

*"Working for quality
and diversity in
British broadcasting"*



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Response from Voice of the Listener & Viewer to Ofcom's Consultation

Securing long term benefits from scarce resources

A strategy for UHF bands IV and V

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Securing long term benefits from scarce resources A strategy for UHF bands IV and V

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.

Executive summary

Voice of the Listener & Viewer welcomes the opportunity to respond to this consultation. We have taken an interest in this issue since the use of the spectrum freed up by the switch to digital broadcasting for terrestrial television became a public debate. We have responded to Ofcom consultations on this subject; see especially the responses in March 2007 to *the Digital Dividend Review* and May 2012 to Ofcom's *Second consultation on coexistence of new services in the 800 MHz band with digital terrestrial television*.

In 2007 VLV stated "the UHF spectrum is so important for the concept of broadcasting, i.e. one to many at low capital cost, that some spectrum should be reserved for future broadcast systems. Given the rapid pace of technological development, it is impossible to say that new systems will not be invented that will require UHF spectrum post switchover." Since 1961 public service interest issues have led planners to apply the highest protection to this spectrum. We expect that the protection afforded public service broadcasting (PSB) and other closely related services that make up the free-to-air platform will continue. VLV has been dismayed by recent proposals that appear to break that historic rule.

Most of this response consists of answers to the 23 questions asked in the consultation document. However we also make some general points:

1. The highly technical and complex nature of the process and the content of the consultation documents make it very difficult for consumer groups, often with limited resources, to comprehend the consequences of what is proposed. Therefore it is challenging to form a view of the likely impact on consumers. This concern applies to most consultations on spectrum issues.
2. This is compounded by the piecemeal approach to the consultation process. The whole picture of what is being envisaged over a long period of time is not apparent or, at least, is not treated as a whole. The present consultation should have come before the more detailed one from Ofcom about the 800 MHz spectrum (from 23 February to 19 April 2012) to which VLV responded in detail.

3. We are very concerned about the impact on the most vulnerable citizens of the United Kingdom, who have just had to cope with the uncertainty and costs of the switch to digital television. Along with many consumer organisations, we supported the technology used by the Freeview system as we expected it would lead to a stable future and provide a simple and cheap method of receiving digital television. This certainty is now in doubt.

4. We are very concerned about interference to the DTT services caused by poor regulation of some services and the use of inadequate equipment by these often low budget operators. Digital transmission methods are known for their “cliff edge” failure characteristic and so even a modest amount of interference can cause a failure to receive a wanted service. It is therefore important in future planning to take account of the greater threat from interference.

Securing long term benefits from scarce resources A strategy for UHF bands IV and V

Introduction

1.1 VLV welcomes this opportunity to respond to the consultation on spectrum reuse in the UHF bands IV and V.

1.2 VLV appreciates that certain consultations have to be conducted in the process of reallocation of the UHF spectrum between 470 and 862 MHz, spectrum that has hitherto been virtually the sole domain of analogue television services and its digital equivalent and successor, Digital Terrestrial Television (DTT). Since 1961 public service interest issues have led planners to apply the highest protection to this spectrum. We expect that the protection afforded Public Service Broadcasting (PSB) and other closely related services that make up the free-to-air platform will continue. VLV has been dismayed by recent proposals that appear to break that historic rule.

1.3 VLV also appreciates that the Digital Dividend Review has identified alternative uses for some of this spectrum and that the prime candidate for that use is mobile telephony and broadband services.

1.4 The recent proposals for reuse of the 800MHz sector and the consequential effects on consumers are of deep concern to VLV members and we responded to the consultation. Our view of the mitigation measures proposed is that they are totally inadequate and ill-considered. If this blow were not enough, we are now faced with yet another consultation proposing more significant changes to the UHF spectrum which could have an additional damaging effect on DTT services in the future.

VLV has 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. Among those concerns are:

1.4.1 The highly technical and complex nature of the process which makes it very difficult for consumer groups to comprehend fully the consequences of what is proposed and so form a view of the likely impact on consumers. The resources and technical expertise of these groups are limited.

1.4.2 The scale of the problem is reflected by the fact that there are currently 39 channels accessible to DTT viewers on a free-to-air basis via 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. 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.

