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Reg. no: 1999/007722/07

7 October 2014

**ICASA**

**Attention: Mr Richard Makgotlho**

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Dear Sirs

## **REQUEST FOR WRITTEN COMMENTS TO THE PROPOSED DRAFT INTERNATIONAL MOBILE TELECOMMUNICATIONS (IMT) ROADMAP REGULATIONS FOR CONSULTATION**

1. The Draft International Mobile Telecommunications (IMT) Roadmap for consultation regulations ("Regulations") published in *Government Gazette* 37948 on 27 August 2014 has reference.
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 that are scheduled to take place from 9<sup>th</sup> to 10<sup>th</sup> October 2014 and shall accordingly await communication from the Authority on the presentation schedule for licensees.
3. Cell C thanks the Authority for producing a comprehensive document as the background to the questionnaire. Due to resource constraints and limited timeline, however, Cell C will endeavour to provide input to this critical process to assist the Authority in formulating a framework for spectrum for the delivery of broadband services on only a few key matters.

4. It is Cell C's understanding from the Regulations that the purpose of this exercise is to consult on the options for the various bands to be used for IMT in the next 5-10 years to meet South Africa's broadband requirements as contained in the SA Connect Policy. Final Radio Frequency Spectrum (Assignment) Plans (RFSP)/(RFSAP) will follow after a very short (two weeks) period of consultation and thereafter the assignment of the spectrum through the Invitation to Apply (ITA) process will be concluded.
5. The importance of the fair and equitable allocation of scarce resources such as spectrum cannot be overstated. Cell C has made several submissions to the Authority in this regard, as recently as in its public hearings on the State of Competition in the ICT Sector; held during the first week of October, 2014. Cell C has also made written submissions to the Competition Commission which it has copied to the Authority, and Cell C has addressed the Authority on its important role in relation to spectrum assignment and transfers, in a separate note to the Authority's advisors in the Vodacom/Neotel merger. We will shortly address the Authority on this matter again in our formal submissions. Therefore, we believe that the IMT Roadmap process should not be unduly rushed.
6. Cell C submission consists of two parts. Firstly, Cell C will deal with the general comments and then will respond to the Authority's accompanying questionnaire.

Yours faithfully



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**Graham Mackinnon**  
**Chief Legal Officer**

## General Comments

### 1. Objective of the Regulations

The Authority states that this consultation document aims to share the Authority's findings and draft proposals with regards to the roadmap for radio frequency spectrum for IMT. The Authority goes on to further state that this consultation builds on the 2013 Frequency Migration Plan regulations published in *Government Gazette 36334* ("FMP"). The Authority's objectives are to ensure universal availability of broadband services as well as a competitive telecommunications industry and to promote investment.

However, Cell C is concerned that this approach has created uncertainty where many critical processes are run concurrently and appear to be misaligned with previous regulations. Furthermore some of the critical issues pre-empt the imminent issue of spectrum policy/directives and therefore make it difficult to provide meaningful comments.

For example, Cell C understands that the Regulations deal with the following high level issues:

- (a) Feasibility Studies for bands 450-470Mhz,880-960Mhz, the migration of Neotel (877-880Mhz) and WBS (2600Mhz) as prescribed by the Frequency Migration Plan published in *Government Gazette 36334*;
  - (b) IMT Roadmap ( adoption TDD);
  - (c) SA Connect Policy targets;
  - (d) Universal Service Obligations;
  - (e) Managed Spectrum Park; and
  - (f) One Wholesale Operator to be assigned many TDD blocks of spectrum from different bands.
2. In terms of the FMP, regulation 5, "Preparation of a Radio Frequency Spectrum Assignment Plan", states that :

- "(1) A change in the use of a radio frequency band(s) must be initiated through a Radio Frequency Spectrum Assignment Plan for the radio frequency spectrum bands in the manner specified in the latest Radio Frequency Spectrum Regulations.*
- (2) With respect to the radio frequency migration process, a Radio Frequency Assignment Plan may include:*
  - (a) The process for migrating existing users and uses from their existing spectrum location, specifying the bands to which the users and uses will be migrated - including in-band migration where applicable.*
  - (b) The period for the reallocation of the radio frequency band in question, specifying the date at which the users to be migrated should cease transmission.*
- (3) A Radio Frequency Spectrum Assignment Plan shall be subject to public consultation:*
  - (a) The Authority shall publish the Radio Frequency Spectrum Assignment Plan in the Government Gazette, and invite interested persons to submit written representations as specified.*
  - (b) The Authority may, after any defined period for lodging comments by interested persons has passed, hold a public hearing in respect of the application."*

