



GROUP EXECUTIVE: REGULATORY AFFAIRS

Telkom SA Limited

Private Bag X780
Pretoria, 0001, South Africa

Tel +27 12 311 3598
Fax +27 12 311 2456
E-mail BarenAJ1@telkom.co.za
Our Ref 11/18/02/2013

18 February 2013

Mr Manyapelo Richard Makgotlho
ICASA
Block A
Pinmill Farm
164 Katherine Street
Sandton

Per email : rmakgotlho@icasa.org.za

Dear Mr Makgotlho,

**RE: TELKOM'S WRITTEN SUBMISSION ON THE 2nd DRAFT RADIO FREQUENCY
MIGRATION REGULATION AND RADIO FREQUENCY MIGRATION PLAN**

Telkom thanks the Authority for the opportunity to provide comments on the 2nd draft Radio Frequency Migration Regulations and Radio Frequency Migration Plan as published in Government Gazette No. 36031 (Notice 1064 of 2012) of 24 December 2012.

Telkom's comments pertaining to the 2nd draft Radio Frequency Migration Regulations and Radio Frequency Migration Plan are attached. We trust that our contribution will facilitate the further development of these documents.

Yours sincerely

DR ANDREW BARENDSE
GROUP EXECUTIVE: REGULATORY AFFAIRS

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**TELKOM'S SUBMISSION ON THE 2nd DRAFT RADIO FREQUENCY MIGRATION
REGULATION AND RADIO FREQUENCY MIGRATION PLAN AS PUBLISHED
24 DECEMBER 2012 IN GOVERNMENT GAZETTE No. 36031**

(NOTICE 1064 OF 2012)

1 INTRODUCTION

Telkom SA SOC Limited ("**Telkom**") welcomes the opportunity to provide comments on the 2nd draft Radio Frequency Migration Regulation ("**RFMR**") and Radio Frequency Migration Plan ("**RFMP**") as published in Government Gazette No. 36031 (Notice 1064 of 2012) of 24 December 2012. In Telkom's written submission we will collectively refer to these two documents as the ("**Consultation Document**").

The submission is structured as follows: Section 2 provides an Executive Summary of Telkom's main arguments whereas Section 3 presents general concerns with regard to the Consultation Document. This is followed by specific comments on the draft RFMR and RFMP in Sections 4 and 5, respectively. Section 6 concludes the submission with proposed editorial amendments to the Consultation Document.

It should be noted that certain issues are reiterated in line with Telkom's previous submission on the 1st draft Consultation Document. However, the omission of other issues addressed in Telkom's previous submission, should not be construed as indicating a change in position.

Telkom trusts that our proposals will assist the Authority in the favourable review of the Consultation Document.

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2 EXECUTIVE SUMMARY

Telkom acknowledges the considerable efforts taken by the Authority to review the Consultation Document and supports the second iteration in several areas including, amongst others:

1. Significant improvements to the overall drafting and structure of the Consultation Document
2. A revised frequency migration process, which highlights the requirements for feasibility studies where contentious issues arise or where alternative options exist.
3. Development of a model Radio Frequency Assignment Plan, which provides further insight as to the practical implementation of the frequency migration plan.

Telkom's main concerns with regard to the Consultation Document can be summarised in the following points:

1. Compensation: Telkom is the view that non-entitlement to compensation could be construed to be an arbitrary deprivation of property on the basis that compensation is out-rightly excluded from being considered in the migration process and that the constitutionally enshrined prescripts of due process are not considered therein. Telkom recommends that compensation for migration be considered on a cases-by-case basis, where it may be constitutionally warranted. Moreover, Telkom encourages the Authority to explore alternate forms of compensation that may be used to offset migration costs.
2. Spectrum Licence Duration: Telkom strongly opposes the notion of a spectrum licence being one year in duration and thus revocable at any time. Telkom recommends that the Authority carefully consider the economic and social implications of revoking a spectrum licence prior to taking action on same.

3 GENERAL COMMENTS

3.1 Entitlement to Compensation (see also comments made in section 4.2.2 below)

Telkom notes that our inputs to the 1st draft of the Consultation Document on the issue of compensation do not seem to have been considered by the Authority in formulating the 2nd Draft. Telkom is concerned with the statement in Regulation 3(5) of the RFMR, which states that “*users to be migrated shall not be entitled to be compensated by the Authority for the costs of migration.*” Telkom is of the view that ICASA’s actions could be construed to be an arbitrary deprivation of property on the basis that compensation is out-rightly excluded from being considered in the migration process and that the constitutionally enshrined prescripts of due process are not considered therein.

In general, some operators could potentially face exorbitant migration costs due to *inter-alia* the procurement of new equipment, deployment of new equipment, recovery of old equipment and the migration of their customers to new technology platforms.

3.1.1 Spectrum Licences as Constitutionally protected property

Telkom is of the view that the Authority’s position as reflected in Regulation 3(5) poses significant difficulties in relation to its consistency with the provisions of section 25(1) of the Constitution of the Republic of South Africa. In this regard, section 25 (1) reads as follows:

“No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property.”

It is common cause that section 25(1) of the Constitution concerns the prohibition of unlawful expropriation or deprivation of property. It is also common cause that the scope and application of section 25 is not limited to land but operates to prohibit the unlawful expropriation or deprivation of other interests which are proprietary and serve to confer rights which have a commercial value. Indeed, section 25(4)(b) of the Constitution explicitly provides for the contemplated scope of protection to extend beyond land proprietary interests. Further, Van der Walt asserts that “one would expect constitutional property to include ... commercial property interests [for example] licenses” and refers to state controlled and granted commercial property interests which include licences, quotas and permits as constituting proprietary interests capable of being afforded protection under section 25 of the Constitution.¹ Van der Walt proceeds to elaborate further on his rationale by stating that:

¹ AJ Van Der Walt *Constitutional Property Law* (2005) at page 100.

“Due to their origin in administrative awards, there is resistance to recognising and protecting licenses, permits and quotas as property. However, in foreign law some of these interests have enjoyed limited constitutional protection. The reason why constitutional property is sought for these interests is because they may acquire commercial value, especially when they can be sold and transferred. Such licenses, permits and quotas will usually only be regarded as property if they have commercial value and have vested and been acquired in line with the relevant requirements as set by statute or regulation. It becomes apparent that licenses, permits and quotas may be protected as constitutional property if they display certain characteristics that may be analogised to property, namely that they have acquired value and have vested according to the relevant statutory or regulatory requirements.² There is no other constitutional right that could provide protection for these interests; therefore application of the property clause may be suitable if the interests conform to these strict requirements. Even though licenses, permits and quotas may be recognised and protected as property for constitutional purposes, they are still subject to administrative regulation, amendment and cancellation.”³ (own emphasis)

Internationally and in line with the above principles stated licenses, permits and quotas have been accepted or recognised as being property in some cases.⁴

3.1.2 The draft RFMR amount to deprivation of constitutional property

The deprivation of property by the state may be lawful provided that it is not arbitrary and it is carried out in terms of a law of general application.⁵ The precise means by which a person may be deprived of their property has been considered by the Constitutional Court in *First National Bank of South Africa Limited t/a Wesbank v The Commissioner for the South African Revenue*

³ Mikhalien Kellerman *The Constitutional Property Clause and Immaterial Property Rights* (2011) Dissertation submitted in partial fulfilment of the requirements for the degree of Doctor of Laws at Stellenbosch University, promoted by Professor AJ Van Der Walt.

⁴ *Tre Traktorer AB v Sweden* [1989] ECHR Series A vol 159 (European Court of Human Rights) (liquor licence); *Hand v Dublin Corporation* (1991) IR 409 (Ireland, casual trading licence); *Hempenstall v Minister for the Environment* (1994) 2 IR 20 (Ireland, taxi licence); *Bahador v Attorney General* (1989) LRC (Const) 632 (CAT&T) (Trinidad & Tobago, driving licence); *Lawlor v Minister of Agriculture* [1988] ILRM 400, [1990] 1 IR 356 (Ireland Milk Quota).

⁵ Ian Currie and Johan De Waal *The Bill of Rights Handbook Fifth Edition* (2005) at page 541 interpreting section 25(1) of the Constitution.

Services and the Minister of Finance, where broadly any interference with the use, enjoyment or exploitation of property was considered as a deprivation of that property.⁶

The Constitutional Court has also held in *Mkontwana v Nelson Mandela Metropolitan Municipality* that “whether there has been deprivation depends on the extent of the interference with use, enjoyment and exploitation.”⁷ Further, in elaborating on the grounds upon which deprivation may be considered to be arbitrary, Currie and De Waal contend that “[a] deprivation is arbitrary if it follows unfair procedures, is irrational or is for no good reason.”⁸

While Telkom is of the view that the radio frequency spectrum amounts to property which is capable of being protected under section 25 of the Constitution, Telkom also considers the authorisations granted by the Authority in the form of radio frequency spectrum licences to amount to proprietary interests that are equally capable of being protected under section 25 of the Constitution. As such, any expropriation or deprivation of such property interests must not be undertaken in an arbitrary manner.