1.4.3 The spectrum planning consultations have been piecemeal, each comprising several lengthy documents, so that the whole picture of what is being envisaged over a long period of time is not clear or treated as a whole.

1.4.4 Having virtually 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.

1.4.5 This loss of stability together with softening of the protection rules hitherto applied to public service broadcasting services will not help DTT continue to thrive.

1.4.6 The international aspect of planning that requires UK acceptance of decisions that are not necessarily beneficial to UK public service broadcasting consumers. The redeployment of the UHF band to make room for 700 MHz mobile services requires the co-ordination of this change all over Europe, satisfying the DTT and mobile requirements. If this agreement cannot be reached it is not clear what will happen (see Arqiva report section 4.1). 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 of the UK, because of its proximity to the continent, will have significant problems in finding DTT spectrum to reconstitute the whole Freeview platform.

More insight into those concerns will be apparent in our answers to the questions posed by the consultation. Our responses to the specific questions raised by the consultation are attached below.

1.5 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 stretch planning rules to their limits, including a potential need to relax parameters such as protection ratios.

1.6 One of these limits is interference insofar as properly licensed transmissions need to meet appropriate specifications of interference caused to other licensed services as well as being themselves tolerant to interference from those services. Digital transmission methods are known for their “cliff edge” failure characteristic and so even a modest amount of excessive interference can cause the disappearance of a wanted service. It is therefore important in future planning to take account of the greater threat from signal interference.

1.7 Of most concern is the protection of any licensed service in the UHF bands from unlicensed, non-specific radio frequency emissions that are incidental to electrical

equipment of all kinds and should be controlled using the provisions of various Electro-Magnetic Compatibility (EMC) directives. It has been known for some time that background levels of environmental electrical disturbance are increasing due to greater use of many kinds of electrical devices and machines. It is therefore likely over the next 30 years that the levels of this kind of interference will increase and will need more attention. The reduction of this form of pollution requires robust EMC regulation.

1.8 VLV has learned that there are already serious signs of this problem. It is widely reported that some devices that use Power Line Technologies (PLT) currently deployed in domestic and small business IT systems are causing severe interference problems for reception of FM and DAB services. It is believed that some of these devices fail the relevant EMC regulations by very significant margins but continue to be marketed and sold to unsuspecting consumers. This seems to be a serious failure of regulatory supervision. As the demands for wider bandwidths intensify, these devices are bound to use higher frequencies, possibly in the UHF band where DTT services are carried.

1.9 VLV would urge Ofcom to take serious note of this existing problem and its potential threat to the reception of legitimate licensed public service broadcasting DTT services. Relevant regulatory bodies must also seek to ensure that adequate EMC policing is applied to all devices based on technologies such as PLT that can emit harmful interference.

1.10 In the light of this failure to supervise EMC regulations adequately, VLV has concerns about the introduction of local TV, White Space Devices (WSD) and other services that share DTT spectrum. The potential need to use low cost equipment operated on low budgets together with light regulation and supervision could lead to inadequacies in interference and EMC performance. Our concern is not so much that planning and licensing is done with protection of DTT in mind but that light regulation and poor supervision could allow such inadequacies to go undetected and uncorrected when in operation.

Response to Questions

Future mobile broadband spectrum requirements

Question 1: Do you agree that meeting the future growth in demand for mobile broadband capacity will deliver significant benefits to citizens and consumers?

1.1 It is clear that the expansion of the scope of mobile communications has contributed to keeping the UK public and business sectors in the forefront of technological change, change that is continuing to evolve and contribute to the UK economy in general as well as to social and cultural activities. Mobile services including broadband are therefore a vital element in the communications mix and will require their due share of scarce spectrum.

1.2 However, because of this natural scarcity of spectrum these requirements and their attendant benefits must be balanced with other valuable services and be available to the whole community and not any particular segment of it. Specifically public service broadcasting and related services should not be made to pay for unreasonable demands by the mobile sector.

1.3 Consumers have recognised the benefits of mobile services by showing their willingness to invest considerable monthly sums to pay for them.