3. It is Cell C's view that after the publication of the FMP, the draft Frequency Spectrum Assignment Plans (RFSAP) should have been published for consultation. Feasibility studies should have been conducted in instances where there the migration requirements are complex (which is in most cases). This approach would have provided certainty to industry as the Authority would have followed through with its planned actions as determined by the FMP and conducted as a standalone process thereby avoiding any unintended consequences. The somewhat hasty nature of the current consultation does not anticipate this sort of process.

For example, an inconsistency arises with regards to the nature of the RFSAP process to be followed in terms of the FMP and the Regulations. The process in Regulation 2.1 paragraph 6 of the Regulations requires that *"Following the completion of the consultation process, the conditions for the use of the bands for IMT will be specified in the Radio Frequency Spectrum Plans (RFSPs). These RFSPs may be subjected to a limited consultation specifically, 2 weeks, as they will mainly confirm and consolidate what has already been consulted upon in the IMT road map."*

The process as contained in sub-regulation 5(3) of the FMP regulations requires the Authority to conclude a public consultation process, publish the RFSAP for written comments and then allow for oral hearings.

#### 4. Policy Directions and the Regulations

- a) The Authority published the Draft Spectrum Assignment Plan (Draft Plan) and Invitation to Apply for Spectrum (Draft ITA) in Government Gazette 34872 on 15 December 2011 for written comments. Concurrently the then Department of Communications (DoC) published Draft Policy Directions for Electronic Communications Services in High Demand Spectrum on 14 December 2011 in *Government Gazette* 34848. The Authority then published a notice in *Government Gazette* 35123, "Erratum: Draft invitation to apply for radio frequency spectrum licence" on 6 March 2012 stating that the ITA process would be postponed until further notice. It is unclear to Cell C if the Regulations are to be commented on taking into account the Draft ITA and Draft Plan as it was postponed until further notice and not repealed in its totality. Also of importance is the Regulations have contemplated matters that deal with the spectrum and broadband delivery mechanisms that are required to meet the ambitious broadband targets set out in the SA Connect Policy. Cell C is concerned that the Authority has initiated a regulatory process that anticipates dealing with high level broadband policy matters in the absence of clear spectrum policy/directions. Cell C cannot provide informed comments in a vacuum. The Authority risks the possibility that this process will be hamstrung by further delays due to legal challenges or that this process would be needed to be repeated in future.
- b) Cell C also strongly recommends that any subsequent regulations, specifically the framework and issuing of an ITA for spectrum in demand be held in abeyance upon such time the policy direction/s for the award of high demand spectrum are published by the Minister of Telecommunications and Postal Services, as required under the ECA. Cell C believes that these policy directions are imminent according to recent media reports where the Minister of Telecommunications and Postal Services has indicated that final policies will be issued within the next six months, before March 2015. In any event, Cell C disagrees with the view apparently held by some licensees, that if there is no policy direction then there is nothing to comply with. This view ignores the plain meaning of the ECA, and seeks to circumvent proper process.
- c) Cell C notes that the National Spectrum Policy of 2010 remains in place until and unless it is withdrawn. It is not obvious that the Authority has taken the requirements under this Policy into account, or indeed, engaged with the Minister on recommendations as to changes to this Policy or a policy direction. This is of course, an action that is always open to the Authority and would avoid uncertainty and inconsistency. The Constitution also requires "joined up" working and co-operation between entities of State.

d) In the last four years, the Authority has embarked on a journey towards the achievement of many regulatory milestones that are related to Radio Frequency Spectrum Management. Amongst these are the publishing of the 2010 NRFP (an update of the 2004 South African Table of Frequency Allocations, SATFA), the 2010 Radio Frequency Spectrum Fees Regulations, the 2011 Radio Regulations and the 2009 Terrestrial Broadcasting Frequency Plan. Furthermore, the Radio communications Sector (ITU-R) held the World Radio Conference (WRC) early 2012 that resulted in the most recent Radio Regulations and the updated 2013 National Radio Frequency Plan (NRFP). The FMP followed with bands that required users to migrate out of band to align with the NRFP. It is therefore important for the Authority to ensure that these Regulations are consistent and aligned with the aforementioned regulations with regard to assignments to licensees that conform to prescribed primary and secondary services.

