



Submission to ICASA:

“Draft Update of the National Radio Frequency Plan 2012”

Government Gazette No. 36025, Notice 1060 of 2012, 21 December 2012

Submission Date: 15 February 2013

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1. INTRODUCTION

1. Neotel thanks the Independent Communications Authority of South Africa (hereinafter referred to as “the Authority”) for the opportunity to comment on the “Draft National Radio Frequency Plan (hereinafter referred to as “the Plan”) published in Government Gazette No. 36025, Notice 1060 of 2012, 21 December 2012.
2. The Authority published the Plan to bring it in line with the Electronic Communications Act 36 of 2005 (hereinafter referred to “the ECA”) and the past World Radiocommunication Conference decisions for public comment.
3. The ECA mandates the Authority that the Plan must be updated and amended when necessary in order to keep it current and relevant. When updating and amending the Plan due regard must be given to the current and future usage of the radio frequency spectrum. To this end ICASA intends to review the National Radio Frequency Plan 2012 in terms of s 34 of the ECA.
4. Neotel commends the Authority for the consultative and responsive manner of engagement on this critical issue and believes that the format of Plan is a vast improvement from the previous version. Neotel wishes to congratulate the Authority on its efforts in this regard.
5. Neotel’s approach in this submission is to deal with the background to the plan and the legislative framework followed by some general comments on the Plan as well as comments on the specific allocations contained therein.

2. BACKGROUND TO THE PLAN

6. The Government’s strategic objective must be to prioritise the development of an environment that supports the efficient and effective utilisation of the radio frequency spectrum in the Republic for socio-economic development.
7. The radio frequency spectrum plays a fundamental role in electronic communications networks and services and is regarded as a strategic national asset. The use of spectrum is dependent upon technological development and service offerings, particularly the equipment available from the manufacturers. If continued investment is to be encouraged and reasonable levels of quality and affordability maintained, more effective spectrum usage and planning is required.

8. New generation converged services, such as broadband, place additional demands on radio frequency spectrum utilisation. The spectrum management policies and plans of the country need to take into account, amongst others, operator requirements, technological changes, new service offerings, current value of the radio frequency spectrum and migration matters.
9. Allocations in radio frequency spectrum forms part of the critical planning for National Security. Therefore, consideration of such nature is extremely important for the safety of our people. It is imperative that consultation with agencies and government organs dealing with radio frequency spectrum for state security and government services has to be driven by the relevant Authorities.
10. Additionally it has to be government's focus to ensure that the allocation of radio frequency spectrum, which is a scarce national public resource, must contribute to the promotion of national interests, development and diversity. This should involve increasing the amount of radio frequency spectrum channels and licenses dedicated for public use; for example community sound broadcasting, television services, and mobile technologies.
11. There have been rapid developments in the telecommunications and broadcasting sectors in South Africa and SADC since the publication of the 2010 South African Table of Frequency Allocations ("SATFA"). Additionally the ITU 2012 World Radiocommunication Conference concluded its work by which the next study cycle is introduced leading up to WRC-15.

3. LEGISLATIVE FRAMEWORK

12. In making these comments Neotel assumes that the Authority has followed the necessary due process to consult with the Minister as required by the ECA. Section 34(7)(c) states that:

"In preparing the national radio frequency plan as contemplated in subsection (4), the Authority must –

(c) consult with the Minister to –

- (i) incorporate the radio frequency spectrum allocated by the Minister for the exclusive use of the security services into the national radio frequency plan;

- (ii) take account of the government's current and planned uses of the radio frequency spectrum, including but not limited to, civil aviation, aeronautical services and scientific research; and
 - (iii) co-ordinate a plan for migration of existing users, as applicable, to make available radio frequency spectrum to satisfy the requirements of subsection (2) and the objects of this Act and of the related legislation.”
- 13. Section 2.5.1.2 of the Radio Frequency Spectrum Policy for South Africa (Government Gazette 33119, 16 April 2010) states that “the Minister is responsible for the development of the South African national allocation plan and the allocation of spectrum to the different radiocommunications services”. Neotel believes that this is contradictory to what is mandated to ICASA under the ECA.
- 14. Neotel respectfully seek clarification regarding this matter.
- 15. Furthermore, the Department of Communications has embarked on a policy review process with the amendment of the ECA and the Independent Communications Authority of South Africa Act 13 of 2000 (“ICASA Act”). The amendments place the frequency planning function under the control of the Minister or a separate spectrum management entity.
- 16. In this regard Neotel submits that the Authority should consider these policy development processes in order to prevent duplication and further delays in finalising the Plan.
- 17. In terms of the Constitution and Convention of the ITU, Member States must ratify Administrative Regulations such as the ITU Radio Regulations revised by a competent conference within a reasonable time of date of entry into force. The ITU Radio regulations bear international treaty status. In this regard Neotel assumes that the mandatory procedure of ratification of the Final Acts of WRC-12 was followed through the necessary formal procedures for adopting international agreements. Neotel notes that all international agreements in terms of section 231(3) of the Constitution of Republic of South Africa must be tabled in the National Assembly and the Council within a reasonable time. Information is contained in the practical guide and procedures for the conclusion of agreements 3rd edition.
- 18. The Authority confirms that the Plan reflects the agreements reached at continental, African Union (“AU”) and regionally, Southern African Developing Community (“SADC”) level. In order to achieve harmonisation these regional agreements affect the allocations

