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Hutchison 3G UK Limited
Response to
UK Defence Spectrum Management
A consultation on: An Implementation plan for Reform

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Introduction

Hutchison 3G (UK) Limited ("H3G") welcomes the opportunity to comment on the Ministry of Defence ("MOD") consultation: "An implementation Plan for Reform" (the "Consultation").¹ The MOD currently manages a substantial amount of spectrum between 70 MHz and 15.7 GHz. This frequency range covers some of the most attractive bands from the perspective of providing mobile broadband services (spectrum between approximately 700 MHz and 5 GHz being the prime focus) and backhaul applications in the higher frequency bands.

The Mobile Broadband Market

The mobile broadband market is currently experiencing significant growth and this growth is forecast to continue and accelerate as the mobile broadband market develops from being the preserve of the 'early adopters' to becoming widely adopted by the general public. This process is well underway and Ofcom's recent Communications Market Survey 2008 highlights the growth of the mobile broadband market. H3G believes that this growth is sustainable but is dependent on a level competitive playing field if the full potential of this developing market is to be realised together with the associated improvements in network capacity and data speeds. Capacity and data speeds will drive future market growth in mobile broadband services and applications.

As demand for mobile broadband services grows there will be increasing demands made on network capacity. The most effective way to increase network capacity is often to use additional spectrum. The planned awards of 2.6GHz, the DDR cleared spectrum award and resolution of mobile liberalisation of the 2G and 3G bands will all contribute to the availability of additional suitable spectrum but it is clear that serious consideration is required of availability of more spectrum in the future to satisfy forecast growth in mobile broadband services. The MOD managed bands offer additional scope for adding to the supply of suitable spectrum.

H3G is the leading provider of mobile broadband services in the UK through its third generation (3G) network. In September 2007, H3G launched its current "mobile broadband" ("MBB") products. These products are based around easy to use, plug and play USB modems providing High Speed Download Packet Access ("HSDPA") computer internet connectivity. The 3Group recently announced reaching 1 million mobile broadband subscribers in the European Union and around half of those subscribers are in the UK. H3G was the first 3G network deployed in the UK offering national coverage now serving over 90% of the population. The recent agreement between H3G and T-Mobile to share Radio Access Network (RAN) facilities will increase network coverage to 98% of the population by the end of 2009.

In summary, H3G believes that future access to suitable spectrum, subject to competition considerations, is critical to ensure the sustainable and effective development of the MBB market. However, whilst the MOD proposals for the release or sharing of spectrum it manages is seen by H3G as being potentially beneficial, that benefit is directly related to the degree to which the spectrum released or shared is harmonised at the European or global level.

¹ Published on 30 May 2008



Priorities for Spectrum Release

H3G believe that the most important criterion for determining what bands should be given top priority for early release is whether or not the band under consideration is subject to an international harmonisation measure, e.g. by a Decision or Recommendation within the EC/CEPT or the ITU-R. For the mobile broadband market (and many others) access to harmonised spectrum on a European or global basis is seen as being critical to the successful development of associated services as this allows access to larger markets that in turn result in a lower product cost base derived from the associated scale economies. In this context, the 2.3 – 2.4 GHz band has been identified at the ITU WRC 07 for international mobile telecommunications (IMT) and should accordingly be treated as a higher priority than the current proposal in the Consultation. Similarly, the 3.4 – 3.6 GHz band has been harmonised in Europe and therefore offers potentially higher benefits than non-harmonised spectrum. The 2.7 – 3.1 GHz band is also potentially very attractive spectrum if the current co-existence problems can be resolved and the band can be harmonised at the European or global level.

Competition Issues

The Consultation acknowledges that there could be competition issues if one party was to obtain a significant proportion of the spectrum related to a relevant market. In addition there could be a competition issue if a band manager under MOD's control was also providing commercial services in a related market. H3G believes that the Consultation has correctly identified potential competition issues and would wish to see a more detailed description of how these potential issues will be handled to ensure that competition is not harmed.

Spectrum Usage Rights (“SURs”) and Compatibility Issues

The Consultation describes how MOD, through Recognised Spectrum Access (RSA), will be able to trade its spectrum rights in the secondary market. The technical limits are defined in SUR terms in Annex 6 of the Ofcom consultation² and specifically relate to the 406.1 – 430 MHz band.

H3G has previously expressed concerns with the use of SURs in its responses to various Ofcom consultations on SURs or the proposed use of SURs for certain planned awards such as the 2.6GHz band. The concerns centre on a lack of regulatory certainty, enforcement and dispute resolution issues, some practical aspects of using the specified modelling tools and the use of a statistical metric for interference compliance assessments. H3G notes that Ofcom has still to apply SURs to a real network and demonstrate proof of concept.

In this context, H3G has concerns with the use of SURs for the MOD managed spectrum. Indeed, to take one example, co-existence between radiolocation systems may well be improved if the specific system characteristics of the radar station and the proposed technology of the potential sharer is used in the compatibility assessment as it may be more beneficial to use transmit masks rather than SURs and this can only be decided on the merits of the specific case. In this regard, it would be helpful if the MOD could provide more information regarding whether the radiolocation systems in the bands 3.4 – 3.6 GHz (and the lower adjacent band), are

² Spectrum Framework Review for the Public Sector: Notice of Ofcom's proposal to make regulations on Recognised Spectrum Access for public bodies and consultation on technical conditions published on 20th June 2008



compliant with the radar characteristics shown in CEPT Report 100, section 4.4, table 4.4 and that the guidance provided in section 5.5 is applicable.