## 5. ECA and Consultation

- a) In migrating users out of bands identified for potential future IMT services, it is imperative that the Authority ensures the objective to promote competition within the ICT sector as contained in Section 2 of the ECA read with Chapter 5 are observed at all times. Licensees who are required to migrate or complete an in-band migration should not unfairly benefit from the migration requirement by acquiring valuable radio frequency spectrum that is considered high demand spectrum (as was anticipated in the 2011 ITA process).
- b) Furthermore, the Authority must ensure that migration initiatives do not unfairly benefit licensees who plan to acquire spectrum through the process of a transfer from an existing licensee in terms of Section 31, subsection (2A) of the ECA. Cell C has made extensive submissions to the Authority on the proposed consolidation between MTN and Telkom Mobile on the one hand, and Vodacom and Neotel on the other hand, which anticipate that licensees may gain preferential access to one another's spectrum contrary to the requirements of the ECA.
- c) Finally Cell C applied for its own in-band migration within the 900MHz band almost 3 years ago and this application was only addressed two years later in the FMP. During this time, however, the Authority received, considered and awarded an application for 5MHz spectrum in the 2100MHz band from MTN, despite our opposition. Cell C is concerned that in exercising its powers and fulfilling its obligations, the Authority should at all times act impartially and consistently.

# Government Gazette

## GENERAL NOTICE

NOTICE 730 OF 2014

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA



PURSUANT TO SECTION 4 (1) OF THE ELECTRONIC COMMUNICATIONS ACT  
2005, (ACT NO. 36 OF 2005)

**HEREBY ISSUES A NOTICE REGARDING THE DRAFT IMT ROAD MAP FOR  
CONSULTATION – INVITATION FOR COMMENT DOCUMENT.**

1. The Independent Communications Authority of South Africa ("the Authority"), hereby publishes the **Invitation for Comments document on the Draft IMT (International Mobile Telecommunication) Roadmap for Consultation** in terms of section 2 and 4, read with sections 30, 31(4), and 33 of the Electronic Communications Act (Act No. 36 of 2005).
2. Interested persons are hereby invited to submit a hard copy as well as an electronic version of their representation on the Draft IMT Roadmap by no later than 16h00 on Tuesday, 7 October 2014.
3. When compiling their representation in terms of (2) above, respondents are required to respond to the questions using the attached template which can be obtained on the ICASA website: [www.icasa.org.za](http://www.icasa.org.za).

4. Written representations or enquiries may be directed to:
- The Independent Communications Authority of South Africa  
*Pinmill Farm Block A*  
*164 Katherine Street*  
*South Africa*
- Private Bag XI0002  
Sandton  
2146
- Attention:**
- Mr Manyapelo Richard Makgotlho  
e-mail: [rmakgotlho@icasa.org.za](mailto:rmakgotlho@icasa.org.za)

5. All written representations submitted to the Authority pursuant to this notice shall be made available for inspection by interested persons from 8th of October 2014 at the ICASA Library or website and copies of such representations and documents will be obtainable on payment of a fee.

Where persons making representations require that their representation or part thereof be treated as confidential, then an application in terms of section 4D of the ICASA Act, 2000 (Act No. 13 of 2000) must be lodged with the Authority. Such an application must be submitted simultaneously with the representation on the draft IMT roadmap. Respondents are requested to ensure that any confidential material is marked clearly as confidential or placed in an annexure which is titled confidential. Kindly note that should the request for confidentiality be refused, the person making the request will be allowed to withdraw the representation or document in question.

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**Dr SS MNCUBE**  
**CHAIRPERSON**



Invitation to Comment  
on the  
Draft IMT Roadmap

August 2014



# 1 Cover Sheet

**Title**

Chief Legal Officer

**Given Name(s)**

Graham

**Surname**

Mackinnon

**Representing (self /organisation)**

Organisation

**Name of organisation (if applicable)**

Cell C

**Contact telephone number**

084 777 7096

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graham@cellc.co.za

**1.1 Confidentiality**

See page 2 above.