Having regard to the contemplated operation of the mechanism by which licensees are to be migrated from their existing spectrum assignments in the RFMR, Telkom is of the considered view that such schema serves to significantly undermine the protection afforded to radio frequency spectrum licences under section 25 of the Constitution and may amount to arbitrary deprivation of property. In this regard, the considerable administrative exercise entailed in effecting the migration of licensees’ current radio frequency spectrum assignments in accordance with the migration schema as contemplated in the RFMR clearly constitutes an interference with the rights and entitlements conferred upon a licensee to use and exploit that portion of the radio frequency spectrum which has been assigned to it by the Authority. Further, Regulation 3(5) of the RFMR operates to exacerbate the extent to which a licensee’s property may be considered to have been arbitrarily deprived in that the Authority has provided that “users to be migrated shall not be entitled to be compensated by the Authority for the costs of migration.” This absolute statement is in contrast to the Authority’s concession that there are costs involved in the migration of licensees from their current assignments. Here, the Authority states at Regulation 3(6) of the RFMR that “To the extent that it is possible, the cost of migration

⁶ *First National Bank of SA Limited t/a Wesbank v Commissioner for the South African Revenue Services and Another; First National Bank of SA Limited t/a Wesbank v Minister of Finance* (CCT19/01) [2002] ZACC 5; 2002 (4) SA 768; 2002 (7) BCLR 702 (16 May 2002).

⁷ *Mkontwana v Nelson Mandela Metropolitan Municipality* (CCT 57/03) [2004] ZACC 9; 2005 (1) SA 530 (cc); 2005 (2) BCLR 150 (CC) (6 October 2004), at paragraph 32..

⁸ *Ibid* at paragraph 67 quoting the Bill of Rights Handbook at page 422.

should be minimised by considering, amongst other things, the duration of the licence and the economic life of the equipment.”

It is the substantial costs associated with giving effect to the migration schema and the Authority’s resistance to consider providing for the amelioration of same that clearly posits the migration schema as operating to arbitrarily deprive licensees of their right to use and exploit their proprietary rights accruing from radio frequency spectrum licences. Further, the proposed schema, which is contemplated to operate indiscriminately and without due regard to the peculiar circumstances faced by each licensee in relation to the specific range of radio frequency spectrum bands serves to aptly demonstrate the unreasonableness of the migration schema and its susceptibility to operate arbitrarily.

However, Telkom is of the view that notwithstanding the concerns set-out above, that the operation of the migration schema may be augmented such that its practical implementation does not materially risk violating section 25 of the Constitution. In this regard, Telkom is of the considered view that in instances where the Authority proposes to migrate a licensee from a specific range of the radio frequency spectrum and the licensee wishes to continue utilising the radio frequency spectrum for its commercial operations, that the Authority prioritise the assignment of such licensees to alternative ranges of the radio frequency spectrum on *no less favourable terms and conditions* relating to their current assignments. Crucially, these licensees ought to be guaranteed the assignment of the radio frequency spectrum which would be equal or equitable to that previously enjoyed. Further, given that the Authority has implemented the Radio Frequency Spectrum Fee Regulations 2010, Telkom is cognisant that these regulations impose different spectrum fees for different uses and different ranges of the radio frequency spectrum. In this regard, in instances where a licensee is to be migrated to a different range of the radio frequency spectrum, such licensee, at least throughout the course of the migration, ought *not* to be liable for the payment of either of the radio frequency spectrum fees for their current *and* future assignments. There is, of course, the risk that were the Authority not to accede to this proposal, that a licensee would be compelled to pay for the radio frequency spectrum which it may be in fact not be using due to the operation of the migration schema. This consequence would clearly be unintended and indeed undesirable.

Further, Telkom proposes that compensation for migration be considered on a cases-by-case basis where it may be constitutionally warranted and in accordance with due process. Further, Telkom is of the view that that the Authority ought to consider other means by which the considerable costs associated with migration may be ameliorated such that the deprivation is not considered to be arbitrary or unreasonable. In this regard, Telkom recommends consideration of, amongst others, proposals made in ITU-R Recommendation SM.1603-1, which include the following:

- Reduced or no spectrum license fees for operation in the old and/or new band; and

- The establishment of a redeployment fund to compensate users for having to vacate their existing assignments.

Clearly, ITU-R Recommendation SM.1603-1 explicitly recognises that adequate compensation is an important aspect of spectrum migration and the ITU has different models in which compensation can be administered. To this end, Telkom strongly urges the Authority to have regard to the prescriptions of ITU-R Recommendation SM.1603-1 in the Authority's endeavours of strengthening the proposed migration schema such that it does not operate to arbitrarily and unreasonably deprive licensees of their constitutionally guaranteed right to property.

3.2 Spectrum Licence Duration and Renewal (see also section 4.4.3 of 1st submission and section 5.2.4 below)

Telkom notes Regulation 2.1.3 and Regulation 2.3.1 of the RFMP which respectively state that:

"[t]he radio spectrum licenses in South Africa are in principle granted for a period of 12 months or one year" and "Neither in the Act, nor in the regulations are there any rights on users to retain spectrum. The spectrum license is currently valid for one year and a spectrum licence can be revoked at any time."

In general, spectrum licences are acquired based on the assumption that these licences will be renewed on an annual basis. As a result, operators make significant medium to long term investments towards continual network expansion and upgrade, with the expectation of recovering these investments over a lengthy period of time which is invariably more than one year. Therefore, the notion of a spectrum licence being one year in duration and thus revocable at any time, albeit in line with the Radio Frequency Spectrum Regulations, is unreasonable.

Apart from the potentially exorbitant financial losses that may be incurred due to the revocation of licenses, the ability of an operator to fulfil its service obligations will be negatively impacted. Moreover, the uncertainty in licence duration contradicts section 2(d) and (z) of the ECA, which speak to encouraging investment in infrastructure and promoting stability in the ICT sector, respectively. Internationally, it is common practice that spectrum licenses are of 10, 15 or 20 year duration – and there are no reasonable grounds to presume that the situation in South Africa should be any different. However, it is acknowledged that for certain licenses, for example PMR, the licence duration could be for substantially less durations. Telkom recommends that the Authority carefully consider the economic and social implications of revoking a spectrum licence prior to taking action on same.

The Authority takes cognisance of the cost of migration at Regulation 3(6) of RFMR and notwithstanding this provision the Authority specifically excludes the possibility of compensation. The duration of the licence to be considered when dealing with migration should also include "the duration of time that the spectrum licensee has had its licence for" or the amount of times the licence has been annually renewed by the Authority in line with the Authority's interpretation

that these are one year licenses. In its present formulation, Regulation 3(6) of the RFMR, when read with the RFMP provisions such as 2.1.3 and 2.3.1, lends itself to various interpretations of the concept of duration.

Furthermore, using the migration period from SABRE (South African Band Re-Planning Exercise) as guidance to migration times is misplaced and unfounded. It should be noted that, at the time of publishing SABRE, some of the technologies earmarked for migration have been operational for many years and in some case even surpassed their technology life cycle and could therefore be migrated.

3.3 Publication and status of the RFMP

It is still not clear to Telkom in what format the RFMP will be published and what status the proposed RFMP will have.

- a) Government Gazette No. 36031 comprises two parts. Part 1 (RFMR) is in a format suitable for publication as a standalone Regulation; Part 2 (RFMP) however is currently unsuited for publication as a standalone document and at the same time is seemingly not to be published as part of the RFSR. Telkom recommends that these two documents be published separately for the following reasons:
- Whereas the RFMR outlines the general framework for migrations and should therefore stand the test of time, the RFMP will require more frequent updating and should therefore be published separate from the RFMR.
 - In accordance with the ECA definition of NRFP, the RFMP is an integral part of the NRFP and should therefore be associated with the NRFP.

Telkom wishes to provide the following suggestions:

- Incorporate the RFMR in the RFSR seeing that this is another regulatory spectrum management tool to be part of the RFSR.
 - Whereas ideally the RFMP would be published with the NRFP, this is maybe impractical due to the size of both these documents, taking into account the cost associated with publishing or re-publishing such large documents. Therefore, Telkom recommends that the RFMP be published as a standalone document but linked directly to the NRFP.
- b) On the issue of status, it would seem that the intent is to publish the final RFMP as a “Proposed” Migration Plan, as indicated in section 4.9 and in the title of Table 3. This is confirmed by the last sentence of section 4.9 namely: “*This table only includes those bands where frequency migration is under consideration...*” (own emphasis). Telkom’s comments in its written submission and in particular to section 4.9 of the draft RFMP, is based on the assumption that, whereas the RFMP provides all possible migrations to be considered in future, the actual process of migration will be implemented on a band-by-band basis through the development of a radio Frequency Spectrum Assignment plan

(“**RFSAP**”). This is captured in the various sections addressing the “process” for migration, in particular section 3.2 of the draft RFMP.

- c) Another point to be addressed is the uncertainty as to the final format of the RFMP. In section 4.10, each frequency band consists of two parts namely the original part (as presented in the 1st draft RFMP) and the part titled “*Outcome of 1st Consultation*”. In many cases the original position of the Authority has changed. The issue is that the current document now contains both the old view and the new view. It is not clear how the Authority will publish the final RFMP; will these two sections be combined or will it be published as currently contained in the draft RFMP. Telkom recommends that the two sections must be merged to ensure that the context remains while conflicting views are eliminated. Also, the final text must align with the text as contained in Table 3.

