Issue 1

BT's response to:

"Coexistence of new services in the 800 MHz band with digital terrestrial television"

Issued by Ofcom on 2 June 2011

Submitted to Ofcom on 11 August 2011

[This page is intentionally blank]

BT's response to "Coexistence of new services in the 800 MHz band with digital terrestrial television"

Executive Summary

1. BT considers that the digital terrestrial TV platform within the UK is of enormous importance to the majority of UK citizens and consumers. It is therefore vital that Ofcom takes all reasonable measures to ensure that the introduction of mobile systems is arranged in a way that does not adversely impact adjacent band domestic TV reception, including appropriate technical conditions within the 800MHz licences.
2. A requirement to improve mobile base station filtering in those locations near where TV reception uses the upper most channel frequencies would have a small but nevertheless important positive impact on the number of households affected. As Ofcom estimates the extra costs of base station filtering arevery small (relative to the licence reserve price and in our view, of likely auction values), it would seem sensible for Ofcom to include this filter requirement as a technical licence conditionin relevant locations.
3. Where interference problems do still arise BT believes that it is Ofcom (via MitCo) that should take responsibility for the process and deciding measures to assist consumers to resolve these problems, not the new 800 MHz licensees.
4. As the auction receipts passed to HM Treasury are expected to far exceed these costs, butthe actual costs of resolving TV interference is very uncertain, where interference problems do still arise, the mitigation measures should be funded by Government and not directly by the new 800 MHz licensees (who would otherwise discount bids accordingly),in order to help ensure an efficient outcome of the auction.
5. The introduction of filters at the consumer's TV receiver is predicted to resolve the vast majority of problems and we therefore believe that this should be the primary solution that Ofcom should pursue via MitCo. Other options studied by Ofcom may also have a role.
6. Recourse to moving consumers off the terrestrial digital TV platform to Freesat or cable should be an absolute last resort when all other technical solutions are not possible or economically viable. This is necessary to avoid distortion of competition in TV delivery, including Pay TV services.

1 Introduction

BT welcomes this consultation on coexistence of new services in the 800 MHz band with digital terrestrial TV. The potential interference issues addressed in the consultation have only fully come to light at a relatively late stage in the award process, but we nevertheless agree that it is essential to introduce measures to avoid such problems where possible and to mitigate and resolve these where they do arise.

In section 2 we provide some general comments and background on BT's position, including a summary of our views on how we believe Ofcom should approach the resolution of the problem identified.

Finally, in section 3 we answer the specific questions that Ofcom has posed.

2 General Comments

The terrestrial digital TV platform is of vital importance to the majority of UK consumers and is also very important in the context of promoting competition in the delivery of TV services, including Pay TV within the UK. This importance is underscored by the Government's requirement to ensure availability of the PSB multiplexes to around 98.5% of the population and the fact that commercial multiplexes target around 90% of the population. Ofcom reports that terrestrial TV forms the primary means of TV delivery forover 40% of households and a much higher percentage of households rely on terrestrial broadcasting reception for additional TV sets within the home.

BT's position is that the spectrum to be made available by Ofcom through the 800MHz auction should be fit for purpose and the rights and obligations associated with its use should be clearly defined in the licence conditions. We believe that Ofcom should specify technical licence conditions that will limit interference to other adjacent band services to the maximum extent reasonably possible. We are concerned with open ended obligations on the licensees to resolve potential interference problems that arise. Such problems are difficult to predict and are essentially a feature of the receiver performance of the victim system rather than the quality of the mobile signal emissioncausing the interference.

Normally we would expect Ofcom to seek permission from the Treasury to make a grant to promote spectrum efficiency (i.e. through subsidising or covering the cost of measures needed to enable new use of spectrum to be realised). The alternative approach (requiring new licensees to meet unspecified future costs) is less suitable in our view. Given the very uncertain extent of the interference problems to digital TV reception from new mobile networks, it is hard to estimate the cost of fixing them. If the new licensees must pay these costs this introduces considerable commercial risk to potential bidders in the auction, who must discount their bids to reflect the cost of resolving interference problems that may arise when the mobile networks are rolled out. This could lead to an inefficient auction outcome if the winner is not the entity that could derive most value from the spectrum, but is instead the entity that underestimates the cost of resolving future interference problems. As auction receipts are likely to far exceed the costs of resolving interference problems andas these costs will be the same whoever pays them, it would seem more logical that the

Government bears the risk associated with unknown final costs. The result of this approach would be higher auction receipts.