**1.2 Declaration**

I confirm that the information supplied on the cover sheet may be incorporated into a formal consultation response: it can be published by ICASA, unless otherwise specified on this cover sheet, and I authorise ICASA to make use of the information in this response to meet its legal requirements.

Signed *at Buccleuch*  .....

Date *7 OCTOBER 2014* .....

## 2 Invitation to Comment

The Authority invites written comment from relevant stakeholders on the draft IMT Roadmap and Feasibility studies for IMT in 450-470 MHz and 880-960 MHz.

### 2.1 IMT450

#### 2.1.1 The Authority invites industry views on IMT usage in general in 450-470MHz.

Cell C supports the Authority in identifying the band 450-470 MHz as potential for future IMT services. In particular the resulting 20 Mhz may be used either as a gap filler in meeting the SA Connect Broadband rollout targets in the rural areas or for the needs of the Public Protection and Disaster Relief (PPDR) services. In the absence of an implementation plan for the SA Connect policy and the associated spectrum policy/directions, it is difficult for Cell C to present its views. The difficulty arises where it is assumed that the initial spectrum made available for SA Connect will be insufficient and later in time (2-9 Yrs) supplemented by this 20 MHz and that rural connectivity will not be prioritised. In addition, it is unclear to Cell C if an IMT ecosystem (equipment and device availability) will be ready and feasible to meet SA Connect rollout targets. There is a further risk that the timelines for the migration may actually occur much later than the timelines specified for rollout targets as contained in the SA Connect policy. Cell C recommends that if it is economically feasible to migrate existing users to alternate bands then this band should be cleared for future use. A decision for its future use should be dependent on the outcome of a study and the determination that a specific service would benefit from residing in this band. In this study, due consideration must be given in the most efficient use of the spectrum, utilisation of the band and the requirement in terms of section 34 (16) of the ECA for the Authority to consult with the Minister when migrating users that are government entities/organisations.

#### 2.1.2 The Authority invites industry views on IMT paired spectrum usage for PPDR.

Cell C does not have a specific view on the technology to be adopted in this band. However Cell C recommends that in deciding the type of technology to be adopted, the Authority must take the following into account:

- a) user trends and technology developments both nationally and internationally;
- b) economies of scale for standardised products ( end-user devices and network equipment);
- c) international roaming and interoperability between networks;
- d) cross network interference and cross border interference;
- e) efficient management and use of scarce spectrum; and
- f) ensure stable ICT sector

**2.1.3** The Authority invites industry views on IMT paired spectrum usage for the SA connect initiative.

See comments in 2.1.1

**2.1.4** The Authority invites industry views on IMT unpaired spectrum usage for M2M and smart energy/grid applications in South Africa.

The ECA and Cell C licence does not prescribe the provision of specific electronic communication services and promotes a technological neutral environment. Currently licensees provide M2M services and other applications in terms of existing spectrum licences using any of the assigned access spectrum. Cell C recommends that the reference to specific services be removed and that the spectrum should be used for provision of IMT services in general. This would be in line with the NRFP.

**2.1.5** The Authority invites industry views on the migration of incumbents (Transnet, SAA, Telkom, etc.) out of the 450-470 MHz band.

See comments in section 2.1.1

**2.1.6** The Authority invites industry views on the migration time line.

Cell C does not have any specific views on the exact migration timelines as this is dependent on the existing users in the band.

**2.1.7 The Authority invites industry views on destination bands.**

Cell C does not have a view on the destination bands. However Cell C recommends that suitable destination bands in the NRFP must be identified and agreed with the migrating users. The migration principles as contained in the FMP must be observed.

**2.1.8 The Authority invites industry to give any other inputs that must be taken into consideration when finalising plans for the IMT 450 band**

If it is decided that the band is going to be used for PPDR services, the Authority must consult with the relevant Ministry dealing with radio frequency spectrum.

## 2.2 IMT700

### 2.2.1 The Authority invites industry views on Option 1 (ITU Region 3).

The APT700 ecosystem is in its early stage of development however, we have been advised that a variety of multi-mode terminals, E2E TDD/FDD solutions, dongles and smartphones will be made available in the short term. It must be noted that many Latin and Asian countries have adopted this option.

APT700 is suitable where there is a requirement to provide better coverage in rural areas with minimal resources. This channel arrangements could provide for three operators each equally been assigned 2 X 15Mhz. However this option is spectrally inefficient.

