of the harmonisation and prepare a mitigation strategy.

- c) There is an impact on users who make use of Cell Extenders as these need to be replaced to accommodate the new harmonised arrangement. Similarly, there is a need to analyse and quantify the implication and prepare a mitigation strategy.
 - d) The existing limited spectrum availability requires the full use of existing assignments for the provision of 2G, 3G and ever demanding 4G data services. For Cell C the 1.4 MHz is currently used in various combinations on each site to support 2G technology and ensuring provision of 2G services to a substantial 2G subscriber base. The challenge for Cell C continues to be the slow take up of 3G and LTE services by 2G subscriber's making it difficult for Cell C to clear the affected portion of the band. There is a need to provide for the migration of these 2G subscribers without impacting on the QoS provided in the in-band migration process. It is highly likely that the destination bands with 2G services will suffer due to congestion. As mentioned previously, the Cell C network has significantly changed since 2015 and we will have to relook at the impact on our network in terms of configuration and replanning.
 - e) Over the years Cell C has conducted an internal initiative to reduce subscriber dependency on 2G services. Cell C even subsidised the migration of 2G subscribers to encourage migration to the 3G platform. There was take up but not to an extent that allowed Cell C to clear the P-GSM band. Cell C has reduced 2G usage at the time in the 1.4 MHz band with regards to capacity support but relies heavily on this band in the current provision of 2G services. Eliminating the usage of the 1.4 MHz at this time will result in lower QoS for 2G users in general.
 - f) Most operators in the world underestimated the lifetime that 2G services will remain important. With the deployment of UMTS 3G services in the early 2000 it was assumed that 2G services would be replaced by 3G services by latest 2015. This was not the case with many subscribers choosing to retain their 2G devices and also increase usage by demand. Cell C had used various campaigns to encourage users to switch to 3G or 4G but with limited success. By hard switch off of 2G services, this would result in many hundred thousands of subscribers loosing mobile services and risk contravening the Authority's regulations.
 - g) Cell C will need a new frequency plan to move the P-GSM channels to the e-GSM band or 1800 MHz band. MTN will move 1.4 MHz of their 2.4 MHz to form a continuous 10MHz band and Vodacom will clear the upper portion of their 11 MHz. (Exact details will depend on the current service offered by MTN and Vodacom on their portions of the affected band). The main impact will be on existing 2G subscribers and
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possible reduction in QoS due to the migration to already congested bands.

- h) For co-ordination, administrative and dispute resolution amongst licensees, it would be prudent that the Authority be part of this process to understand the challenges faced by the affected licensees, progress updates and ensure disputes are resolved on time.
- i) The Cell C network has significantly changed since 2015 and we will have to relook at the impact on our network and virtual network in terms of configuration as we mostly use 900 MHz for 3G services in the larger portion of the assigned spectrum and the smaller portion (1.4 MHz) of PGSM used for 2G services.
- j) Cell C has to take into account the impact of the in-band migration in terms of its transition to its virtual radio access network and its current radio access network.
- k) The Regulatory and Technical teams of affected licensees have met and started discussions and preparatory work on the requirement. Unfortunately, due to the COVID-19 pandemic occurring at the same time, work in this area could not proceed as an extension to 31 March 2020 had been requested.
- l) This in-band migration and harmonisation will require 100% coordination between all three affected licensees i.e. synchronised changes at exactly the same date, etc. and therefore need planning, coordination and ultimately agreement from all three parties.

2.5 It is difficult for Cell C to provide a definitive fixed timeline at this time for the completion of the in-band migration. However, Cell C recommends that this be determined in consultation with all affected licensees. Preliminary work that was done by the affected licensees prior to the COVID-19 Pandemic provided an indication of a minimum of 6 to 7 months for such in-band migration. However due to the difficult times we are facing at the moment and the limitations of the current spectrum assignments, the Authority may possibly look at the harmonisation process to begin after the assignment and activation of HDS. Therefore it is Cell C recommendation that the migration process only commences after the successful award of HDS spectrum licences. The award and use of these HDS bands will provide the interim relief required to ensure the smooth in-band migration whilst keeping the effect on QoS to the affected subscribers at a minimum.