Given the importance of the terrestrial TV platform to consumers andthe need to promote competition in delivery of TV services, including Pay TV, it is important that any interference to consumers' TV reception is avoided or is resolved promptlyat no charge to the end user. We believe that Ofcom, on behalf of Government, should direct and oversee a body tasked with resolving interference issues that arise following the rollout of 800MHz mobile networks and that the primary objective must be to enable UK consumers (existing and new) to have interference free reception to the terrestrial TV transmission network.

Ofcom has not detailed how providers of PayTV services (e.g. BT and TopUp TV) that use the terrestrial platform to deliver Pay TV will be compensated for the (proportion of the c. 30,000) customers that are lost or can no longer be acquired as a result of mobile network interference necessitating a move of some viewers off the terrestrial TV platform. BT requests that Ofcom addresses this matter.

3 Responses to the consultation questions

Question 1: Do you have any comments on our modelling approach and assessment of numbers of households affected?

BT agrees with Ofcom's approach to modelling interference and considers it to be appropriate from a technical standpoint. We consider that Ofcom's assessment of the number of households that may be affected is a reasonable estimate for the purposes of developing plans to address interference problems, recognising that, as noted in § 4.44, it is designed to be a conservative estimate.However, in reality the number of households that will actually be affected is very uncertain and this introduces significant financial risk to whoever takes responsibility for owning the resolution of the issues; we elaborate further on this point in our response to Questions 4 & 5.

Question 2: Do you agree with our high level conclusions on mitigation options?

Recognising the importance of DTT to the vast majority of the UK population, we agree that the "Effect of no regulatory intervention" (§§ 5.24 – 5.29) is unacceptable, and that all reasonable measures possible should be implemented to minimise the impact of interference on DTT coverage, ensuring that all available multiplexes remain protected.

We support the use of DTT receiver filtering and (where necessary) enhanced base station filtering to address the interference problem, since they are believed to address about 95% of cases (§ 5.33), without any significant disadvantages (other than the cost of installation).

Platform changes

However we do have concerns about measures which would significantly change the service available to the customer.We believe that "Platform changes" (as per §§ 5.15 – 5.16), are not a satisfactory solution, and should be very much a measure of last resort. We disagree with the statement in § 5.82 that "on average consumers should be in a broadly equivalent position if DTT services are replaced with an alternative platform". At present there are a wide range of products (IDTVs, STBs, and PVRs) for the Freeview service, manufactured by a wide range of companies, at very competitive prices. The other platforms do not have the same breadth of range of products, from a wide range of manufacturers, at such low prices. Some consumers like to source all of their home audio visual products from the same manufacturer, for reasons of aesthetics and/or compatibility (e.g. one remote control handset operating multiple devices from the same manufacturer). Being given a replacement STB/PVR on a different platform may not be considered to be a satisfactory solution, particularly as the customer will be further disadvantaged when it comes to the subsequent purchasing of further products.

The ability to receive the terrestrial TV platform is also extremely important in the context of promoting competition in the delivery and provision of TV services, including Pay TV. Forcing customers to move off the terrestrial digital TV platform could be very damaging in this regard. Furthermore no consideration has been given to compensating the providers of such PayTV services (e.g. BT and TopUp TV) due to the diminishing of the market for their products. We request that Ofcom addresses this matter.

Re-orientation of DTT aerials

We agree that the "Re-orientation of DTT aerials" may be a useful tool in many cases; however we would strongly discourage its use in certain circumstances. Our concern relates to those cases where the antenna is re-orientated to:

1. A DTT transmitter which is transmitting less multiplexes. We presume that there may be cases where a consumer is currently receiving service from all of the 6 multiplexes (PSB and COM), but the process of re-orientation would direct their antenna to a DTT transmitter which is only broadcasting the PSB multiplexes. In this case the consumer would clearly lose part of their service, which is clearly unacceptable.