In the same context, H3G is concerned with the text in section 6.29 which states that:

“...the MOD has said that it will normally aim to keep within the terms and conditions of its RSA and we would seek to follow similar procedures in dealing with any interference that it may cause.”

H3G's view is that this is not an acceptable formulation for SURs. A prospective licensee would not be able to determine its spectrum rights with sufficient certainty if the MOD commitment is constrained by its statement that it would *normally aim to meet the terms and conditions of its SUR limits*. Conditional compliance is difficult to quantify and likely to have no legal force.

H3G notes that in the recent Ofcom consultation on its “Notice to make Regulations on RSA for public bodies” that for the band 406.1 – 430MHz (the first band to be released under the MOD's implementation plan) has three different methods of specifying technical limits: SURs, spectrum masks and transmitter power. Ofcom acknowledges in the DDR cleared spectrum consultation³ that the use of SURs is compromised unless all the systems in the relevant band are specified in SUR terms. The relevant band for these purposes could be considered to be effectively 406.1 – 430MHz.

Conclusions

The release or shared access of spectrum managed by the MOD is an opportunity to increase the supply of spectrum to the wireless market for the benefit of the UK economy and citizens and consumers. There are certain bands that could be particularly suitable for the future development of the mobile broadband market. The benefits derived from these bands will be dependent on harmonisation measures as mentioned in this response.

Increasing the supply of harmonised spectrum is the first objective but the associated issue is that the spectrum must be released into the market in a manner that takes into account any competition issues related to the existing market environment.

H3G notes that there will be a Statement later this year which will provide more detail on some of these issues and H3G looks forward to contributing further once that information is available.

³ Ofcom Consultation on the Digital Dividend Review: Cleared Spectrum; 550-630MHz and 790-854MHz



Consultation Questions

Question 1. Do you agree that the MOD has identified the options and factors that MOD should consider before deciding whether or not to extend the audit of the spectrum it uses?

H3G believes that the approach proposed is appropriate with the caveat that spectrum that has been harmonised at the European or global level for wireless services such as mobile broadband is more likely to generate economic benefits and this should guide MOD's implementation plan.

Question 2. Do you have any views on the priority with which MOD should audit its spectrum use?

H3G notes that the band 2.3 – 2.4 GHz was identified at WRC 07 for IMT services and this should be a higher priority band than is currently the case in the Consultation's proposals.

Question 3. Do you agree with the phased approach to applying for RSA that the MOD is proposing?

H3G accepts that a phased approach is necessary given the need for Ofcom to consult on RSA and specific trading regulations. The 2.7 – 3.1 GHz band and the 3.4 – 3.6 GHz band are potentially important for the future development of mobile broadband services and whilst the latter is being taken forward as a priority, H3G believes that more attention should be focused on resolving the issues regarding the 2.7 – 3.1 GHz band.

Question 4. Do you agree with the MOD's plans for releasing and sharing the spectrum it uses?

H3G is broadly supportive noting the previous comments regarding the ranking of priorities.

Question 5. Do you agree with MOD's priorities for releasing and sharing spectrum?

Please note answer to question 4 and previous comments.

Question 6. Do you agree with MOD's outline timetable for initial spectrum releases?

At this stage it appears to be a reasonable basis for the initial spectrum releases.

Question 7. Do you agree that MOD has correctly and fully identified the factors and options that should be considered before deciding to release and acquire spectrum in the market?

The use of an investment appraisal approach to decide whether to release spectrum, share spectrum or acquire spectrum is appropriate. However, the scope of the investment appraisal needs to be wider than benefits and cost accruing to the MOD. The decision should be based on the costs and benefits to the UK economy. On a related issue, MOD should consider applying to use the spectrum efficiency fund if the costs of clearing existing users/systems from spectrum it manages can be clearly demonstrated to produce wider economic benefits.

Question 8. Do you agree that MOD has correctly and fully identified the factors and options that should be considered before deciding the best means with which to interact with the market?

No comments.



Question 9. Can you identify any different approaches for the MOD to manage the spectrum it uses and engage with the market to deliver better value for money for defence and the taxpayer?

H3G believes that there may be benefit in MOD proactively promoting harmonisation initiatives in Europe and NATO that may add value to the spectrum prior to release or sharing.

Question 10. Which options (from paragraph 6.7) should be considered, or discounted, and if so why; either in respect of options already identified in section 6, or additional options, not identified?

H3G believes that the main options have been correctly identified. H3G has no firm views on the options considered but believes that different approaches are likely to be appropriate depending on the circumstances associated with a particular spectrum band and none of the options should be ruled in or ruled out.

Question 11. Which issues relating to section 6 should be considered when evaluating options, and if so why; either in respect of issues already identified in that section, or additional issues, not identified?

The key issue from H3G's perspective is that the option chosen must fully take into account any impact on competition considerations and the appointment of band managers must avoid conflicts of interest i.e. if the band manager provides commercial services in the same relevant market.

Question 12. Is the scope of decisions required against each of the four questions at paragraph 6.3, as indicated in section 6, sufficient and, if not, how and why it should be extended?

H3G is concerned that the considerations under paragraph 6.20 are paramount and we would wish to see further detail on how conformance with competition and resolution of conflicts of interests will be considered.

H3G agrees that it will be important to develop an estimate of the volume of trades that a third party would handle as this will determine whether a viable business model is supported.