Devices adapted for this option may be used in Region 1 ( Option 2).

### 2.2.2 The Authority invites industry views on Option 2 (ITU Region 1).

Cell C supports Option 2 as this is the most flexible option where the quantity of block sizes issued and the number of licensees can be varied to be tailored to meet South Africa's policy objectives. This option is a more spectrally efficient than Option 1 (ITU Region 3). This option provides for an additional 15 Mhz unpaired (TDD) which allows for the additional assignment to a TDD licensee where devices from China will be available. Option 2 further provides for accommodating roaming devices originating from both Region 1 and Region 3. It is Cell C understanding that the 800 Mhz channeling arrangements has already been adopted by Region 1 and therefore to accommodate IMT 700 dividend II, the channel plan for both IMT 700 must be harmonised with the existing IMT 800 channel plan (2 X 30 Mhz).

**2.2.3 The Authority invites industry views on Option 3 (ITU Region 1).**

This option is not favoured as the usage of the available 2 X 3MHz paired (FDD) is limited when deploying electronic communications services. Ideally, most LTE networks are deployed using 5 MHz bandwidth or more in world to provide these services. The unpaired (TDD) portion is reduced in size to 10 Mhz from 15 Mhz in Option 2. Therefore this approach leads to spectral inefficiencies.

**2.2.4 The Authority invites industry views on 2x3 MHz IMT band of ITU Region 1 solution.**

See comments in 2.2.3

### 2.2.5 The Authority invites industry views on other ITU Region 1 based suggestions.

No further comments

## 2.3 IMT750

### 2.3.1 The Authority invites industry views on IMT unpaired spectrum in the coverage band of 750 MHz.

Cell C does not have a specific view on the technology to be adopted in this band. However Cell C recommends that in deciding the type of technology to be adopted, the Authority must take the following into account:

- a) user trends and technology developments both nationally and internationally;
- b) economies of scale for standardised products ( end-user devices and network equipment);
- c) international roaming and interoperability between networks;
- d) cross network interference and cross border interference;
- e) efficient management and use of scarce spectrum; and
- f) ensure stable ICT sector

Cell C understands that there is a possibility of TDD harmonisation as there is user devices and equipment from China for this band



## **2.4 IMT800**

### **2.4.1 The Authority invites industry views on Option 1 (ITU Region 3).**

See comments on this 2.2.1.

### **2.4.2 The Authority invites industry views on the 2×3 MHz IMT band of Option 1 (ITU Region 3).**

See comments in 2.2.3

**2.4.3 The Authority invites industry views on Option 2 and 3 (ITU Region 1)**

See comments in 2.2.2

**2.5 IMT850**

**2.5.1 The Authority invites industry views on the migration of incumbents (Neotel, etc.) out of the band.**

Cell C supports the in-band migration of Neotel. However Neotel to ensure no interference with GSM-R. In addition GSM-R and Neotel will have uniquely assigned spectrum blocks. To ensure the objective of competition is not compromised. See Cell C General Comments, section 5 of this submission. Cell C believes that this migration will ensure sufficient spectrum for GSM-R into the future.

## 2.6 GSM900 spectrum consolidation

### 2.6.1 The Authority invites industry views on spectrum consolidation.

Contiguous assignments are desirable and are considered a key objective for refarming. Operators have launched commercial LTE 900 and devices are readily available.

It is observed that in some cases regulators do away with with internal guard bands, this improves spectral efficiencies. This transfers the interference responsibility to licensees, however Cell C prefers the Option with 0.2 Mhz GB at the edge of the band and inbetween licensees assignments to ensure interference protection. Cell C believes that the removal of GB's will be lead to a highly complex process to manage interference amongst operators. Overall the unused GB's would be reassigned in the new arrangement.

Countries are moving to standardising the assignment of 5 Mhz blocks as a unit across all IMT bands.

The 900 MHz assignments are technology neutral and therefore aligned with ECA, also provides for future refarming to accommodate new IMT technologies.

The Authority must promote competition as it is one of the objects of the ECA.

Intereference with GSM-R is reduced, Cell C will co-ordinate with GSM-R to ensure the avoidance of interference , Cell C has not received any interference complaints from GSM-R to date.