And / or

2. A DTT transmitter which is transmitting a different regional variation of local programming (as noted in § 5.54), which would result in the consumer losing their local news programmes.

However in other cases, aerial re-orientation may be a useful mitigation technique.

OCRs

Whilst recognising that the efficacy of OCRs has not been fully explored, we believe that these should offer the potential to address some of the remaining 4% (30 000 households, as per Table 5.2). We do not agree with the conclusion in § 5.60 that "OCRs will not form a key part of the mitigation measures", as they appear potentially to be as viable as some of the other measures considered.The use of OCRs would also enable customers to continue to use their existing equipment (with the possible addition of attenuators), and hence they

deserve to be studied further. We also note that the use of OCRs has been omitted from Table 5.5 (the summary of mitigation measures), which we assume is an oversight since we believe that they deserve further consideration.

Question 3: Do you have any comments, views or evidence that you would wish to be considered in our further work looking at the appropriate level of consumer support?

We recognise that it would be difficult to determine the optimum level of consumer support, and this may have to be refined through trial and error as the rollout of the 800 MHz networks progresses. Clearly an information campaign will have to be undertaken close to each base station, as the networks are deployed, although it should be possible to estimate the footprint of homes which are most likely to experience interference (i.e. those which are "just beyond" the mobile base station, when looking out from the DTT transmitter site). We would recommend that those homes within that "higher probability footprint" should automatically receive a filter in advance of the 800 MHz network switch on. Those outside the footprint, but still within the vicinity of the base station, should have sufficient information to enable them to understand the process for requesting a filter and/or appropriate technical support should it become necessary.

We also believe that consumer support should continue for a considerable period of time beyond the main rollout of the 800 MHz networks. Whilst we would expect that the new licence holders will deploy most of their networks over a period of just a few [3 or 4?] years, we believe that Ofcom (or "MitCo") should provide a provision to resolve interference over a much longer timescale, in order to address problems experienced due to changes in the customers' circumstances. For example, a house where the resident used a satellite TV service might be sold to a new resident, who prefers to use DTT. In this case, the new homeowner should still have the opportunity to request support and also a free filter (if appropriate), years after the deployment of the 800 MHz base station. Whilst such support may not need to continue in perpetuity, it should extend beyond the main rollout of the 800 MHz networks.

Question 4: Do you have any comments or views on how we have assessed the approaches and our preference for the hybrid approach?

We certainly agree that there should be a single body (§ 6.20), who are responsible for providing an interface to the general public, in order to inform, advise and resolve (as far as possible) the interference problems.

However we disagree with the preference for the "hybrid option"; instead we support option 2 (from Table 6.1) in which the responsibility for addressing the interference should be led by Ofcom (or the Government), directing the new licensees (through MitCo) to apply whichever network based mitigation measures are necessary and deciding how consumer interference issues are resolved.

It is suggested that the "tariffs"[1] on each of the 800 MHz licensees should be imposed according to the amount of interference (into DTT) that they create. However we note a conflict between the proposal in § 6.31 ("…implement some kind of tariff mechanism that links the interference they cause to the costs of mitigating that interference") and the statement in § 4.51 ("…it would be difficult for individual operators to estimate with full precision the interference effect that will result from their planned network deployment in isolation"). As a consequence it is not clear how the cost of resolving the interference caused can reasonably be apportioned between the 800 MHz licensees. The interference experienced by any individual DTT viewer will be the sum total of three interference sources, though probably not in equal quantities. This will be further complicated if the three licensees are using different base station sites. Whilst it may be easier to estimate the mean interference caused by the whole of each 800 MHz network (across the entire UK), it will still be difficult to compare the interference caused by different networks, particularly if they have differing deployment priorities.

We also note that § 5.51 says that "The cost for each household … will be difficult to predict in advance", which underlines the overall uncertainty regarding the cost of implementing the measures proposed. The justification for Approach 3 given in § 6.43 is that "…it should provide the highest level of cost certainty to bidders for new licences" which seems rather surprising considering the uncertainty about how to apportion the impact of the interference caused by the new networks.