on the Plan which in some instances deviate from the South African Plan. Neotel understands that the SADC FAP was compiled under the auspices of the Communications Regulatory Authorities of Southern Africa (“CRASA”) with limited stakeholder participation. Although the SADC FAP has been formally adopted by the ICT Ministers in Luanda in May 2010, Neotel respectfully requests broader consultation on these agreements that affect the National Allocation plan in order to reach consensus on the band allocations adopted for the country.

19. The Authority has indicated the intention to review the Plan annually due to frequent technological fluctuations. Although Neotel agrees that this is an excellent idea, we are of the view that the annual publication and review of the entire Plan might be excessive and resource intensive for both the Authority and stakeholders. Spectrum planning is a lengthy process, therefore a balance must be struck between changing the plan and consistency as well as certainty which is important for operators and investors alike. Neotel proposes an extension of the review period from annually to 3 (three) year intervals.
20. Stakeholders have to be certain that whatever technology they procure will have the desired return of investment over its lifespan. However Neotel suggests that continuous detailed spectrum investigations/enquiries and research should be administered to keep abreast of the latest technological developments. Participation of all stakeholders in the inter-sessional ITU Study Groups should be encouraged in order to make informed contributions to the revisions of the ITU Table of Frequency Allocations to the benefit of the country. A spectrum management working group should be formalised to maintain focus on the level of participation in the spectrum management work internationally and regionally.

4. GENERAL COMMENTS ON THE PLAN

21. Neotel’s general comments are limited to certain aspects observed in the Plan in order to attain consistency and accuracy of the information as well some editorial comments. This however is not an exhaustive list of comments but should be considered in finalising the Plan.
22. The Plan is a dynamic document which is adopted for country specific needs. South Africa is primarily an importer of technologies. As a result, very few radiocommunications devices are developed locally. Most of the time services and bands are adopted without

analysing the domestic environment. Neotel is therefore of the view that the Authority needs to conduct a detailed spectrum study (“DSS”) to forecast the introduction of new technologies and update the applications and/or utilisations of specific radio frequency allocations.

23. Neotel further suggests that the Plan be scanned for general spelling inconsistencies of words such as “radiocommunication” and various others which appear regularly throughout the Plan.
24. In the acronyms section Neotel suggests that some of the acronyms such as the duplication of HDFS have to be differentiated from each other, others have to be corrected such as HAPS (high altitude platform station) and those that are not used in the Plan must be removed.
25. The incorporation of the allocations in the Plan below 20 MHz is well received. However a DSS still needs to be conducted to introduce the latest technologies and to update the applications that could be utilised in these bands.
26. Neotel also noticed that some ITU footnotes are missing from the tables which must be retained, .i.e., (ITU-R footnote 5.192 in the band 100-108 MHz). Neotel therefore suggests that a detailed scan of these footnotes be conducted to update the Plan.
27. Neotel suggests that the Authority analyse the inclusion of the Republic of South Africa’s neighbouring Member States in various footnotes of the ITU Radio Regulations. This is to prevent harmful cross-border interferences between countries when introducing future services or existing services to which these allocations are designated for. Consideration of this should be given to at the 2015 World Radiocommunication Conference.
28. Furthermore, Neotel suggests, that when the Authority publishes documents such as this Plan, which contains extensive tables and incorporation by references, the Authority also publishes formats which will allow commentators to easily track the edits on the contents thereof.

5. DETAIL COMMENTS ON SPECIFIC BANDS IN THE PLAN

29. Following the general comments, Neotel additionally wishes to make comments on specific allocations within the Plan. The Authority should note that Neotel’s input only covers the updates from the 2008 ITU Radio Regulations up to and including the Final Acts of 2012 World Radiocommunication Conference (WRC-12).

