"Working for quality and diversity in British broadcasting"

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Response from The Voice of the Listener & Viewer to Ofcom's Consultation on the future use of the 700 MHz Band

Voice of the Listener & Viewer (VLV) is an independent, non-profit-making association, free from political, commercial and sectarian affiliations, working for quality and diversity in British broadcasting. VLV represents the interests of listeners and viewers as citizens and consumers across the full range of broadcasting issues. VLV is concerned with the structures, regulation, funding and institutions that underpin the British Broadcasting system. VLV is a charitable company limited by guarantee.

1 Introduction and Summary

1.1 VLV welcomes this opportunity to respond to the consultation on spectrum deployment in the 700 MHz band. Many of our comments and concerns are unchanged from our response to the original UHF spectrum review in 2012.

1.2 The re-planning of the UHF spectrum seeks, among other things, to exploit spectrum more intensively than hitherto. The demands on spectrum will intensify as time progresses and this will stress planning rules to their limits including a potential need to relax parameters such as protection ratios. VLV expects a robust protection of public services.

1.3 VLV welcomes the clarification of Ofcom's role, especially the primary objective expressed in the consultation to protect the DTT platform and to reduce the disruption and costs to consumers which could result from a change of use of the band. We expect that the protection afforded Public Service Broadcasting [PSB] and other closely related services that make up the Freeview platform will not be compromised.

1.4 VLV also welcomes the explanation of the international dimension to the use of the 700 MHz band of spectrum in the UK as part of the European community. VLV welcomes the statement in Clause 3.8.

1.5 VLV is alarmed by the comment in Clause 3.19 that some of the 500 MHz band [470-694 MHz] may also be under threat of redeployment.

1.6 VLV notes the comments in Clause 4.13 regarding the potential use of 600 MHz spectrum for DTT should the 700 MHz not be adopted for mobile communications.

1.7 VLV also appreciates that there are alternative uses for some of this spectrum and that the prime candidate for that use is mobile telephony and broadband services. The benefits of these services are recognised. but the proven benefits of PSB via the Freeview platform suggest that the balance between the demands of these services should be evaluated with great care and diligence.

1.8 VLV also welcomes the anticipation of potential events ahead of any actual release of the 700 MHz spectrum and the identification of measures that will smooth the progress of any future change of use. In particular, VLV welcomes the early consideration of any measures that will help consumers become aware of, and adopt, appropriate solutions to the problems that will arise should the 700 MHz band be redeployed for mobile use.

1.9 VLV welcomes the discussion in Clauses 4.33 and continued in Section 5. In particular, the numerous technical changes that could occur if the 700 MHz band is redeployed; e.g. re-tuning and aerial replacement, and those relating to transmission standards; e.g. MPEG4/HEVC and DVB-T2, suggest a need to package them into advances that can be conveniently and economically absorbed by consumers and manufacturers. Doubtless these factors could be left to the market were it not for the enforced changes to spectrum use. A planned approach is far more preferable to a series of uncoordinated ones.

1.10 In response to the spectrum review consultation in 2012, VLV expressed deep concerns about a number of aspects of the conduct of the spectrum planning process, both nationally and internationally, and the impact on consumers of recent planning proposals. We reiterate those concerns here:

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- *The highly technical and complex nature of the process which makes it very difficult for consumer groups, whose resources and technical expertise are limited and often voluntary, to comprehend fully the consequences of what is proposed and so form a view of the likely impact on consumers.*
- *The scale of the problem is reflected by the fact that there are currently 39 channels accessible by DTT services that comprise the Freeview platform. These are all cleared for UK DTT use by agreement with European neighbours. It is our understanding that, without use of the seven cleared channels in the 600 MHz band, this will be reduced to 21 following clearance of the 12 channels in the 700 MHz band, a halving of the available capacity. These 21 channels will be expected to support the same set of services as the original 39 and provide space for future growth. With the seven 600 MHz channels this increases to 28 which is still a substantial 35% reduction.*

- *It is unclear why the 800MHz band clears nine channels to support an LTE system whereas the 700MHz band appears to need 12.*
- *The piecemeal treatment of the spectrum planning consultations, each comprising several lengthy documents, so that the whole picture of what is being envisaged over a long period of time is not visible, or at least is not treated as a whole.*
- *Having completed a switchover to DTT involving consumers in expense and disturbance, they are now to face a decade or more of further disturbance whilst new mobile telephony services are introduced. These are proposed for neighbouring spectrum bands [800MHz] and also in bands [700MHz] that are currently occupied by DTT services.*
- *This loss of stability, together with softening of the protection rules hitherto applied to PSB services, will not help DTT continue to thrive.*
- *The international aspect of planning that requires UK acceptance of decisions that are not necessarily beneficial to UK PSB consumers. The redeployment of the UHF to make room for 700 MHz mobile services requires the co-ordination of this change all over Europe, satisfying the DTT requirement and the mobile; so if this agreement cannot be reached, it is not clear what will happen.*
- *The reasons for European harmonisation of mobile spectrum use in 700 MHz are lost if it is not uniformly applied. It seems that the South East, because of its proximity to the continent, will have significant problems in finding DTT spectrum to reconstitute the whole Freeview platform.*