The result will ensure more available capacity to serve the end-user,two licensees will benefit from the migration which is an incentive in itself with limited impact on the third operator. Vodacom has benefited from been assigned a contiguous block from their startup whereas Cell C was not. Cell C subscribers will benefit and not be compromised from the migration.

The migration may take place during the operators retune period and Cell C estimates that it will take approximately two years for full migration.

Authority's role is to approve a clear and unambiguous migration framework which must consist of the following : strict timelines, co-ordination activities, communication plans, escalation process, disaster management process, a fall back process and dedicated project team.

It must be noted that Vodacom claims to have 99.9% voice network coverage and MTN has 79 % geographic coverage voice in the country, however, they need to replace 15 100 (R75.5m) cell extenders in the case of Vodacom and retune 4000 sites (R40m) repeaters in the case of MTN.

**2.6.2 The Authority invites industry views on guard bands.**

Cell C supports the 0.2 MHz GB at the edge between Cell C and GSM-R and further supports the 2 X 0.2 MHz GB's within the GSM900 band.

**2.6.3 The Authority invites industry views on the time line of spectrum consolidation, i.e. when it should be done.**

Cell C will be required to retune/replace about 1000 cell extenders. Cell C recommends it will take about 2 Yrs to execute this exercise as well including the revision of its spectrum plan.

**2.6.4** The Authority invites industry views on demand for IMT migration of 5 MHz taking into consideration the spectrum for IMT available in the 700 and 800 MHz bands.

If this is in reference to the Scenario 3 of GSM 900 consolidation section, firstly Cell C believes that 5MHz is not substantial enough to deploy LTE services but may be used to provide basic voice services. Secondly, by assigning this spectrum to one licensee ( this process is subjective and therefore challengable), this will lead to the assymmetric assignments in the band thereby prejudicing the other licensees. Cell C believes that this does not promote competition and therefore against one of the objectives of the ECA.

**2.6.5** The Authority invites industry views on need-based differentiated spectrum assignments in the 880-915 MHz (paired with 935-960 MHz).

The Authority is mandated in terms of section 2 of the ECA to promote competition. Cell C recommends that the Authority abide by this mandate.

**2.6.6** The Authority invites industry views on demand for IMT migration of 10 MHz, taking into consideration the new spectrum for IMT in 700 MHz and 800 MHz.

Cell C is unclear on the context of this question.

## **2.7 IMT2300 unpaired spectrum TDD**

**2.7.1** The Authority invites industry views on usage of 2380-2400 MHz.

Cell C understands that there is an ecosystem for this portion of the band. Global industry tends to fully utilize this band by assigning at least 30MHz per block in order to fully utilize the 2300-2390 bandwidth. Countries such as Japan, Hong Kong, China and Malaysia have adopted this band for TDD use. Cell C recommends that further interference studies be completed to ascertain level of interference with adjacent technologies like Wi-Fi. It is also recommended that a channel plan is developed. Cell C seeks clarity on the process followed by the Authority to award 60MHz and 20 MHz respectively to Telkom and SMMT in the 2300Mhz band for the provision of IMT services.

### 2.7.2 The Authority invites industry views on usage of 2290-2300 MHz for IMT.

Cell C does not have a specific view on the technology to be adopted in this band. However Cell C recommends that in deciding the type of technology to be adopted, the Authority must take the following into account when it plans to conduct consultations on this band:

- a) user trends and technology developments both nationally and internationally;
- b) economies of scale for standardised products ( end-user devices and network equipment);
- c) international roaming and interoperability between networks;
- d) cross network interference and cross border interference;
- e) efficient management and use of scarce spectrum; and
- f) ensure stable ICT sector

## 2.8 IMT2600 paired FDD spectrum

### 2.8.1 The Authority invites industry views on demand in the IMT2600 FDD band.

Cell C recommends that the Authority align this band with the ITUI C1 channel plan. The assignment of this band should be completed on the basis where there is demand for capacity requirements. This will result in the efficient use of the spectrum. Furthermore the appropriate spectrum block size must be assigned to ensure optimal use of the spectrum (minimum block size 2X20 MHz). Cell C understands that an ecosystem for this band exists.