4 SPECIFIC COMMENTS ON DRAFT RADIO FREQUENCY MIGRATION REGULATION

4.1 Section 1 (“Definitions”)

4.1.1 Definitions to be added to RFMR

- a) Whereas terms such as “migration”, “allocation” and “assignment” are defined in the RFMP, these terms are also used in the RFMR. Since the RFMR is the overarching regulation governing frequency migration (i.e. it purports to establish the migration framework), Telkom recommends that these definitions be included in the RFMR. The explanation and/or background to these terms could be retained in the RFMP, if needed.
- b) Additionally, a definition for “re-farming”, although currently not used in the RFMR, should also be included in the RFMR for sake of completeness and to avoid any ambiguity. Furthermore, it is recommended that the concept of “re-farming” be added as another principle in section 3 of the RFMR. Telkom recommends to insert the following principle:

“(4bis) Frequency migration and re-farming are spectrum management tools that may be utilised in order to make spectrum available for new uses”

4.2 Section 3 (“Principles”)

4.2.1 Subsection 3(4): Incorrect use of terminology

<p>(4) Allocations and assignments of radio frequency spectrum that are no longer in line and accordance with the National Radio Frequency Plan will be migrated.</p>

The terms “allocation” and “assignment” are defined by the ITU, as also captured in section 1.2.1 of the draft RFMP. The application of these two terms is also addressed in the ECA in sections 34(2), dealing with the allocation of services to frequency bands in the NRFP, and 34(3) addressing the Authority assigning frequencies to licensees consistent with the NRFP. As indicated in section 34(3) of the ECA, the Authority must assign frequencies consistent with the NRFP, i.e. consistent with the allocations as contained in the NRFP. It is therefore common cause that a two-stage process is followed namely the development (or amendment) of the NRFP and the assignment of frequencies to licensees.

Whereas it is agreed that “assignments” that are not in line with the NRFP must be migrated, “allocations” as such are not “migrated”, as purported in section 3(4) of the draft RFMR. Where migration of a user has to take place, the designated frequency band to which the user is to be migrated, should contain the relevant radiocommunication service allocation (e.g. fixed, broadcasting or mobile) in the NRFP in order to implement the migration. Changes in spectrum allocations are implemented by amending, suppressing or adding an allocation to a radiocommunication service in the NRFP, through the standard public consultation process as

prescribed in section 34 of the ECA and usually as a result of decisions taken by a WRC. It is important to note that this amendment or updating of the NRFP is not referred to as “migration” but is a standard amendment process as with any other regulation. Following the process of updating the NRFP, migration and/or re-farming may or may not occur or be required. The principle of “migration of an allocation” is therefore not defined and Telkom respectfully recommends that subsection 3(4) be amended as indicated below:

~~“Allocations and a~~Assignments of radio frequency spectrum...will be migrated”

4.2.2 Subsection 3(5): Compensation

(5) The users to be migrated shall not be entitled to be compensated by the Authority for the costs of the migration.

In line with comments presented in section 3.1, Telkom proposes replacing subsection 3(5) with the following:

“The Authority shall consider compensation for the cost of migration on a case-by-case basis.”

The consideration of compensation must be done as part of the feasibility study and should also be an element of the RFSAP.

4.2.3 Subsection 3(6): Minimising Migration Costs

(6) To the extent that it is possible, the cost of migration should be minimised by considering, amongst other things, the duration of the licence and the economic life time of the equipment.

The issue of licence duration is also addressed in section **Error! Reference source not found..**

Whereas Telkom agrees that the duration of a licence must be considered in order to minimise cost of migration, we are concerned that the term “duration of the licence” is purported to refer only to 12 months or one year, as indicated in section 2.1.3 of the draft RFMP. The administrative process of annual licence renewal through the payment of spectrum fees should not be seen as the licence duration in the context of migration. In the context of migration the duration of a licence should take into account the date of issuance of the licence and the expected duration of the licence going forward.

5 SPECIFIC COMMENTS ON DRAFT RADIO FREQUENCY MIGRATION PLAN

5.1 Section 1 (“Introduction”)

5.1.1 Subsections 1.2.1 (“ITU Definitions”)

The ITU does not define spectrum migration as such.

Telkom agrees that the term “migration” is not defined in the ITU Radio Regulations; the reason being that frequency migration is generally a national matter. However, it is misleading to make a statement that the ITU does not define spectrum migration without elaborating on this. As indicated in our initial submission, the ITU defines “spectrum redeployment” or “spectrum refarming” in ITU-R Recommendation SM.1063-1. This ITU recommendation has been adopted by the ITU membership in September 2012. Telkom therefore respectfully recommends that the above statement be changed as follows:

“The ITU does not define spectrum migration as such; however, it does recommend definitions for spectrum redeployment or re-farming in ITU-R Recommendation SM.1063-1.”

5.1.2 Subsection 1.2.2 (definition of re-farming)

Telkom would respectfully suggest the following minor change to the definition of re-farming:

“Radio Frequency Spectrum Re-farming” means the process by which the use of a Radio Frequency Spectrum band is changed following a change in allocation, this may include change in the specified technology and does not necessarily mean that the licensed user has to vacate the frequency.

“Radio Frequency Spectrum Re-farming” means the process by which the use of a Radio Frequency Spectrum band is changed ~~following a change in allocation~~, this may include change in the specified technology and does not necessarily mean that the licensed user has to vacate the frequency.”

The reason for this suggestion is that re-farming is not always dependent on a change in allocation. For example, the re-farming of the GSM bands to accommodate new technologies is implemented whereas the allocation to mobile service in these bands remains unchanged.

5.1.3 Subsection 1.2.3 (“Other Definitions”)

Editorial change to section 1.2.3

In some cases, a radio spectrum user may not only have his assignment changed in the same band, but have a new spectrum allocated in a different band. This has occurred with respect to the balancing of spectrum assignments in the GSM 900 MHz and 1800 MHz bands (refer to Appendix B **Error! Reference source not found.**) and may well become a feature of mobile broadband assignments in the future.

Telkom recommends that the word “allocated” in the second sentence be changed to “assigned” in order to align with the use of these terms as defined by the ITU and also captured in section 1.2.1 of the draft RFMP. Telkom therefore recommends the following editorial change:

“...changed in the same band, but have a new spectrum ~~allocated~~ assigned in a different band...”

General editorial change to section 1.2.3 and throughout the document

As a general point, Telkom respectfully request the Authority to editorially amend the RFMP to remove all references to Appendix B, which according to Telkom’s reading, no longer exists in this 2nd draft Consultation Document.

Apart from the editorial nature of this matter, it is also a substantial issue since these references to non-existing Appendices means that the full extent and implication of the text in the Consultation Document cannot be assessed.

5.1.4 Subsections 1.3 (“Spectrum use in the Karoo Central Astronomy Advantage Areas”)

1.3 Spectrum use in the Karoo Central Astronomy Advantage Areas

The radio frequency spectrum use in the Karoo Central Astronomy Advantage Areas to be declared in the Northern Cape Province must be protected for radio astronomy purposes in terms of the Astronomy Geographic Advantage Act (Act No.21 of 2007). Section 22 of the AGA Act provides specifically for Restrictions on use of radio frequency spectrum in astronomy advantage areas.

Telkom welcomes the incorporation of issues pertaining to frequency migration as related to the Astronomy Geographic Advantage Act (“**AGA**”) and Astronomy Advantage Areas (“**AAA**”) as this was also requested by Telkom in its written submission during the 1st consultation process. Nevertheless, Telkom wishes to make the following comments pertaining to this section 1.3:

- Considering that section 1.3 is a very general statement on this matter, Telkom believes that the reference to the Karoo Central AAA is probably too specific and should either be

made more general or should be elaborated to address issues related to the Karoo AAA. It is also not clear why reference is limited to the central AAA and does not also include the core AAA.

- Although Telkom would prefer to have more details as to the interaction and workings between the Management Authority, ICASA and spectrum licensees pertaining to frequency migration within the declared AAA, it is acknowledged that the development of specific rules and procedures at this stage may be difficult considering that not all relevant and required astronomy related regulations have been prescribed.
- Telkom therefore respectfully recommends that this section either be elaborated to the extent possible or be made more generic to cover all possible AAA related developments. Nevertheless, this is a matter that will have to be addressed as further AAA related regulations are prescribed.

5.2 Section 2 (“Applicable Legislation and Regulations”)

5.2.1 Subsection 2.1.3 (“Chapter 3 – Licensing Framework”)

2.1.3 Chapter 3 – Licensing Framework

Section 31(1) and (2) of the Act dealing with the radio frequency spectrum licence interlinks with Chapter 3 of the Act which in principle deals with the award of licences for individual and class licences for the provision of services, and clarifies that a person cannot provide services which require the use of the radio frequency spectrum without a radio frequency spectrum licence. **Spectrum Licence Duration**

The process of migrating users will not have an impact on the duration of their radio frequency spectrum licences. The radio frequency spectrum licences in South Africa are in principle granted for a period of 12 months or one year. In the case of multi-year licences, migration will not fall within the period of the multi-year licence.

Section 2.1 of the RFMP reviews the applicable provisions of the ECA as it relates to frequency migration. However, subsection 2.1.3 addresses, *inter alia*, the issue of “spectrum licence duration”, which is not covered in the ECA and therefore out of the scope of section 2.1. Telkom therefore recommends that the second part of section 2.1.3 be incorporated with section 2.3.1 of the draft RFMP, which section deals with the same issue of licence duration (Radio Frequency Spectrum Rights).