Furthermore we note that § 6.34 suggests that the individual tariffs should be imposed on each licensee in order to avoid a situation where "… licensees' actions are inefficient or that overall costs arising from interference effects are increased rather than decreased". However it is not clear why that should be the case, since only two of the proposed mitigation measures (base station filtering and power reductions) appear to relate to the deployment of the new 800 MHz networks. We believe that licence conditions could be used to apply the requirement for tighter filtering on base stations[2] in those areas where the top channels (e.g. from channel 58 upwards) are used for DTT, and possibly also a requirement for reduced transmitter power in those same areas. Consequently, we see no justification for individual tariffs on each of the 800 MHz licensees.

As a consequence we believe that the 800 MHz licence award should be conducted without any obligations for tariffs. Specific obligations can be applied as necessary in the licences for reduced transmitter power and/or tighter filtering on base stations in those areas where the top channels are used for DTT.

This would enable the award process to proceed without the uncertainty of the additional financial liability on each licence holder, allowing the auction to be conducted in a more transparent and predictable manner. This could lead to a potentially more efficient outcome.

[1] In this document, the word "tariff" is used in the same meaning as Ofcom has applied in Section 6 of the consultation document, to refer to the proposed additional charge applied to the 800 MHz licence holders

[2] § 5.46 indicates that base station filters are estimated to cost £240 - £420 per base station, and hence a requirement to apply them to all base stations in those areas using the top DTT channels should not be too onerous, compared with the other costs associated with 800 MHz network deployment, including spectrum.

The cost of implementing the mitigation measures outlined in the consultation document, (other than the base station filtering and transmitter power reduction which would be within the 800 MHz licence conditions), should be met from the total auction proceeds, rather than attempting to determine how the cost should be divided between the licensees. We believe that this would provide the best solution for both cost certainty to bidders, and also transparency of auction process.

We also note that the uncertainty surrounding the cost to the licence holder of implementing mitigation measures is currently the subject of a legal challenge against the 800 MHz spectrum auction in France. We would not want to see a similar uncertainty resulting in a further delay to the auction process in the UK.

Therefore, in summary, we believe that the base station filtering requirements and/or power reductions should be applied in the licence conditions, on a geographical basis. The remaining mitigation measures can be implemented independently by MitCo, without restricting or delaying the 800 MHz network deployment. The costs of deploying these measures can be met from the auction proceeds, without any unnecessarily complicated (and possibly contentious) methods for apportioning the cost among the licensees. As a consequence we believe that Approach 2 is the best solution to adopt.

Question 5: Do you agree with the options, the assessment approach and our initial conclusions? What are your views on cost risks and how to deal with them?

Ofcom have noted in § 6.50 that distortion of the auction due to uncertainty is a real concern, and hence it is surprising that an approach has been proposed which unnecessarily complicates the apportioning of costs amongst the successful licensees.

It is recognised that any interference into the DTT receivers will potentially arise from all of the 800 MHz licensees, although the impact from the base stations operating under licence A will be the most significant. However, since base station filtering has been proposed by Ofcom as a (cost effective) solution for reducing the impact of out of band emission from those base stations, we believe that it would be both prudent and pragmatic to apply a licence condition to those base stations in areas where the upper most DTT channels are used.

Since the remaining mitigation measures can be applied by an independent body (MitCo), in alignment with but without hindering the rollout of the 800 MHz networks, we propose that the licences should be awarded without the imposition of additional financial burdens (the "tariffs"), since they would seem to serve no useful purpose other than to depress the auction value of the licences. There is a risk that proceeding with the current Ofcom proposals could result in the 800 MHz licences not being awarded on the basis of the maximum economic value, but rather on the lowest estimation of the cost of implementing the mitigation measures. Therefore we believe that the most transparent and least distorting approach, would be to auction the licences with only the necessary technical

obligations (including additional filtering where appropriate), but without any additional liability for tariffs, which will be indeterminate at the time of the auction.

The cost of implementing the mitigating measures would then be met by Government, offset in practice by the proceeds of the 800 MHz licence auction.

As a consequence we do not agree with the proposed approach and initial conclusions of Ofcom.

END