1.11 Further to these technical concerns, the present consultation raises a number of other concerns about the economic justification for change and how that justification is expressed in terms of a CBA (Cost Benefit Analysis). Previous CBA projects such as those allied to Digital Audio Broadcasting [DAB] have illustrated not only the complexity of the methodology to be used but also issues related to the verity and reliability of source data. The result of a CBA is only valid if both these elements have had wide discussion and public scrutiny.

1.12 VLV welcomes the Ofcom initiative to conduct a thorough and public Cost Benefit Analysis [CBA] of the future use of the 700 MHz band. We expect that the interests of the players, both commercial and public, will be treated proportionally such that, for example, early release to the advantage of commercial players would not produce difficulties for PSBs or consumers.

Limits of response from VLV and need to protect consumer interest

1.13 Much of the present consultation is primarily about a CBA for the potential exploitation of the 700 MHz band and the arrangements for auctions (questions 14 to 19). VLV and other consumer groups do not have the expertise to comment authoritatively on many of the specific questions posed and so VLV has not responded to some of those specialist questions; these questions are best answered

by expert groups, some of which will have certain vested interests. In seeking to protect consumer interests in a complex debate, VLV expects that Ofcom will be mindful of the need to protect the public interest and in particular the important and vital services that are the basis of PSB.

2 Response to Questions

Question 1: Have we correctly identified and characterised the potential costs set out above, and what other costs – if any – should be taken into account in our assessment?

2.1.1 The categories of cost are clear but there remains much work to clarify and evaluate them more precisely. We agree that some items will be very hard to quantify and so a qualitative approach will be necessary.

Question 5: In particular, what is your view of the likely future demand for additional sub-1 GHz spectrum for the provision of mobile data services, and what evidence supports this view?

2.5.1 Historically it has been true that demand for mobile communications has grown rapidly and is widely appreciated by consumers. Consequently it seems to be widely accepted that mobile communications will continue to grow rapidly in the near future, thus potentially demanding more spectrum resources, possibly at the expense of other established services. Of the spectrum that could be made available the sub 1 GHz bands are prime targets, not least because of their propagation characteristics. This is also the precise reason why the spectrum is also valuable for PSB.

2.5.2 The recent release and auction awards for 4G services in the 800 MHz band are only now being implemented. Therefore it may be some years before this spectrum and other 4G allocations is exhausted and additional demand, sufficient to require use of the 700 MHz band, becomes sufficiently apparent to require action. The progress of these 4G services will be an indicator for that additional demand.

2.5.3 Given that release and deployment of the 700 MHz band will, among other things, be the subject of international discussion in 2015, it appears that it cannot happen before 2018. Therefore, there appears to be ample time and opportunity for the demand for additional spectrum at that time to be predicted. However, the logistical issues involved in the auction and implementation of new networks suggest that the planning time will not be excessive and so it is wise to begin that process sooner rather than later.

2.5.4 In particular, the main issue facing consumers is clear; they can have the benefits of new mobile services but potentially at the expense of some valued public services. In this case a public debate is essential.

Question 6: Should we place different weights on some costs and benefits than on others, for example depending on whether costs would be borne by consumers, DTT operators, or mobile operators?

2.6.1 Yes. Industry will lead the expansion of mobile communications for commercial reasons. Industry will bear its costs in relation to its perceived benefits, i e profits, and operators and handset manufacturers will make those choices voluntarily. Consumers, as mobile communicators, may also make similar choices, balancing perceived cost and benefit.

2.6.2 However, consumers as listeners and viewers of PSB services do not have such a choice and will be coerced at some point, possibly more than once, into adopting expensive new equipment. At best those public services may be constrained and limited by the paucity of spectrum made available to it.

2.6.3 It is clear that the incumbents in the 700 MHz spectrum are the DTT operators, who in good faith, have for many years provided highly valued services to the consumer, free at the point of consumption, save for the cost of a receiver. They have also endured the DSO process at considerable expense. As the newcomer in this area, the new mobile operators in this spectrum should bear fully the excess costs of any change of use. If DTT operators are set to lose in any way their position, they should be compensated for that loss, even if they volunteer to release spectrum rights.

2.6.4 As a matter of principle, the DTT consumer should bear the least cost of all, preferably none, because the consumer has no influence whatsoever on the need for change and therefore should not have to pay for the benefits of other players and the costs he has to bear as a result. Consumers as mobile network customers will pay directly to those operators for the benefits received from any mobile network they voluntarily choose to use.