**2.8.2 The Authority invites industry views on the migration of the incumbent (WBS), into 2380-2400MHz.**

Cell C recommends that the decision for WBS to migrate out of the 2600MHz band or complete an in-band migration has to be decided between WBS and the Authority. This consultation must follow the migration principles as contained in the FMP. The migration timelines must not be delayed as this will impact the ability to make spectrum available in the 2600 Mhz band. Cell C recommends that the band be cleared/in-band migration on an urgent basis. For further comments see section To ensure the objective of competition is not compromised, see General Comments,section 5 of this submission.

**2.8.3 The Authority invites industry views in-band migration of the incumbent (WBS), into IMT2600 unpaired spectrum.**

See comments in 2.8.2



**2.8.4 The Authority invites industry views on alternative destination bands for the incumbent (WBS).**

Cell C has no comments

**2.9 IMT2600 unpaired TDD spectrum**

**2.9.1 The Authority invites industry views on demand in IMT2600 TDD band.**

Cell C understands that the TDD ecosystem is mature in this band and multimode multiband smartphones are commercially available.

## **2.10 IMT3500 unpaired TDD spectrum**

### **2.10.1 The Authority invites industry views on migration out of 3400-3600 MHz from FDD usage to TDD.**

Cell C does not have a specific view on the technology to be adopted in this band. However Cell C recommends that in deciding the type of technology to be adopted, the Authority must take the following into account in deciding if FDD services are to migrate out of this band:

- a) user trends and technology developments both nationally and internationally;
- b) economies of scale for standardised products ( end-user devices and network equipment);
- c) international roaming and interoperability between networks;
- d) cross network interference and cross border interference ;
- e) efficient management and use of scarce spectrum; and
- f) ensure stable ICT sector

### **2.10.2 The Authority invites industry views on status and time line.**

Cell C has no comment

**2.10.3 The Authority invites industry views on interest in TDD downlink focused spectrum.**

Cell C does not support the prescription of the implementation of heavily focussed TDD downlink spectrum band, for example the Supplementary Downlink (SDL) configuration such as 10:0/9:1

There may be unintended consequences of this approach:

- a) if the UL and DL ratios are incorrect, this may result in the inefficient use of spectrum
- b) new licensees will not have access to the same spectrum if the downlink ratio is too high and under-utilised.
- c) there is a potential to slow down the growth of global LTE TDD ecosystem due to special configuration for chipsets and end-user devices.
- d) limit flexible assignments to existing and new licensees

Cell C recommends that the UL and DL ratio be determined at the discretion of the licensee.

**2.10.4 The Authority invites industry views on interest in TDD uplink focused spectrum.**

See comments 2.10.3, the same challenges will occur.

**2.10.5 The Authority invites industry views on interest in the introduction of a Managed Spectrum Park.**

Cell C believes that this concept was included in the Draft ITA in its most simplest form. Cell C believes that this concept is not envisaged in the ECA. It is difficult for Cell C to provide comments as the model is undefined with clear roles and responsibilities (co-ordination of spectrum ) of the Authority and licensees. Currently only the Authority can issue a spectrum licence and that spectrum licences may only be transferred from one licensee to another in terms of section 2A of the ECA.

**2.11 Operators opinion on one TDD-operator instead of every operator having parts of TDD spectrum**

**2.11.1 The Authority invites industry views on the TDD spectrum bundling of IMT450, IMT750 and IMT2600 and assignment to one (wholesale) operator.**

Cell C supports the principle of a national wholesale operator. The SA Connect Policy refers to this entity as a possible medium to deliver on the broadband rollout targets. It is Cell C view that the objective of the national wholesaler is to provide genuine national broadband coverage at an affordable price. The national wholesaler must be an open access, data only broadband provider on a non-discriminatory basis.

Cell C will support the pooling of the abovementioned spectrum with the 700 Mhz and 800 Mhz assignments for the national wholesaler to provide coverage and capacity shortfalls when the need arises in the future. Notwithstanding this, in the absence of policy/directions on spectrum to meet the SA Connect rollout targets it is inappropriate to pre-empt such policy/directions.

**2.11.2 The Authority invites industry views on the operator interest in individual IMT3500 assignments per operator or in one assignment to one (wholesale) operator.**

See comments in 2.11.1.