30. Neotel further suggests that due consideration should also be given to previous allocations made by competent conferences and migration plans which should still be taken into account in the Plan.

5.1 Comments on National Footnotes

31. Neotel is of the view that any deviation from the ITU allocations must be explained in a National Footnote which will clarify the status of the bands. There are deviations from the ITU allocations which have to be reflected in the Plan as well SA specific footnotes must be added in the next review of the SADC Frequency Plan and ITU Table of Frequency Allocations. The particular band which Neotel wishes to highlight is an allocation to Radio Astronomy (73-74.6 MHz) in ITU Region 2. Neotel suggests that such a national footnote, to protect Radio Astronomy in this band, should be included in the next review of the ITU RR and similarly in the SADC FP and the National Radio Frequency Plan. Neotel further suggests that allocations for security services must be indicated as government services for obvious security reasons.

5.2 NF 5 (173.7 – 175.1 MHz)

32. National Footnote 5 covers the band 173.7 – 175.1 MHz whereas the ICASA Radio Frequency Regulations (GG No 34172 Annex B) only covers 173.965 – 174.1 MHz.

33. Neotel suggests that the Plan and the Regulations be aligned to prevent any uncertainty in the use of the specific sub-allocations.

5.3 NF 9: 450 MHz Band (450 – 470 MHz)

34. The table listing the IMT frequency bands, band 450 MHz reference WRC Resolution 224 (Rev.WRC-2012) whereas the RR FN 5.286AA reference WRC-07.

35. Neotel requests that the Authority notes this and ensure that the footnotes and the resolution are aligned.

36. Neotel furthermore advises the Authority to take due consideration of current systems in this band before imposing any migration process.

5.4 NF 9: 700 MHz Band (694 – 790 MHz)

37. The table references Res 224 (WRC-12) instead of Res 224 (Rev. WRC-12). Neotel suggests that the consistency of the naming conventions of the ITU be maintained i.e. Resolution 224 (Rev. WRC-12).
38. Neotel also requests that note 3 be corrected to reflect that the allocation in terms of Resolution 232 (WRC-12) is effective immediately after WRC-15. However Neotel wishes to emphasize that it supports this allocation.

5.5 NF 9: 800 MHz (790 – 862 MHz)

39. Neotel supports the Authority's view that the 800 MHz band is available immediately for licensing and that those assignments in this band for Mobile services should be made prior to the end dual illumination period in line with the adopted channel arrangements. Confirmation of assignments in this band will provide certainty to operators to proceed with advance network planning and could commence rollout in areas where the broadcasting channels are not in use.
40. Though Neotel supports the 800 MHz band channel arrangement, it appears that the 700 MHz channel plans will be integrated with the 800 MHz channel plan.
41. Neotel seeks clarity with respect to Note 4(i) to the review of the channel plan.
42. Neotel from the outset supported the migration from the 850 MHz channel plan to the 800 MHz channel plan. However in order to provide adequate protection for the existing services Neotel submits that the following text be added to the end of Note 4(ii):

“Migration of existing electronic communications services in the 850 MHz and 800 MHz band will be addressed in accordance with the Frequency Migration Regulations and Plan 2012.”

5.6 NF 9: 1800 MHz

43. Neotel requests that the Authority correct the reference on the WRC Resolution to reflect Resolution 223 (Rev. WRC-12) otherwise clarity should be provided in this regard.

5.7 NF 9: 2300 MHz

44. The RR RN 5.282 does not appear in the South African Allocation table in this band.
45. Neotel suggests that the Authority verify this footnote.

5.8 NF 9: Note 7 - 2600 MHz (2500 – 2690 MHz)

46. Neotel supports this allocation.
47. However Neotel suggests that the Authority reference the applicable Regulation correctly. The Frequency Migration Regulations and Plan should be applicable instead of the Radio Frequency Spectrum Regulations.

5.9 NF 9: Note 8 - 3.5 GHz

48. The Authority proposes a modified channel arrangement F2 (3410 – 3490 MHz paired with 3510 – 3590 MHz) in the 3.5 GHz band for IMT. Neotel has made substantial investment in deploying FWA services in this band. However, Neotel supports this allocation provided that an in-band migration plan is adopted to provide adequate protection to existing services in the band. As an affected party in the band Neotel will also make a proposal on the draft Frequency Spectrum Migration Plan 2012.
49. The principle of Neotel's proposal is to migrate its existing service to the top edge of the band as per the F2 channel arrangement. This will allow optimum use of the available spectrum as well as preventing the wastage of value spectrum to make provision for sufficient guard bands.