Furthermore, it is not clear whether the phrase “*Spectrum Licence Duration*” at the end of the first paragraph should be a heading for the second paragraph or was it part of an incomplete sentence. Telkom respectfully request that this be corrected in order to avoid ambiguity.

With regard to the issue of licence duration, please refer to Telkom’s comments in section 3.2 above.

5.2.2 Subsection 2.1.4 (“Astronomy Geographic Advantage Act”)

In line with Telkom’s comments made in section 5.1.4 above, Telkom recommends that this section be further elaborated. The majority of text captured in section 2.1.4 of the draft RFMP is a simple copy and paste from the AGA with seemingly no attempt to conceptualize this in relation to the Authority’s proposed frequency migration plan. Telkom respectfully submits that the inclusion of this text in the RFMP has little value if it is not analysed, contextualised and applied in the context of the Authority’s frequency migration endeavours. There is also no conclusion drawn from these provisions in relation to migration.

5.2.3 Subsection 2.2.1 (“Radio Frequency Spectrum Regulations”)

As indicated above in section 5.2.2, Telkom respectfully submits that the addition of provisions from other legal instruments, in this case from the RFSR, into the RFMP without any additional analysis or conceptualization of the relevant text adds very little value to the RFMP. In particular, the Authority’s views and application of Regulation 15 is of great concern to Telkom and must be addressed, as also indicated in section 3.2 above. Telkom is also concerned that in this case the provisions as contained in Regulation 15 have been copied only partially which could perplex the matter further.

5.2.4 Subsection 2.3.1 (“Radio Frequency Spectrum Rights”)

Telkom’s comments below should be read in conjunction with the comments made in section 3.2 above.

Radio frequency spectrum rights

- a) Whilst Telkom could agree that a spectrum licensee does not have continued tenure (indefinite use) of a spectrum assignment, as also indicated in the National Spectrum Policy (section 6.2) and the RFSR (Regulation 15(1)), Telkom is concerned regarding the statements made in section 2.3.1 of the draft RFMP. In particular Telkom’s concerns pertain to the following statements: (1) that the user has no right to retain the spectrum; (2) that spectrum is valid for only one year and (3) that spectrum can be revoked at any time. Telkom believes that these statements must be further elaborated or amended since they are misleading in their current context and do not reflect reality. Telkom wishes to expand further on this issue:

1. A user has no right to retain spectrum

Telkom would argue that, although there is no absolute right to retain spectrum, a spectrum licensee, while providing services and operating within its licence conditions, does have a right to retain such spectrum. The right to use the spectrum is provided through a Radio Frequency Spectrum Licence.

2. Spectrum is valid for only one year

Whereas it is true that a spectrum licence is generally “renewed” annually, this is seen as an administrative process in order to collect the prescribed spectrum fees. According to section 15(2) of the RFSR, a licence is “renewable by payment of the prescribed annual licence fee”. There is definitely an expectation that the spectrum licence will be renewed automatically on payment of the prescribed fee. In particular with regard to the rollout of national networks, such as mobile cellular networks, there is an expectation regarding the continued use of the assigned spectrum for an extended period, for example 10 – 15 years. This certainty is necessary in order to raise the required capital and to be able to plan and build a national network through a sustainable business case spanning many years in order to provide telecommunication services. This is also supported by the main objective of the Act namely to support public interest (ECA, section 2, Object of Act). Moreover, the uncertainty in licence duration contradicts section 2(d) and 2(z) of the ECA, which speaks to encouraging investment in infrastructure and promoting stability in the ICT sector, respectively.

3. Spectrum can be revoked at any time

Whereas this may be true, it must be qualified since a spectrum licence cannot be revoked “at any time” without just cause. This is also supported through various legal instruments such as the ECA, RFSR and spectrum licences; examples are provided below:

- a) Section 31(7) of the ECA stipulates that the Authority may withdraw any spectrum licence “*when the licensee fails to utilise the allocated radio frequency spectrum in accordance with the license conditions*” (own emphasis added). Therefore, clear reasoning is provided as to why the licence is to be withdrawn.
- b) The RFSR, in its section 12 (“*Procedures in respect of Spectrum Licence Withdrawal*”), fully aligns with the ECA by stating that the procedure for withdrawal of a spectrum licence will be done as outlined in sections 31(7)-(10) of the ECA.
- c) Section 12(3) of the RFSR provides substantial detail as to the circumstances leading to the suspension of a spectrum licence; all these reasons are valid and supported.
- d) In terms of, for example, Telkom’s Radio Frequency Spectrum Licence for the use of the 2100 MHz frequency band, the licence is annually renewable “*upon payment of the prescribed annual licence fee*”. Furthermore, it is stated that “*the licence shall commence on date of issue hereof and shall continue until expiry or termination, for any reason, of the licence*” (own emphasis added). The reasons for termination are contained in the ECA and the RFSR as indicated above.
- e) According to Telkom’s “Bulk RFSL”, the reasons for termination are specified in section 8 (“Revocation”).

In conclusion, whereas Telkom agrees that the Authority has a right to change the use of spectrum at any time as part of proper spectrum management, and that migration may be implemented if needed as also indicated in section 34(16) of the ECA, this must be done in a responsible manner considering many pertinent issues, as also identified in the Consultation Document, including the duration of the radio frequency spectrum licence. However, although the Authority repeatedly states throughout the draft RFMP that “sufficient or appropriate” time is required for migration, Telkom remains concerned that the Authority is seemingly purporting the idea that in the consideration of migration a spectrum licence is valid for only one year and can therefore be revoked at any time.

It is purported that the international benchmark supports the Authority’s position in this regard. It is however not possible to assess this statement since there is no Appendix B included in the Consultation Document. As indicated above, there are ample international examples of spectrum licences being awarded for periods of 5, 10 or 15 years.

Process for spectrum migration (page 21/94)

- a) The paragraph dealing with “*The process for spectrum migration shall include the following*” is not within the scope of subsection 2.3.1 and appears to be misplaced. Therefore, Telkom respectfully recommends that this paragraph be moved to an appropriate section, possibly to Section 3 (“*Principles Governing Frequency Migration*”) and in particular sub-section 3.2 (“*Process*”).
- b) Telkom notes the last bullet namely the consideration of the duration of a broadcast licence as part of the migration process. Whereas Telkom agrees with the inclusion of such consideration, it is not clear why only broadcast licences will be taken into consideration and not also ECN/ECNS licences. Telkom respectfully also submits that the duration of ECN/ECNS licences also be included in this section as part of the spectrum migration process.

5.2.5 Subsection 3.1 (“Identification of Bands which are subject to Frequency Migration”)

Telkom recommends the following editorial change to the third bullet “Third Level”:

“...requires a change in ~~a change in~~ national allocation...”

5.2.6 Subsection 3.3 (“Time Frame for Migration”)

In determining the time frame for migration, four factors to be taken into account are listed in subsection 3.3 of the draft RFMP. The Authority then elaborates extensively on only three of these whereas nothing is said in subsection 3.3 on the first point namely “the duration of the spectrum licence”. Telkom would respectfully recommend that the Authority also elaborates on

this point since this is a problematic area throughout the document as highlighted above. It is possible to consolidate text from other parts of the draft RFMP in this section, also taking into account Telkom's comments on this matter.

Subsection 3.3.2 ("Economic Lifetime of Equipment Installed")

With regard to the re-tuning of equipment, Telkom would respectfully recommend the following changes:

"...will require new ~~transmission~~ equipment; it is may be possible that the equipment can be retuned at relatively low cost".

The reason for deleting the word "transmission" is because, in the industry, this generally refers to PTP and PTMP type systems whereas the purpose of the statement is to address all type of radio communications equipment. It is also recommended that the word "is" be replaced with "may be" since, in Telkom's view, it is a more true reflection of reality.

Telkom supports the view expressed by the Authority in that the economic lifetime of equipment installed is a key factor in the determination of a suitable time frame for migration. However, subsection 3.3.2 suggests the undue coupling of the terms "*economic lifetime*" and "*technological life-cycle*", inferring that a shorter technological lifecycle results in a shorter economic lifecycle. This is incorrect as the technological lifecycle of equipment tends to be significantly shorter than the economic lifetime of same. As a result, Telkom proposes the suppression of the last sentence in subsection 3.3.2 to avoid the undue coupling of terminology. Moreover, the proposed amendment does not alter the intended purpose of subsection 3.3.2 of the draft RFMP.

Whereas the statement that SABRE 2 considered a time frame of 5 years for migration is true, it is also important to take note that the first SABRE document, which was published 6 May 1997, considered migration periods of between 1 to 15 years and even beyond (immediate short term was 1-2 years; short term was 2 to 5 years; medium term was 5 to 10 years and long term was 10 to 15 years). The 5 years migration period used in SABRE-2 related to specific frequency bands only and related to migration of analogue systems to digital. Using 5 years therefore as a benchmark for future migrations are not accurate.

Telkom argues that the migration period should be considered on a case-by-case basis and historic migrations should not be utilised for benchmarking purposes. Several factors must be considered as indicated in subsection 3.3 of the draft RFMP.

Subsection 3.3.4 (“Conclusions Regarding Time Frame”)

It is proposed that the forward looking time frame for a process of spectrum migration should be 3-5 years from the moment of announcement, unless otherwise specified.