Question 2: Do you agree that additional harmonised mobile broadband spectrum will play an important role in meeting the future growth in demand for mobile broadband capacity? What are your views on the overall quantity of harmonised spectrum that will be required to meet future demand? How does this compare with the expected increase in spectrum for mobile use discussed in this section?

2.1 One of the great benefits of harmonization of personal communications systems has been the availability of low cost devices through mass production based on common standards which also brings the ability for travellers in particular to use the same device in many different parts of the world. This includes not only the adoption of common systems standards such as GSM but also the use of the same frequency bands. It follows that any evolution of mobile communications systems should attempt to continue that trend.

2.2 However the question of how much new spectrum, and where it is located in the available bands, should be allocated to these mobile services is debatable. Whilst it is clear that the growing demand for mobility will require suitable additional spectrum resource, this should not be at the expense of other vital services.

2.3 Market driven spectrum allocations would result in other services, specifically public services, suffering serious disadvantages in being unable to compete on a level playing field in spectrum auctions. Public service broadcasters are limited by

regulation and in funding and so it is necessary that regulation takes account of this and provides public services with ring-fenced spectrum.

2.4 Furthermore, the demand for scarce spectrum requires efficient usage by all users and so whilst the broadcasters for their part have developed near optimum modulation methods (e.g. DVB-T2) and use efficient media coding techniques, it is expected that mobile operators should be required to observe and to demonstrate the same approach.

Question 3: Do you agree that additional harmonised spectrum provided by the 700 MHz band could play an important role in meeting the future growth in mobile broadband capacity?

3.1 In view of the remarks above, there is limited choice where new spectrum for mobile services can be identified and the 700MHz spectrum is one of a few. It is therefore difficult to avoid being forced to agree with the proposition simply as a result of *force majeure* applied by decisions that seem already to have been made by international spectrum planners, despite their obvious negative consequences.

3.2 However, after a significant upheaval for TV consumers in the recent digital switchover (TVDSO) project to threaten them with further disruption by changing frequency allocations seems unfair and disproportionate.

3.3 The newcomer is the mobile sector and the current incumbent in the 700MHz region, DTT, has been placed in this region of spectrum after many years of planning and after much money has been spent by a large number of consumers on equipping themselves with new aerials and receivers.

3.4 The proposal to burden the consumer once again raises the question why, given the known very long term processes that spectrum planning involves, this was not foreseen sooner and why the current plan has divided the UHF band in the way it has? Why should the DTT users make room for the newcomer and why should it not be made to find spectrum from what else is available? The consultation appears to suggest a number of new spectrum bands albeit at high frequencies.

3.5 Furthermore, if this proposal is implemented, despite the consequences for citizens and consumers, each and every cost that consumers and broadcasters have to bear as a result of the changes forced upon them, should be borne wholly and completely by the new users of the vacated spectrum. That cost should in no way be borne by consumers. Dutiful DTT tenants of long standing in the UHF band are being threatened with eviction by a landlord who can see the prospect of greater rental income from a new tenant.

3.6 Any spectrum required to act as guard bands between groups of disparate services should be at the expense of the spectrum allocated to the new mobile services and should not be taken from the DTT allocation.

Question 4: Do you agree that the value of the role played by the 700 MHz band in meeting the future growth in mobile broadband capacity would be greater if it becomes available before other capacity enhancing techniques have been exhausted at existing mobile sites?

4.1 We do not agree that early release of 700MHz spectrum would be wise. Further to remarks above, the early allocation of the 700MHz band to mobiles would allow early introduction of new mobile services. However the long term nature of spectrum planning and management suggests that using spectrum for short term reasons is not wise and that the first priority should be to require the exhaustion of all means of improving spectrum efficiency in the use of mobile services before demanding that new spectrum be released.

Question 5: What timing of 700MHz release would maximise the benefits associated with its use for mobile broadband

5.1 Some would argue that the early allocation and release of spectrum would bring early benefit to the economy and to the consumer by expanding the scope and quality of services. It needs to be demonstrated beyond doubt that some of this could not be done by better efficiencies in the use of existing systems and spectrum.

Future DTT spectrum requirements

Question 6: Do you agree that DTT will continue to play an important role in providing universal low cost access to public service broadcasting content over at least the next decade?