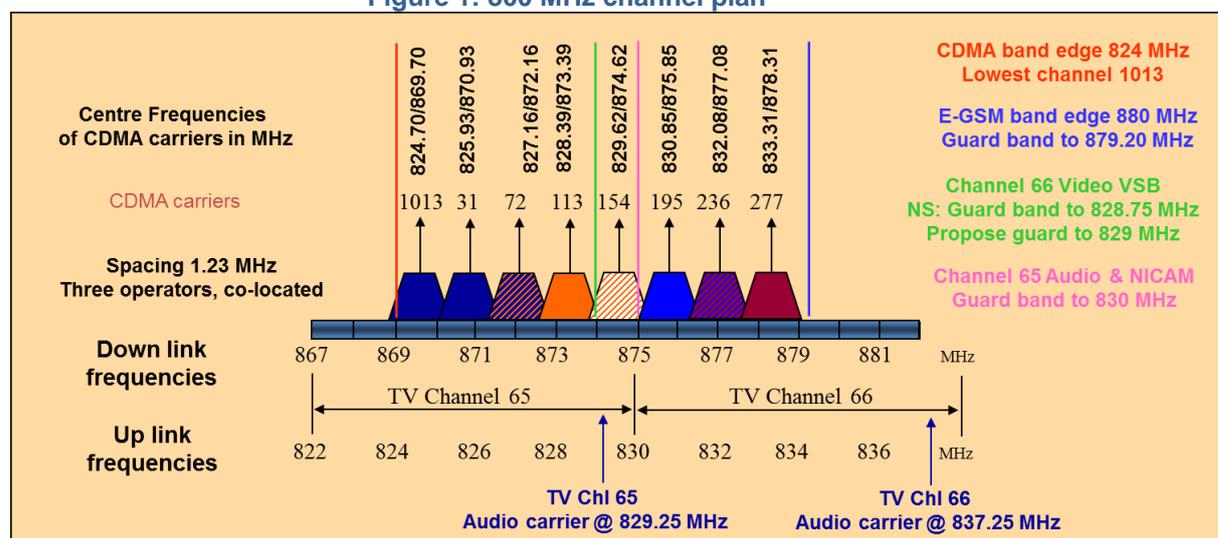
5.10 NF 10: 876 – 880//921-925 MHz

50. Neotel supports the Authority's proposed design of the frequency channel arrangements for the 800 MHz band, in line with relevant authorities in ITU Region 1 and the relevant ITU-R recommendations. This design of the migration and channel arrangements are captured in Government Gazette 34872.
51. The Authority recommends assigning 2 x 10 MHz (791-801 MHz paired with 832-842 MHz) and a further 2 x 1.2 MHz (830.8-832 MHz paired with 875.8-877 MHz) in the 800 MHz band to Neotel. Neotel supports this approach to its in-band migration.
52. Following a competitive, comparative bidding process which culminated in the issuance of the SNO licence in 2006, Neotel was assigned spectrum in the 800 MHz band, which deliver consumer and SME services. As the Authority explained, Neotel has been assigned 2 x 4.92 MHz for CDMA in the band which is spread throughout the frequency range 827.775 - 832.695 MHz paired with 872.775 - 877.695 MHz.
53. In 2003, ICASA obtained a study from Qualcomm supporting the dual use of the 800 MHz band in South Africa for broadcasting and telecoms. ICASA subsequently carried out an inquiry into sharing of 800 MHz spectrum between broadcasting and telecoms,

and published its findings in February 2004. The outcome of this inquiry was a decision to conduct research to formulate possible sharing criteria between broadcasting and telecoms in the band. On 30 March 2004, the SA Table of Frequency Allocations was published, including National Footnote 27, which confirmed the requirement for research on sharing to be done. A field trial was undertaken in February 2005 by Transtel, Eskom, Ericsson and Qualcomm, to assist ICASA with regard to sharing criteria. In August 2005, a co-existence study was conducted, which was submitted to ICASA. On 31 October 2006, ICASA published the outcome of its research in the Government Gazette, permitting telecoms operators to apply for 800 MHz spectrum, on the basis of sharing with broadcasters in TV Channels 65 and 66. Following the application process, ICASA assigned 800 MHz spectrum to Neotel on 28 March 2007. The Authority confirms in Note 3 that Government Gazette 29345 still applies which is supported by Neotel.