The phrase “*moment of announcement*” is vague and does not provide a clear indication as to the commencement of the migration time frame. Therefore, Telkom proposes aligning the commencement of migration timeframe with the publication of the Radio Frequency Assignment Plan for the band in question as this will provide a greater degree of certainty as to the implementation of migration.

“It is proposed.....from the ~~moment of announcement~~ publication of the Radio Frequency Spectrum Assignment Plan for the band concerned, unless otherwise specified”.

Subsection 3.4 (“Frequency Migration in the Karoo Astronomy Advantage Areas”)

Whereas Telkom appreciates the information regarding the migration process within the Karoo Central Astronomy Advantage Areas, as well as the information with regard to the spectrum to be exempted, it is noted that this information is preliminary since the relevant regulations being referred to have not been prescribed. In fact, the draft regulations on Procedural Matters for the Central Astronomy Advantage Areas have not even been published in the public domain for consultation. It is therefore pre-mature to make any conclusion on this matter at this stage and Telkom would reserve its rights to make additional inputs on this matter at the appropriate time.

Furthermore, it is not clear what is meant by the statements: “...for radio communications purposes are set out in the following sub items. Only spectrum from 100 to 960 MHz is addressed in the comments below” (own emphasis). This may need further explanation.

5.2.7 Subsection 4.3 (“Approach to development of RFMP”)**Additional points for consideration**

A key element in developing the RFMP, and ultimately the RFSAP, is the evaluation of the need for migration within the South African context. For example, the draft RFMP neglects a crucial component in that migration proposals are seemingly proposed without a clear and specific end-goal in mind; in other words, issues to be addressed before implementing migration is, amongst others, determining the amount of spectrum required for the new service or application and to be relinquished as a result of migrations, consideration of the availability of other bands which could provide similar applications (including existing bands), the possibility that services and systems could be shared within a frequency band without the need for migration, etc. It is essential that the spectrum audit data as compiled during 2012 and to be compiled in 2013 by the consultants appointed by the Department of Communications be used in this exercise. This will provide greater certainty as to the end goals of frequency migration in South Africa.

Proposed changes to Figure 2 (“Process for Development of Frequency Migration Plan”)

Telkom supports the approach adopted in subsection 4.3 of the RFMP, which considers migration proposals stemming from global, regional and national contexts. However, “*Figure 2 Process for Development of Frequency Migration Plan*” is not fully aligned with the approach stated in subsection 4.3 of the RFMP.

The process in Figure 2 suggests that once SABRE 1/2 proposals have been assessed for suitable addition to the RFMP, these proposals require further validation against the SADC FAP prior to their inclusion in the RFMP. Moreover, Figure 2 suggests that once SADC FAP proposals have been assessed they will be further validated against ITU (WRC3/7/12) proposals prior to inclusion in the RFMP. In general, this is correct; however the assessment of a particular proposal is presumed to take into account, *inter alia*, the ITU (WRC 3/7/12) and the SADC FAP to the greatest extent practicable, prior to addition to the RFMP. Therefore, it is not necessary to duplicate the validation process in Figure 2. In light of this, Telkom proposes the following minor amendment to Figure 2:

1. “~~Validate against~~ Evaluate SADC proposals for relevancy in South Africa”
2. “~~Validate against~~ Evaluate ITU (WRC3/7/12) proposals for ~~Region 4~~ relevancy in South Africa”

The purpose of the feedback loop from “*Validate against SADC proposals for relevancy in South Africa*” to “*Were SABRE 1/2 proposals implemented*” is not clear and may need further clarification.

5.2.8 Subsection 4.8 (“Key issues with respect to migration”)

Telkom agrees with the key issues highlighted in subsection 4.8. The reference to Government Gazette No. 31490 (first bullet), which was published 3 October 2008 as the initial draft Broadcasting Digital Migration Framework, in the context of the statements made in the draft RFMP is however not clear. Following the publication of several versions of the Digital Migration Framework or Digital Terrestrial Television Regulations, the final Digital Migration Regulations was published 14 December 2012 (Government Gazette No. 36000). It is not clear why specific reference is made to the initial draft of 2008 and not to any other draft or ideally to the final version. Telkom respectfully recommends that this be clarified.

5.2.9 Subsection 4.9 (“Proposed Migration Plan”)

Column 3 indicates the proposals for new allocations and utilization. The proposed allocation is indicated along with the source of the proposal (SABRE, WRC, SADC FAP, New ICASA proposals).

Subsection 4.9 explains the contents of columns 1 to 4 in Table 3 of the RFMP. The description of column 3 is not aligned with the actual contents of same, as presented in Table 3 of the

RFMP. Therefore, Telkom proposes the following amendment to subsection 4.9 in order to align with Table 3 of the RFMP.

*“**Column 3** indicates the proposals for new ~~allocations~~ applications and utilization. The proposed ~~allocation~~ utilisation/application is indicated...”*

When considering Table 3, and in particular column 3, it is noted that the source of the proposal (SABRE, WRC, SADC FAP, New ICASA proposals) is indicated only in a few cases, for example where it is a new proposal from ICASA. For sake of completeness it is recommended that column 3 be completed by adding this important information in all cases. It is also noted that this information was added to column four in many cases.

5.2.10 Formatting of Table 3 (“Proposed Migration Plan”)

In accordance with section 4.9 of the RFMP, the title of column 2 in Table 3 should be amended to:

“Existing Allocation in NRFP ~~2010~~ 2012 (Applications)”

5.2.11 Band Specific Comments (Table 3 and section 4.10)

Telkom will provide comments on the proposed migration plan on a band-by-band basis. The contents of Table 3 (“*Proposed Migration Plan*”) and section 4.10 (“*Reasons on proposed migration plan following 1st consultation*”) will be considered and addressed together.

Telkom’s comments below are more comprehensive as compared to our initial submission and address a greater range of frequency bands. Telkom trusts that these comments will assist the Authority in finalising the RFMP. Also, while it is recognised that the first part of text under each frequency band was retained from the first draft RFMP, since it is not clear if and how this text will be incorporated in the final RFMP, Telkom will in some case also comment on the original text to ensure that certain arguments and points are reflected in the final version.

138 – 143.6 MHz:

According to the draft NRFP 2012 and ITU RR footnote 5.212, the band 138-144 MHz is allocated to both the mobile and fixed services on a primary basis; the allocation to the fixed services is therefore also on a primary basis and this should be reflected in column 2 of Table 3 (i.e. “FIXED”).

With regard to the reference “*ISM licence exempt band 141-142 MHz*) Telkom wishes to highlight that this band has not been designated as an ISM band in either the ITU Table of Frequency Allocations (see footnotes 5.150 and 5.138) or in the draft NRFP 2012. The reference to Government Gazette No. 31290 is also unclear since this Gazette has been revoked (replaced by RFSR, 2011); in any event, neither this Gazette nor the RFSR earmarked this band for ISM. The proposal that remote controlled industrial applications must migrate from 141-142 MHz to an ISM band should also be clarified; it is suggested that the RFMP indicates

which ISM band is earmarked for this move, if any. It will also be required to amend the RFSR, 2011 as the use of the band 141 – 142 MHz for remote controlled industrial apparatus is allowed through the RFSR, 2011.

150.05 – 153 MHz:

In footnote 15 to Table 3, it is indicated that the band 148-152 MHz is used for “*Government Service Wildlife Telemetry Tracking*”. Telkom’s reading of the draft NRFP 2012 as well as the RFSR (Annexure B) is that these are indeed two separate applications namely “*Government Services*” and “*Wildlife Telemetry Tracking*”. The draft RFMP should be amended to reflect this.

156.4875 – 156.5625 MHz:

It is indicated that this band is allocated to, amongst others, the mobile service; this seems to be incorrect when considering the draft NRFP 2012 and in particular ITU footnote 5.227, which allocates the sub-bands 156.4875-156.5125 MHz and 156.5375-156.5625 MHz to the land mobile service (not mobile service, which by definition includes land, maritime and aeronautical mobile); this should be reflected as such in the RFMP. Also, SF mobile (in in-land areas), which operates under the land mobile service, should be limited to the above mentioned two sub-bands (not 156.375-156.7625 MHz), in order to align with 5.227. Land Mobile services operating outside the above two sub-bands should therefore also be considered for migration to within these two sub-bands, apart from the proposed migration away from water bodies. It is also recommended that, in order to implement this proposal, the particular water-bodies to which this migration will apply must be identified.

The use of this band for maritime radionavigation services should also be verified since there is no such allocation in ITU Region 1 (this should be done through appropriate amendment of the NRFP).

An amendment to section 4.10.4 is also recommended (to avoid the misunderstanding that the arrangement regarding inland water-bodies and in particular the 50 km distance is addressed in either Article 31 or Appendix 18):

“The use of this band This is as per ITU RR Article 31 and Appendix 18”.

156.8375 – 174 MHz:

The band 156.8375 – 174 MHz is divided in many sub-bands, with different allocations pertaining to each sub-band. By stating that this band is allocated to the two mentioned services as indicated could therefore be misleading. Telkom recommends that the frequency band be limited to 162.0375-174 MHz since this is the specific sub-band under discussion and that the allocation then be indicated as MOBILE (except aeronautical mobile).