6.1 It is clear from the evidence provided in the consultation support documents and by the sheer rate of growth of Freeview that DTT is a widely valued, vital and thriving component of the UK communications ecosystem. Its adherence to the long standing prime principles of UK public service broadcasting is a fundamental part of its popularity with citizens and consumers. VLV has long championed its use.

6.2 Its healthy situation suggests very strongly that DTT will be a major element in the future of the communications landscape, at least for the next ten years. However its potential for further growth is palpable and is amply demonstrated in the Zetacast support document; it has technology options for future development that will enable it to remain near ideal in spectral efficiency but also expand its scope as consumer demand requires. Excessive limitation of its access to spectrum could adversely affect this growth potential.

Question 7: Do you agree that, absent major changes in available spectrum, DTT would continue to remain attractive to viewers and deliver important benefits to citizens and consumers over at least the next decade?

7.1 YES. We believe there is every reason to believe that DTT has a long and valuable role that extends well beyond ten years and that it should be allowed room to grow.

Question 8: What are your views on the future technical evolution of the DTT platform? Are there other relevant factors affecting future DTT spectrum requirements that we should consider as we develop an approach to secure benefits from UHF band IV and V over the long term?

8.1 Both the Arqiva and the Zetacast reports attached to the consultation document are highly technical and contain a range of scenarios that attempt to provide a clear view of the potential for change and development in the DTT platform. These documents are valuable and are welcomed for their range and for the potential they reveal. Each one in its own sphere provides much evidence of the efficiency of the technology deployed and also of the room for real evolution in the platform. This is supported by some results from the consumer report that point very clearly to the demand among consumers for a strong DTT platform. Disrupting this clear potential would not be in the interests of consumers.

Question 9: Do you agree that a longer term approach to secure benefits from UHF band IV and V should consider how to safeguard benefits delivered by the DTT platform?

9.1 YES. The use of the word “safeguard” in this question needs substantially more explanation. As we remark elsewhere the word can have many meanings and so we would seek further dialogue to clarify what those safeguards might comprise.

Other uses of UHF bands IV and V

Question 10: Are there other material factors affecting the future requirements of PMSE that we should consider as we develop an approach to secure long term benefits from UHF band IV and V?

10.1 The PMSE uses of the UHF are small but important for a wide range of purposes particularly in the content production sector. Some spectrum for these purposes is essential and it may well be that what is currently allocated may face challenges if the content industry needs to expand to provide new material as the DTT platform expands.

Question 11: Are there other material factors affecting the future requirements of Local TV that we should consider as we develop an approach to secure long term benefits from UHF band IV and V?

11.1 To deliver the benefits of both DTT and any local TV services the consumer would be best served by ensuring close relations between the spectrum allocated to each, i.e. sharing of the DTT frequencies. Local TV should not compromise the allocation of adequate spectrum to the primary Freeview DTT service should the 700 MHz clearance occur. Our concern is not so much that planning and licensing is done with this in mind but that light regulation and poor supervision could allow the use of low cost, inadequate equipment.

11.2 These services could be of many kinds, as yet undefined in detail but they are likely to be operated for specific purposes possibly on small budgets. Whilst a “light touch” regulatory scheme may be appropriate for general governance, the technical environment of shared occupancy of spectrum requires careful specification.

11.3 VLV would seek assurances that the regulatory licences that control any local TV services contain technical specifications that require the transmissions to meet high standards of performance such that interference to adjacent channels is contained within appropriate bounds.

Question 12: Are there other material factors affecting the future requirements of WSD applications that we should consider as we develop an approach to secure long term benefits from UHF band IV and V?

12.1 In the interests of efficient use of scarce spectrum, as well as the economic and community benefits it might bring, it seems important that any spectrum elements that become available for localised use as a result of the planning of DTT should be made available under carefully controlled licensing conditions. This spectrum is not likely to be universally available and so is subject to the vagaries of planning. White Space Device (WSD) should not compromise the allocation of adequate spectrum to the primary Freeview DTT service should the 700 MHz clearance occur. Again, our concern is not so much that planning and licensing is done with this in mind but that light regulation and poor supervision could allow the use of low cost inadequate equipment.