## **2.12 Universal service obligations for lower frequency bands (sub-1GHz)**

### **2.12.1 The Authority invites industry views on universal service obligations for lower frequency bands (sub-1GHz).**

Cell C is in agreement that there must be some form of universal service obligation (USO) attached to the access spectrum licence. Cell C is not in a position to indicate the nature of the universal service obligation (USO). Cell C believes that the USO for access spectrum below 1 Ghz is to be determined by Government. Government is best placed to determine the socio-economic needs, specifically broadband needs of all its citizens and implement the appropriate remedies in the form of relevant USO's. Therefore it is Cell C 's view that the USO requirement will be better served through a policy/direction/s.

## **2.13 Capacity licence obligations for new and existing IMT bands**

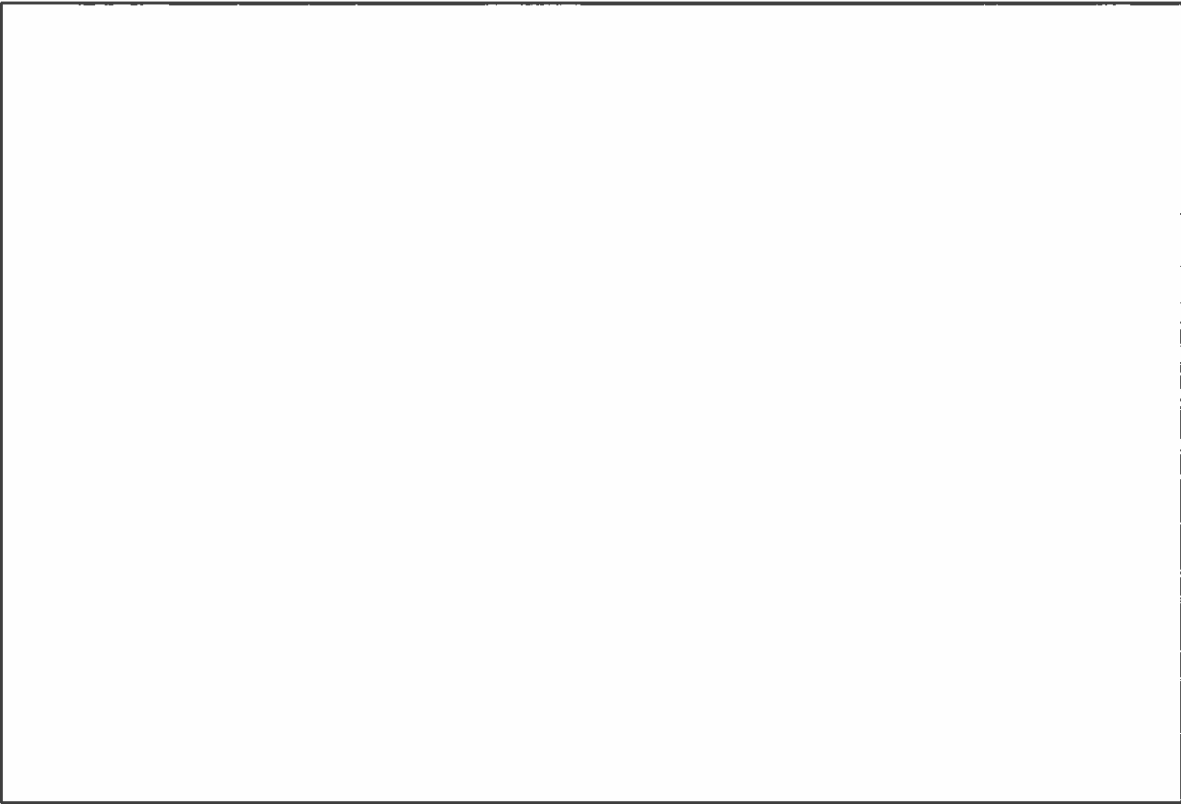
### **2.13.1 The Authority invites industry views on licence obligations for new and existing IMT bands, including infrastructure sharing.**

It must be noted that the Authority published the latest Universal Service Obligations for the 900MHz , 1800MHz and 2100MHz licences. See comments in 2.12.1 on USO's.

Cell C believes that the ECA, Chaper 8 provides for passive infrastructure sharing and through the facilities leasing regulations. Cell C recommends that the Authority finalise the essentail facilities leasing regulations to encourage the efficient sharing of infrastucture.

**2.14 Additional input**

**2.14.1** The Authority requests any other inputs that are deemed necessary and appropriate which should be taken into consideration.

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