235 – 267 MHz:

Whereas Telkom could agree with the proposals for this frequency band, it is noted that the frequencies for channel 13 is 246.18-254.18 MHz, which differs from the ITU allocation of 246-254 MHz (see footnote 5.252). Moreover, the outcome of consultation reflects the band 246-254 MHz and this therefore seems like an editorial correction.

335.4 – 387 MHz:

The proposed migration of “*existing fixed links to above 3 GHz*” is not clear. Firstly, whereas it is indicated that the band is used for FWA, this by definition also includes PTP and PTMP, as also indicated in the SADC FAP (“*Additional information*”) and also in Table 3 of the draft RFMP (“*Fixed Wireless Access/PTP/PTMP rural systems*”). If the band is then available for PTP, it is not clear why the fixed links, which are by definition PTP, should be migrated to above 3 GHz.

380 – 400 MHz:

Whereas the band 380-400 MHz is allocated to both the mobile and the fixed service in region 1, it is currently not used for fixed services in South Africa. The reference to “*FIXED (380-387 MHz)*” should therefore be deleted, as this band is used exclusively for mobile services (i.e. the band 380-387 MHz paired with 390-397 MHz is used for digital PPDR systems, which falls within the category of mobile).

Although Telkom could agree with the designation of the band 387-390 MHz paired with 397-399.9 MHz to PMR (Private Mobile Radio), Telkom recommends that, in the Table, it specifically be indicated as restricted to public safety. Also, the use of the term PAMR (Public Access Mobile Radio) should be considered carefully since it is understood that there will be no public access to the systems operating in this band. It should also be noted that the SADC FAP does not restrict the PMR/PAMR allocations in the band 380-400 MHz to public safety systems.

It is not clear what is meant by “*Other links to be migrated out as per SADC FAP...*”. According to both the SADC FAP and the NRFP 2012, the band 380-400 MHz is used only for mobile systems and as such there should be no fixed links (i.e. PTP systems) to be migrated. Telkom respectfully requests that this be clarified.

406.1 – 430 MHz:

Based on the outcome of the first consultation (refer to section 4.10.11 of the RFMP), it was approved that the frequency band should be changed to 406.1 – 430 MHz. Telkom therefore proposes that Table 3 be amended in order to reflect this.

In addition to the fixed and mobile, except aeronautical mobile, services allocated to this band as indicated in Table 3, the bands 406.1 – 410 MHz is also allocated to the Radio Astronomy service (primary), the band 410 – 420 MHz to the Space Research service (space-to-Earth) (primary) and the band 420 – 430 MHz to Radiolocation service (secondary). Telkom recommends that this be reflected in table 3.

The statement: “*This band [406.1-430 MHz] is used for public trunking services*” is misleading since it is only certain parts of this band which are used for trunking services (413.7625-416.1 MHz paired with 423.7625 – 426.1 MHz and 420 – 423 MHz paired with 410 – 413 MHz). Telkom respectfully recommends that this should be reflected in table 3.

440 – 450 MHz:

Telkom respectfully recommends that the current and future use of this band be clarified since there are seemingly many discrepancies and uncertainties contained in the draft RFMP, if also read with the draft NRFP 2012.

Based on the draft NRFP 2012, the band 440 – 450 MHz is used as follows:

440 – 441 MHz	FIXED telemetry/data BTX (paired with 445 – 446 MHz)
441 – 441.1 MHz	SF mobile
441.1 – 445 MHz	Mobile BTX (paired with 446.1 – 450 MHz)
445 – 446 MHz	FIXED telemetry/data MTX (paired with 440 – 441 MHz)
446 – 446.1 MHz	PMR446, as per GG No. 34172
446.1 – 450 MHz	Mobile (paired with 441.1 – 445 MHz)

This is the starting point for analysis of this band in terms of current and future applications.

Firstly, in column 2 of table 3, it is indicated that the band 440 – 450 MHz is currently used for “Short range business radio” and “PMR”. This is already creating uncertainties since the term “short range business radio” is not used in the draft NRFP. Also, PMR is limited to only the sub-band 446 – 446.1 MHz whereas the other applications, as contained in the NRFP, are seemingly not addressed. To compound the confusion, the proposed utilisation/application as captured in column three of the draft RFMP, is exactly the same as the current use; i.e. “Short range business radio and PMR”, although this is indicated as a “New ICASA proposal”.

Further considering column three in table 3, it is indicated that “*other allocations stay as-is*”; this is then presumed to refer to allocations other than short range business radio and PMR. In considering column 4 of table 3, it is indicated that: “*Other users to be migrated out of the sub-band for Short-range business radio (440 – 440.1 MHz / 455 – 445.1 MHz)*”. Based on the current use as reflected in the NRFP, it is therefore presumed that the two sub-bands indicated above (2 x 100 kHz) will be made available for short range business radio (i.e. the current FS telemetry/data systems using this 100 kHz sub-band will have to migrate). It is further presumed that the remainder of the FS telemetry/data application (440.1 – 441 MHz paired with 445.1 – 446 MHz) will therefore remain unchanged. In the table, nothing is said regarding the PMR application (which is also a “new ICASA proposal”).

In considering section 4.10.12 of the draft RFMP, contradictory statements are made. Firstly, it is indicated that the band 441 – 441.1 MHz is allocated to short-range business radio, which is seemingly contradictory to the statements made in table 3 and is seemingly also not in line with the NRFP, which states that the band 441 – 441.1 MHz is used for SF mobile applications. If short-range business radio is the same as SF mobile in this context, this must be clarified. Secondly, it is indicated that the remaining portion (i.e. the remainder of the band 440 – 450 MHz) is allocated to PMR (both UHF repeaters and DMR). Thirdly, it is indicated that the short-range business radio is unlicensed in South Africa. However, within the band 440 – 450 MHz, it is only the PMR446 service within the band 446 – 446.1 MHz, which is licence exempted in terms of the RFSR, 2011. Telkom respectfully recommends that this be clarified.

Furthermore, ICASA proposes that the band 446 – 446.1 MHz be used for temporary assignments within the PMR band. However, this band is used (we understand extensively) for PMR446 low power unlicensed radios, which are licence exempted in terms of the RFSR, 2011 (Annexure B). It is not clear if the intention is to use this band for temporary assignments in addition to PMR446 or exclusively for these temporary assignments. Telkom respectfully recommends that this be clarified.

According to section 4.10.12, it is proposed that the bands 440 – 440.1 MHz and 446 – 446.1 MHz are allocated for short-range business radio and temporary assignments within the PMR band, respectively. The other allocations within the range 440 – 450 MHz are not addressed and it seems that these will remain as-is. Nevertheless, the last two bullets in this section create confusion since they seem to be contradictory, i.e. “*all other users migrate out of this band*” and “*the rest of the users in this band can stay as-is*”; in both case “this band” has not clearly been identified. Lastly, when considering the outcome of the 1st consultation, it is stated that the “migration of users only reflects to 440.1 – 440.1 MHz and 446 – 446.1 MHz”; it is noted that this is not in line with table 3 since the return band (i.e. 445 – 445.1 MHz) is not mentioned. In the case of 446 – 446.1 MHz, this is mentioned under the outcome of the 1st consultation although it is not mentioned in table 3.

Telkom therefore respectfully recommends that the indented use of the band 440 – 450 MHz, the proposed migrations as well as the unaffected services be clearly stated.

450 – 470 MHz:

The frequency band 450 – 470 MHz is used by several different users and for various uses, as shown in Figure 5 of the draft RFMP. It is however noted that figure 5 is not completely accurate (e.g. the return band for fixed links starts at 460 MHz and not 463 MHz) and is also incomplete (e.g. the Swiftnet assignments within the range 450-453 MHz paired with 460-463 MHz). However, this is contradicted by the first sentence in subsection 4.10.13, which suggests that the entire band is used for Trunked Mobile, which in fact only constitutes a small portion of the actual band usage. Also, it is recommended that all current assignments be added to column 2 in Table 3, in particular fixed links and the assignments to Swiftnet.

The statement that the SADC FAP proposed common allocation/utilization seeks to allocate this spectrum for mobile IMT is partially correct; in fact, the SADC FAP proposed common allocation is for three services namely fixed links (PTP), IMT and PMR and/or PAMR. Telkom recommends updating the RFMP in order to reflect this.

The statement that the current users (which include paging, PMR, trunking, wireless data, etc.) must migrate into the bands above 3 GHz is technically not feasible since these types of mobile applications are generally not deployed in the bands above 3 GHz. Whereas this statement could potentially apply to fixed links, it should also be noted that these links are very low capacity and provide services over very long hop lengths. It will not be easy to replicate these requirements in the frequency bands above 3 GHz where propagation conditions differ significantly; this matter requires further investigation.

Telkom agrees with the proposed further consultation and will support the Authority in this regard. It should be noted that Swiftnet is in the process of re-farming their current assignments in this band, which will have to be taken into account.

470 – 790 MHz:

Telkom recommends that the first sentence in section 4.10.14 be amended to reflect the fact that only the sub-band 694 – 790 MHz has been allocated to the Mobile service, except aeronautical mobile, on a co-primary basis, whereas the band 470 – 694 MHz remains exclusively allocated to the broadcasting services (apart from the small allocation to radio astronomy). Also, Telkom recommends that the allocation to Mobile, except aeronautical mobile, be reflected in column 2 since this was made at WRC-12 (even though it is effective post WRC-15) since it is already captured in the draft NRFP 2012. Furthermore, the proposed utilisation should then be IMT (terrestrial), as is done for the 800 MHz band.