12.2 These services could be of many kinds, as yet undefined but they are likely to be operated for specific purposes possibly on small budgets. Whilst a “light touch” regulatory scheme may be appropriate for general governance, the technical environment of shared occupancy of spectrum requires careful specification.

12.3 VLV would seek assurances that the regulatory licences that control any white space services contain technical specifications that require the transmissions to meet high standards of performance such that interference to adjacent channels and other services is contained within appropriate bounds.

Question 13: Aside from WSDs, are there other innovative ways in which to use UHF bands IV and V to deliver services and, therefore, material benefits to users

13.1 There may be opportunities to use the UHF spectrum to support broadband services, perhaps under the White Space provisions. VLV is concerned to ensure that there is a sufficiently robust level of regulation and its enforcement if this is the case, including technical specifications that require the transmissions to meet high standards of performance such that interference to adjacent channels and other services is contained within appropriate bounds.

13.2 Given the likely scarcity of spectrum if the 700 MHz clearance occurs, any further attempts at exploitation of these resources should not compromise the allocation of adequate spectrum to the primary Freeview DTT service. Our concern is not so much that planning and licensing is done with this in mind but that light regulation and poor supervision could allow the use of low cost inadequate equipment.

Question 14: Are there other material factors affecting the future requirements of emergency services applications that we should be aware of as we develop an approach to secure long term benefits from UHF band IV and V?

14.1 The protection of emergency services by allocating adequate spectrum resource is vitally important. Also vital to these particular services is sound and reliable protection from interference. We have expressed our wider concerns about the management of interference and the enforcement of EMC directives elsewhere in our response.

Securing long term benefits for citizens and consumers

Question 15: Do you agree that the approach that is most likely to secure significant benefits from UHF band IV and V over the long term is one that enables the release of the 700 MHz band for mobile broadband whilst also ensuring the role of the DTT platform is safeguarded?

15.1 In principle, yes. However, please note the reservations outlined in the above responses to previous questions. Safeguards can take many forms and can mean all things to all men. Those safeguards must be clearly and unequivocally stated, agreed by all stakeholders and compliance monitored and enforced.

15.2 There is a growing wariness, not to say distrust, among those that value the principles of public service broadcasting and have been alerted to the willingness of planners to relax the rules concerning the protection of public service broadcasting services as primary users of specific blocks of spectrum. The propositions for the use of mobile services in the UHF band make those services co-primary and that could be

seen as the thin end of a wedge with considerable financial power to damage and diminish services provided by the public service broadcasters.

15.3 The protection of the public service broadcasting principle against strong attacks from other players requires firm and resolute regulation which does not permit the erosion of those principles and the downgrading of DTT by weakening with a thousand cuts.

Question 16: Do you believe there is a material risk that the DTT platform will have insufficient spectrum to continue to deliver important benefits (including providing universal low cost access to public service broadcasting content) if the 600MHz band is not used for DTT after clearance of the 700 MHz band?

16.1 Yes. The Arqiva report suggests that the three public service broadcasting layers (i.e. multiplexes) in the current DTT system could be protected for universal coverage without additional spectrum. This and its other scenarios assume certain developments and adoption of new technologies which are dependent on early consumer take up. This will not be helped by reductions in coverage or in services.

16.2 Further, however, it suggests that the remaining three COM layers would have severe reductions in coverage (consultation document, section 6, especially 6.18.2 and 6.32). All six layers of the system are important to the critical mass of the DTT system as a whole. It is therefore unacceptable to do damage to it now it has been offered to the public and they have accepted it willingly in such numbers. The consumer report suggests that what consumers want from the DTT system is more SD television services, not fewer, nor a reduction in their availability. It is vital to the future health of the DTT platform that it has room to exist and to grow for many years to come.

16.3 We are concerned that this question assumes that the 700MHz is given up to mobile services. Our remarks above suggest that, whilst we are aware of the international implications for the 700MHz spectrum block and the need for harmonization, we remain deeply concerned that this seems the only solution offered to consumers as a *fait accompli*.

Question 17: Do you believe that using the 600 MHz band for DTT after clearing the 700 MHz band would reduce the risk that the DTT platform will not be able to continue to provide important citizen and consumer benefits?