Question 9: How quickly could the 700 MHz band be released? What would be the impact on DTT infrastructure costs of releasing at the earliest possible time compared to a later time? What would be the factors which affect these costs?

2.9.1 The answer to this question is best left to expert input from the network operators. DTT infrastructure costs will be incurred anyway if the 700 MHz band is allocated for mobile use. If the rollout period is lengthy the costs will be spread over more than one financial year and so may be more tolerable. It is historically the case

that costs such as these escalate with time and so an early start could offer advantage.

Question 12: What would be the impact on mobile broadband delivery and competition of releasing the 700 MHz band later rather than sooner?

2.12.1 This depends on the success of the 4G roll out currently in progress. If by 2015, when international agreements may be in place and then 2018, when services in the 700 MHz band could be operational, it is clear that demand is adequately contained in the existing bands, then there is no urgency for the release of the 700 MHz sector.

2.12.2 However, if it is clear that if demand is not being met then an unsatisfied need for more spectrum would impede mobile broadband services as well as constrain competition.

Question 20: Have we correctly identified and characterised the potential impact of 700 MHz release on consumers accessing DTT? What other impact – if any – should be taken into account in order to identify pre-emptive measures to reduce this impact?

2.20.1 The technical impact on consumers is clear; potentially new aerials and receivers. There is an obvious consequential cost with no benefit. It is even possible that there will be a loss if services are curtailed.

2.20.2 The disruptive and confusing elements of change are harder to quantify, especially for the vulnerable, but it is noted that these consumers will be provided with support during any transition.

2.20.3 Any transition between technologies not only requires technical impact to be assessed, but there is also the impact of the time scale over which consumers have to adapt to changes. If a decision to change the use of the 700 MHz band is made, a plan should already be in place to begin a transition of DTT services, so that consumers have the maximum amount of time to respond.

Question 21: Do you have any comments on the pre-emptive measures relevant to DTT identified above? Are there other pre-emptive measures we should be considering?

2.21.1 During any technical change to PSB services there is an implied transition period during which migration of consumers' equipment takes place. As a consequence there is also an implied need for the simulcasting of services, in both new and old formats, until such time that the old format is no longer significant in the market and an enforced change can be applied to the remaining small number of consumers.

2.21.2 Historically this migration has taken many years, sometimes decades (e g 405/625 line analogue standards); the transition to DTT which began in 1998 took 14 years. A shorter migration period would be desirable to reduce costs, provided that sufficient time was allowed for consumers to migrate too.

2.21.3 Considering the key role that spectrum plays in supporting both mobile and DTT services, the spectrum planning for such a migration should be included among the pre-emptive measures. Accelerating this transition could be difficult without substantial incentives to consumers.

Question 22: Have we identified the correct measures to support consumer adoption of DVB-T2?

2.22.1 Having replaced their receiver systems for DSO, all DTT consumers have invested in equipment that is now only a few years old. The introduction of a limited number of HD services has also led to the introduction of some DVB-T2/MPEG4 receivers. Going forward, all new receivers will be DVB- T2/MPEG4 compatible and so the market is gradually being populated by receivers that will be ready for any change exclusively to these standards.

2.22.2 There is therefore already in place a motivation – the HD services, provided these are adequately maintained and extended – as well as the supply of suitable product at affordable prices.

2.22.3 To accelerate this progress, incentives on both supply and demand side of the economy would be necessary; more HD services on the former and reduced prices/greater availability on the latter.

2.22.4 The design of receivers for the appropriate frequency bands is the uncertain factor in this case. At present all receivers need to access all the bands transmitting DTT services, including the 600 MHz band, even though no current services are located there. Exclusion of this band from the receiver's capability is technically problematic and undesirable and should be avoided. The early introduction of more HD services in the 600 MHz band would be a good incentive for consumers.

Question 23: What regard, if any, should we have to wider technical evolution of the DTT platform, such as HEVC?

2.23.1 The DTT platform provides a successful and highly valued set of services. The natural technical developments that normally and historically have led to advances in the delivery and quality of these services should not be constrained. It follows then that HEVC should take its place among the potential enhancements of DTT.

2.23.2 It is advantageous that HEVC is expected significantly to reduce the bit rate capacity required to deliver a given video service and so the demand on spectrum, other things being equal, is beneficial. That saved spectrum could allow more services, especially those in HD and possibly 3D, that the DTT platform is currently unable to support because it is constrained and uncompetitive due to lack of spectrum.

2.23.3 It is worth noting that if more TV receivers are equipped with wireless internet access [Wi-Fi] so as to view material via downloads then those receivers could have HEVC installed as part of the evolution of coding technologies. By suitable receiver design, a HEVC decoder could be shared or a new decoder downloaded via the internet connection. Thus the encouragement of internet ready TV sets would help the transition.

Voice of the Listener & Viewer
July 2013