Telkom agrees with the proposals put forward; however, it would suggest that the migration of both 700 MHz and 800 MHz, as well as the licensing thereof to IMT services, be conducted simultaneously (not staggered with 800 MHz). It is important that the 700 MHz band also be made available on an urgent basis considering that commercial IMT equipment operating in this band will become available in 2013. Moreover, the expeditious licensing of frequency bands in the sub 1 GHz range is crucial for the achievement of the Government's 2020 vision of "Broadband for all", taking also into account the current problems with regard the migration of analogue to digital television.

790 – 862 MHz:

The allocation to Wireless Access Services in the frequency bands 824 – 849 MHz paired with 869 – 894 MHz, is the international CDMA-2000 or GSM850 frequency band. Telkom understand that a portion of this band is assigned to Neotel for their CDMA-2000 deployments (the full band is not available due to the overlap with the GSM 900 MHz band). It is recommended that this matter be added to the second column, even though it is part of the on-going 800 MHz process.

862 – 890 MHz:

Telkom recommends that all current applications relevant to this band be reflected in column 2; these include CT2 cordless telephone and FWA (864.1 – 868.1 MHz), the fixed links return band (856 – 864.1 MHz) and non-specific SRD's as reflected in the RFSR, 2011 (i.e. 868 – 868.6 MHz, 868.7 – 869.2 MHz, 869.4 – 869.65 MHz and 869.7 – 870 MHz). Additionally, the allocation of the band 863 – 865 MHz to “Wireless Audio” should also include “Wireless microphones” (these are two separate entries in the RFSR, 2011). Also note that the entry for Alarms in the band 860.25 – 869.3 MHz should be 869.25 – 869.3 MHz.

The frequency band 864.1 – 868.1 MHz is assigned to Telkom and is utilised for CT2 FWA systems. Telkom is planning the migration of these networks within the next 5 years depending on the availability of suitable alternative wireless systems. This is one of many reasons why Telkom (8ta) urgently need access to sub 1 GHz spectrum; in order to extend the 8ta network into rural areas.

The comment that “alarms may need to be consolidated within designated alarm bands” is not clear and many need further explanation. It is not clear which “designated alarm bands” are being referred to here, namely alarms as contained in RFSR or the SF/DF alarms as contained in the NRFP 2012. Since these two applications are completely different (i.e. the first refers to SRDs whereas the second refers to PTP/PTMP type applications, clarification is sought.

The frequency band 876 – 880 MHz (which is paired with 921 – 925 MHz) is not listed in section 4.10.16 (this allocation is generally referred to as GSM-R). In line with the proposals made in section 4.10.17, this band could be allocated to GSM-R. The return path of GSM-R (921 – 925 MHz) is addressed in section 4.10.17. It is noted that there is seemingly no support for using GSM-R, at least not from Transnet's perspective.

Telkom agrees that the use of this band for IMT be re-considered in the future based also on the international developments in ITU-R WP5D and JTG4-5-6-7. Therefore, depending on the outcome of these developments, it is premature to discuss the migration of existing users (presumably RFID, alarms, etc.) from the band. This is also supported in the SADC FAP through the following statement: “*The use of this band [862 – 876 MHz] for IMT in the future to be investigated as part of the development of harmonised IMT channelling arrangements*”.

Telkom agrees with the statement that there is some level of confusion with regards to the Wireless Access Services allocation in the 824 – 849 MHz paired with 869 – 894 MHz. Based on the comments in the draft RFMP it seems that the Authority views these two, i.e. the Wireless Access Services allocation and the mobile band as used by Neotel, as different issues. In Telkom's view, these are one and the same. As indicated in the first submission, the Wireless Access Services allocation is known as the CDMA-2000 or GSM850 band. This is the band (or profile) used by Neotel for their CDMA-2000 deployments. It is however acknowledged that only the bottom part of this band (approximately 11 MHz paired) is usable in SA because of the overlap with the GSM 900 MHz band. Therefore, by removing the Wireless Access Service allocation from this band means that Neotel operates their CDMA-2000 system without a

profile/channel plan/allocation. It is also noted that Neotel's operation is part of the IMT designation; as indicated, with the range 790 – 960 MHz there are currently at least three IMT profiles/bands for South Africa namely the 800 MHz, 850 MHz and 900 MHz band. Telkom respectfully recommends that this matter be clarified. Furthermore, as indicated under the band 790 – 862 MHz, Telkom recommends that the migration of CDMA-2000 (from 850 MHz band) to LTE (800 MHz band) also be included in this band.

890 – 942 MHz:

The mobile application is indicated as 890 – 915 MHz paired with 925 – 935 MHz; however, the band 890 – 915 MHz is paired with 935 – 960 MHz and should be reflected as such. Also, as indicated above, whereas Telkom could support the allocation to GSM-R in the band 921 – 925 MHz, it is not clear why the return path for GSM-R (i.e. 876 – 880 MHz) has not been included in section 4.10.17 of the RFMP, given that this is an FDD system.

Table 3 of the RFMP indicates that the band 915.1 – 921 MHz is allocated for RFIDs; however, section 4.10.17 limits this allocation to the frequency band 915.1 – 919.2 MHz only. Based on Government Gazette No. 31127 dated 5 June 2008 (Spectrum Re-allocation for Radio Frequency Identification (RFID) Systems), the band 915.1 – 921 MHz may be used for a range of short range applications, including RFIDs.

Whereas it is agreed that GSM-R is not mentioned explicitly as a service in the NRFP, it is captured under the general allocation of “*Mobile (MTX) (876 – 880 MHz) paired with Mobile (BTX)(921 – 925 MHz)*”. Telkom supports the recommendation to keep the GSM-R allocation (must include both bands) for the time being.

With regard to spectrum re-farming in this band, Telkom requests the Authority to urgently consider re-farming of the 900 MHz band in order for 8ta to obtain an assignment in this band. The need for access to 900 MHz is critical for any mobile operator and without such assignment it is very difficult to effectively compete with the other mobile operators. This is also becoming more urgent considering the delays in accessing spectrum in the 700 MHz or 800 MHz bands due to foreseen delays in the digital to analogue migration process. The 900 MHz band will also be crucial for allowing operation in the Karoo AAA. Telkom therefore recommends that this issue be addressed as a matter of utmost urgency and is available for further discussions in this regard.

The references (in the table and in section 4.10.17) to the section dealing with re-farming are incorrect and should be corrected.

942 – 960 MHz:

As indicated above, Telkom argues that the GSM 900 MHz band be re-farmed in order for 8ta to obtain access to a portion of the band, similar to the process when Cell-C were launched and 900 MHz spectrum was redistributed to ensure that Cell-C could operate in this critical frequency band. The reference to the relevant section, which is missing, should also be corrected.

The references (in the table and in section 4.10.18) to the section dealing with re-farming are incorrect and should be corrected.

Telkom also recommends that the proposed utilization in the 3rd column be added (i.e. Mobile (IMT)) so that this column is not left blank.

1452 – 1492 MHz:

Telkom supports the proposed feasibility study and that any final decision pertaining to the future use of this band is delayed until after WRC-15 to ensure that South Africa benefits from possible international harmonisation of this band.

1525 – 1559 MHz:

Telkom recommends the following editorial changes to section 4.10.22:

“The bands 1518 – 1544 MHz and 1545 – 1559 MHz have ~~has been~~ identified for IMT (satellite); ~~and~~ Res. 225 (Rev. WRC-12) applies. In the band 1530 - 1544 MHz priority for maritime mobile distress, ~~is given~~, urgency and safety communication (GMDSS) is given; Res. 222 (Rev. WRC-12) applies. The band is currently being used by INMARSAT.”

It must be acknowledged that the services provided by Inmarsat, both commercial and distress, urgency and safety, are critical and should be protected. Telkom would therefore respectfully recommend that the Authority exercise in its decision to introduce fixed links in this band; a detailed study pertaining to the current and future use of this band should be done to ensure that all interests are protected. As part of this exercise, it is also pertinent to consider the potential use of other bands for migrate-in services such as OB links and repeater links (it is noted that other bands have also been earmarked for repeater and OB links including 1518 – 1525 MHz); the existing PTP bands in the 1.4 GHz range (see section 4.10.19) and 2 GHz range (see section 4.10.26) may also be considered as part of this exercise. It is also important to ensure that frequency sharing between MSS and fixed links is feasible. Other potential uses of this band include, amongst others, IMT (satellite), should also be considered as part of this exercise, taking into account that other bands have also been identified for IMT (satellite).

1668 – 1675 MHz and 2483.5 – 2500 MHz:

Telkom supports the Authority's decisions regarding this band.

1710 – 1785 MHz paired with 1805 – 1880 MHz:

It is recommended that the proposed utilisation be indicated as Mobile (IMT), as done in other IMT bands.

It is noted that the 1800 MHz band is not addressed in section 4.10. The reference (in the table) to the section dealing with re-farming is incorrect and should be corrected.

1880 – 1900 MHz:

The reference to “WLL” should be changed to “FWA” since the term “WLL” is no longer used. This is also in line with the allocations in the NRFP 2012 and the SADC FAP 2010. Also, the statement that the allocation of this band to BFWA is in line with the SADC FAP is not correct; as indicated, according to SADC FAP the band is used for FWA. If the band is to be used for broadband, it is suggested that the term BWA be used (rather than BFWA).