17.1 Yes. See other remarks above supportive of this response. We would wish to see that risk minimised not simply reduced.

Question 18: Do you agree that the future benefits for citizens and consumers of enabling the release of the 700 MHz band whilst maintaining the role of DTT are likely to outweigh the loss in benefits of the 600 MHz band not being able to be used for other services in the long term?

18.1 Yes. What are those other services? What scrutiny will be imposed on them as suitable users of this scarce resource? Any firm ideas for these other uses of this spectrum block must be subjected to public consultation especially if they are likely to challenge DTT for access to it.

Question 19: Have we identified correctly the possible short-term uses of the 600 MHz spectrum? Are there other short-term uses we should consider?

19.1 The potential services listed, whilst useful in a general sense if spectrum were not at a premium, do not seem sufficiently important to distract from the objective of securing DTT. As with local TV and WSD services, these must be secondary to DTT.

Question 20: Which option(s) for releasing 600 MHz in the short term would maximise its value whilst supporting our proposed longer term objectives?

20.1 Spectrum is valuable to the whole community and so should in principle not be left fallow for any great length of time when it is available for use and can contribute something.

20.2 However, if the future allocation of the 600MHz block to DTT services is likely as part of the clearance of the 700 MHz block within, say ten years, then clearly any licences granted for other services will have a short life and may have to be revoked at its expiry. There is a clear danger that any successful use during such a period will weigh heavily against the revocation of licences and the potential need for spectrum changes to allow them to continue. This should not be at the expense of DTT.

20.3 Short term expediency is a hostage to fortune and a great threat to the future security of DTT. The safeguards alluded to in an earlier question must include provision for adequate protection of DTT access and this will require resolute defence by the regulator.

The wider impacts of changing the use of the 700MHz band

Question 21: Do you agree that the wider impacts of a future change of use of the 700MHz band could be managed to prevent them having a detrimental impact on consumers and the services operating in this band?

21.1 We remain doubtful that such management would be easy or readily achievable without some detrimental consumer impact. The international regime for frequency planning operating under the auspices of the ITU and comprising three independent regions in the world leads to different approaches being taken in these regions and also occasionally within them. We recognise that harmonisation of mobile spectrum

allocations is important but believe that this should not occur to the detriment of the DTT users.

21.2 It seems inevitable and beyond the means of any consumer interest group that they could have any influence over the pressures of international spectrum harmonisation in the 700 MHz block. For the reasons outlined above it is regrettable that this situation has arisen as a result of what seems like poor foresight in international frequency planning or weak representation by the international broadcast community.

21.3 It seems too late to affect in any significant way the results of recent international spectrum agreements. Regrettably then we are left with a 'best efforts' approach in sharing out equitably whatever spectrum is available and managing the consumer impact of its consequences.

Proposed approach for securing future benefits and next steps

Question 22: Do you agree that the approach set out in this consultation is likely to secure significant benefits for citizens and consumers over the long term?

22.1 We remain doubtful for reasons that have been outlined above. It depends greatly on what interests those citizens and consumers most value and this will be divisive and some no doubt would wish to have their cake and eat it. Additional mobile services are needed and will doubtless bring benefits to some citizens and consumers but by no means to all.

22.2 Many citizens and consumers look to regulators to defend their interests and act for the common good. The balance that is clearly needed in making judgements of the relative importance of sets of services competing for the same resource, and perhaps having to share it, must take account of the demands of majorities over minorities, the powerful over the weak, but also protect those weaker minorities and take account of traditional values of public service broadcasting in the context of DTT planning.

Question 23: Have we correctly identified the main areas of future work that could follow this consultation process subject to its outcome?

23.1 Clause 8.19 of the consultation lists five major areas for future work. These are all important and essential to the future planning of the UHF spectrum in the UK. We are pleased to see that the licensing conditions applied to the various future users of the re-planned spectrum are to be included.

23.2 In particular, we would urge Ofcom to consider including the better enforcement of EMC regulation in its future work. In general, we urge Ofcom to demonstrate stronger support for the interests of large numbers of actual and potential DTT users - citizens and consumers who, we believe, are unaware that their well-enjoyed and widely-used services are under threat.