54. The band plan for the use of the band, specifically for CDMA2000 or technologies using the same band plan, provides for eight 1.23 MHz uplink channels within TV Channels 65 and 66, with a total bandwidth, including guard bands, of approximately 10 MHz. The matching downlink channels are above the TV band, adjacent to the E-GSM band.
55. The current band plan for the 800 MHz band is depicted below on Figure 1. The total spectrum available in 800 MHz band currently for telecoms operators, in which Neotel has assignments, is therefore a little over 2 x 10 MHz.

Figure 1: 800 MHz channel plan



56. According to the draft Frequency Migration Plan 2012, Neotel supports the continuing use of this band for Mobile Wireless Access Services and prompts the Authority that Neotel's entire consumer based services operates on these frequencies.

57. Neotel further suggests that some of the typical applications in the Plan be moved to the South African Allocations and footnotes column. This should be done throughout the document with the typical application such as fixed links, Mobile Wireless Access etc. remaining in that column.

5.11 NF 10: 865 – 868 MHz

58. Neotel notes that the Authority has sub-allocated the band 865 – 868 MHz to RFID. RFID does not reflect as a service in this band in GG 34172, Annex B.

59. Neotel seeks clarity in this regard and further suggests that if this is a future service, that this band be included in GG 34172.

5.12 NF 12: 1452 - 1492 MHz

60. Neotel suggests that the RR FN 5.345 be aligned with the ITU RR Table of Frequency Allocations as it applies to the entire sub-band and not only to the broadcasting services.

5.13 1920 – 1980 paired with 2110 – 2170) MHz

61. Neotel supports this allocation. However Neotel has raised concerns on numerous occasions on the assignments and the apparent licensing of radio frequency channels to operators in GG 34040, 22 February 2011. Neotel respectfully requests the Authority to note this and advise that we will raise this at the appropriate forum as well as in the Frequency Migration Plan.

5.14 NF 14: Note 1 (3600 - 4200 MHz)

62. In the Draft Frequency Migration Plan 2012, the Authority concurs that it is difficult to coordinate between FSS (VSAT) and BFWA and that there will be no change in this allocation.

63. Neotel suggests that the Authority includes a footnote in the SADC FAP stating the country's position: that no BFWA systems will be assigned in this band and that developments in this band will be monitored.

5.15 NF 14: 4.8. GHz (4400 - 5000 MHz)

64. Neotel suggests to additionally referencing ITU RR Appendix 30B in the table or the Plan.

5.16 NF 14: (10.7 – 11.7 GHz)

65. Neotel suggests referencing ITU RR Appendix 30B in the table or the Plan if applicable.

5.17 NF 14: Note 6 - 26 GHz

66. The band 26 GHz band (24.5 – 26.5 GHz) is used for Point-to-Multipoint (PtMP) BFWA services in South Africa in line with the SADC Frequency Allocation Plan. There are numerous assignments for PtMP services that have been made to operators in this band.

67. Neotel requests that BFWA services be included in the NF 14 (Note 6) or referenced in the Plan.

5.18 NF 14: 80 GHz

68. The band 80 GHz band (71 – 76 GHz//81 – 86 GHz) is used for BFWA services globally and is allocated for Fixed services in line with the SADC Frequency Allocation Plan. Neotel has successfully completed studies in this band.

69. Neotel requests that the Authority expedite the channel arrangements of this band in line with the CEPT Rec. (05)(07) and identify the applicable ITU standard.

5.19 NF 16: 5725 - 5850 MHz

70. The table in Note 16 appears to be an amendment of the GG 32172, Annex B. It also appears that this table contains content, transferred from the draft Radio Spectrum Frequency Regulations (GG 33590, 29 September 2010), which was omitted in GG 32172.

71. Neotel seeks clarity in this regard and further recommends that the amendment to Regulations should follow the due process stipulated in the ECA.

5.20 NF 18: 27.5 – 28.35 GHz

72. Neotel notes the omission of NF 18 from the allocation. In order to maintain consistency Neotel suggests that the national footnote be captured in the table.

6. CONCLUSION

73. Neotel thanks the Authority for its efforts to ensure that radio frequency spectrum is used efficiently and effectively. The review of the National Radio Frequency Plan is timeous and laudable. To ensure that this happens with the intended outcomes being realised, Neotel suggests that the main issues raised in the public consultation process be considered for further inclusion in the process ahead.
74. Neotel would like to participate in any hearings that the Authority may hold in respect of this Draft National Radio Frequency Plan 2012.
75. Neotel remains at the Authority's disposal to clarify anything in this submission or to assist in the finalisation of the Draft National Radio Frequency Plan.