With regard to the interference concerns between DECT cordless telephones and BWA and the reference to ERC Report 100, it should be noted that the issue is not only adjacent band but also in-band related. Whereas ERC Report 100 addresses the issues of compatibility between DECT, operating in the band 1880 – 1900 MHz, and GSM, operating in the band immediately below 1880 MHz, the in-band interference issue is also between DECT cordless telephones and the proposed BWA operations operating both within the band 1880 – 1900 MHz. Regarding adjacent band compatibility, Telkom recommends that reference also be made to a newer report namely ECC report 146: *“Compatibility between GSM MCBTS and other services (TRR, RSNB/PRMG, HC-SDMA, GSM-R, DME, MIDS, DECT) operating in the 900 and 1800 MHz frequency bands”*. Telkom also recommends that the Authority considers ERC/DEC(94)03, which designate the band 1880 – 1900 MHz principally for the DECT technology (DECT has priority over other standards).

In Table 3, the current application is indicated as “Cordless DECT phone”; Telkom recommends that this be expanded to also include DECT FWA, as used by Telkom. There is a distinct difference between DECT FWA and DECT cordless and it is therefore important to reflect both applications in Table 3. Also, the DECT cordless application should remain as a proposed utilisation/application; due to the extent of this application, on a licence exempted basis. It should be noted that migration is currently not an option for DECT cordless applications.

1920 – 1980 MHz paired with 2110 – 2170:

Telkom recommends that the Proposed Utilisation/application be reflected as Mobile (IMT) as with other IMT bands.

It is noted that this band is not addressed in section 4.10. The reference (in the table) to the section dealing with re-farming is incorrect and should be corrected.

1980 – 2010 MHz and 2170 – 2200 MHz:

Telkom supports the Authority’s decision to retaining status quo in this band at this stage.

2110 – 2170 MHz:

The entry in Table 3 for this band (see page 45/94) is a duplicate entry since this band has been addressed with band 1980 – 2010 MHz. Telkom recommends that this band be deleted from the table.

2290 – 2300 MHz:

Telkom notes the proposal to allocate this band for either BFWA or BWA. In deciding the use of this band, adjacent band sharing with Mobile (LTE) deployments above 2300 MHz must be taken into consideration. A suitable guard band may be required to ensure protection of mobile services in the 2300 MHz IMT band. It should be noted that this issue is also under consideration at ITU-R WP5D.

2300 – 2450 MHz:

Telkom supports the allocation of the band 2300 – 2400 MHz for IMT (terrestrial), in line with SADC and ITU, as well as the migration of fixed links and OB links out of this band. Notwithstanding this support, Telkom has an extensive PTMP TDMA network operating in the frequency band 2307 – 2387 MHz paired with 2401 – 2481 MHz on a national basis. Since most of these systems operate in the rural areas, suitable alternative technologies must be found to replace the voice and data services of the current customers. In light of this, the re-farming of the 900 MHz band must be further explored, where 8ta is assigned spectrum in the 900 MHz band for the provision of voice and data services, particularly in rural areas. It should be noted that migration from the 2.4 GHz band will be costly and may take several years to complete. Telkom is currently performing studies to determine the cost to migrate from this band. It should also be noted that, in some case, in may be required to utilise PTP bands below 3 GHz, for example, 1.4 GHz or 2 GHz.

In accordance with ITU RR footnote 5.150, the ISM band is 2400 – 2500 MHz as also indicated in NRFP 2012 (not limited to 2400 – 2483.5 MHz).

The proposal that OB links should be migrated out of this band is supported. However, it is indicated that this should be done “*in line with the Broadcast Plan*”, this is not clear since the Broadcast Plan (i.e. Government Gazette No. 32728 dated 18 November 2009), in Telkom’s view, does not address the issue of OB links. Telkom recommends that the OB links be migrated to standard available PTP bands.

It is also not clear why the OB links, operating in the 2.4 GHz band, should be migrated in line with the DTT Regulations, which deals with analogue to digital migration in the UHF broadcasting frequency bands. OB links and DTT operations are supportive but independent from a frequency use point of view.

It is noted that “*migration will commence once the results of the study are available*”. Whereas Telkom agrees that large scale migration will commence at a later stage, it should be noted that re-farming in selected areas, in particular high density urban areas, is already underway (migrating TDMA customers to allow LTE operations).

2500 – 2690 MHz:

Telkom supports the re-planning of this band as proposed in Government Gazette No. 34872; however, Telkom does not support the proposed licensing of the bands as proposed in this

Gazette; this is a separate process and should be addressed as such. Furthermore, Telkom supports the allocation of this band for mobile (IMT).

Telkom also suggests some changes to the draft RFMP. Firstly, it is not clear why there is a BFWA entry in column 3 on page 45/94; Telkom suggest that this be deleted and that the band be designated for IMT (as indicated on page 46/94). Secondly, it should be noted that, in accordance with ITU RR footnote 5.149, the radio astronomy allocation is limited to the band 2655 – 2690 MHz (does not include the band 2520 – 2655 MHz). In terms of the assignment to Sentech, it will be more accurate to state that the assignment was made; however, the band is currently not being used. From a migration exercise point of view, this is important information to be reflected.

Lastly, the second bullet in subsection 4.10.29 under the title “*Outcome of 1st Consultation*” should be amended as follows:

“Re-planning efforts within the 2.6 ~~M~~Hz GHz band...”

3400 – 3600 MHz:

Telkom supports the allocation of this band to mobile (IMT).

Telkom note with concern the proposed allocation to amateur services in this band. In accordance with the NRFP 2012, ITU RR Article 5 and SADC FAP 2010, this band is not allocated for amateur services. Telkom respectfully recommends that this allocation be deleted from this band.

The statement that existing users must be migrated out of this band must be qualified. Before this is required, a suitable channel plan must be developed and IMT equipment must be available for operation in this band. None of this is currently the case and therefore the use of this band for BFWA should continue, at least for the time being.

3600 – 4200 MHz:

Telkom would like to point out that the allocation of the band 3600 – 3800 MHz to BFWA in the SADC FAP was made because some countries have existing BFWA operations in this band. Telkom agrees with the proposal to maintain the band as is for the time being.

5725 – 5850 MHz:

Telkom wishes to highlight that ITU RR footnote 5.453, which allows the use of this band for fixed and mobile services on a primary basis in the listed countries, does not apply to South Africa. This band may therefore only be used for fixed and mobile services under Article 4.4 of the Radio Regulations, as follows:

“Administrations of the Member States shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations in this Chapter or the other provisions of these Regulations, except on the express condition that such a station, when

using such a frequency assignment, shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention and these Regulations”

It is however noted that, according to NRFP 2012, the band is also allocated for fixed links. Such use should be in compliance with Article 4.4 as indicated above. The reference to Swaziland and Tanzania is correct since these two SADC countries are listed in ITU RR footnote 5.453.

Telkom also recommends that the proposed utilisation/application be indicated in Table 3.

10700 – 11700 MHz:

In accordance with section 4.10.36 of the RFMP, Telkom fully supports removing this band given that the proposal to migrate VSAT links out of the C-Band will no longer be part of the RFMP.

12390 and 16420 MHz:

These two frequencies appear in Table 3 of the RFMP with incomplete information. Moreover, there is no discussion on these frequencies in section 4.10.37 of the draft RFMP. Telkom recommends that these issues be addressed by way of amendments to the relevant sections. It is also noted that these frequencies should be 12,390 MHz and 16,420 MHz (commas missing).

15400 - 15700 MHz:

This frequency band appears in Table 3 of the RFMP with incomplete information. Moreover, there is no discussion on this band in section 4.10.37 of the RFMP. Telkom recommends that these issues be addressed by way of amendments to the relevant sections. Also, there is an editorial correction to be made in section 4.10.37 (“154” should be “15400”). It should also be noted that Resolution 614 (WRC-07) has been suppressed by WRC-12.

5.3 Section 5 (“Potential Impact of Spectrum Migration”)

5.3.1 Subsection 5.1 (“Bands Planned for IMT”)

Telkom proposes the following amendment to Table 5 of RFMP

694- <u>7902</u>	9 <u>68</u>	TV Broadcasting	Enabled for IMT as per WRC-12 Res. 232- Digital Dividend 2
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6 Appendix A (“Model Radio Frequency Spectrum Assignment Plan”)

Telkom thanks the Authority from providing an indication of the format and scope of the RFSAP to be developed in future when required to implement migration in a particular frequency band.

Since the RFSAP will be subjected to public consultation, and since the draft RFSAP is written very general without any specifics, Telkom will refrain from elaborating extensively on the proposed RFSAP at this stage.

7 EDITORIALS

The following editorials must be addressed:

7.1 Draft Frequency Migration Regulations

7.1.1 Section 1 (“Definitions”)

- “ITU” means International Telecommunications Union. This amendment should be applied throughout the document
- “WRC” means World Radiocommunication Conference

7.2 Draft Frequency Migration Plan

7.2.1 Section 1 (“Introduction”)

- Sections 1.2.2, 1.2.3 and 1.2.4 in the table of contents do not correspond to the main body text of the RFMP.

7.2.2 Section 2 (“Applicable Legislation and Regulations”)

- Sections 2.1.4 and 2.1.5 in the table of contents do not correspond to the main body text of the RFMP.
-