



Ofcom Consultation: Digital Dividend Review 550-630 MHz and 790-854 MHz on detailed award design BECTU RESPONSE

INTRODUCTION

1. The Broadcasting Entertainment Cinematograph and Theatre Union (BECTU) represents over 26,000 members working in the audiovisual, broadcasting, and entertainment industries. Many of them are directly involved in film-making, theatre production, and the production and distribution of broadcast TV programming.
2. We welcome the opportunity to comment again on Ofcom's plans for the disposal of spectrum released by the Digital Switchover (DSO), and equally welcome the regulator's repeated statement that its aim is to generate value for UK citizens, rather than secure the greatest monetary gain for the Treasury. In our view this implicitly places an emphasis on use of the released spectrum to bring clear social benefits to society at large.
3. BECTU also welcomes the potential employment that may be created by expanded and new services as a result of the Digital Dividend Review, and the process is therefore of direct interest to many of our members.
4. However, we wish once more to register our concern at the apparent market-led approach being taken by Ofcom to disposal of the released spectrum, and fear that the objective of achieving social value has been seriously undermined.
5. In particular, BECTU believes that the process of defining and auctioning frequency lots as outlined in the consultation document could:
 - Encourage speculative investment in spectrum by parties who have no specific plans for applications, nor any interest in social value, and see the bandwidth they purchase purely as alternative financial assets;
 - Permanently fossilise the technology and capacity of the Freeview Digital Terrestrial Television (DTT) system, preventing its logical development into a free-to-air platform which offers genuine choice of High Definition TV channels to viewers in the future;
 - Deny the Programme-Making and Special Events community

(PMSE) access to the spectrum they need to operate radio microphones, in-ear devices, and talkback systems in a wide range of activities with demonstrable public value.

6. We believe there is a genuine risk that once the proposed auction is over Ofcom will have overseen one of the most aggressive land-grabs of a valuable public asset ever seen, despite its meticulous efforts to design a disposal system that takes accounts of all stakeholders' concerns.
7. In this response we make a number of observations about the consultation document, and where these relate directly to questions posed by Ofcom they are annotated appropriately.

AVAILABILITY AND USE OF FREED SPECTRUM (S.4)

8. We regret that Ofcom has declined to take a prescriptive approach to the applications that will be permitted in released spectrum, save the allocation of Channel 69 to PMSE users, which we welcome.
9. Despite this concession to the PMSE community, it is clear to practitioners among our membership that the developing proposal for radio devices in the entertainment and events sector will be insufficient to meet the needs of the industry for large numbers of spot frequencies, free from interference, to service film-making, stage productions, and TV programme production.
10. This prediction is indirectly vindicated by the regulator's decision to delay any disposal of released or interleaved spectrum in the London area until the 2012 Olympic Games have concluded. Ofcom's acceptance of arguments that such a major event could not be staged without full access to the current range of spectrum available to the PMSE sector implies an acknowledgement that high intensity use of radio devices after DSO and release of the DDR frequencies will be curtailed.
11. There is no digital dividend for PMSE spectrum users with the introduction of digital equipment, unlike the position of DTT and Mobile Media Services (MMS) providers who gain increases in capacity thanks to digital signal processing and compression. At present, partly due to the single channel nature of PMSE radio devices, any move to digital equipment will actually increase the bandwidth needed, channel by channel.
12. It is possible that a combination of multiplexing and multiple access equipment may emerge in time, which would allow PMSE operators to cope with a reduction in available spectrum, but none is available at present, and its development would require a technological step-change which is not yet even on the distant horizon.

13. On a more positive note, we welcome the proposal that Ofcom should enter discussion with PMSE stakeholders to explore the possibility of other parts of the electromagnetic spectrum being dedicated to their use at some time in the future (S4.34). We have argued previously that if Ofcom's real objective is to migrate the PMSE sector out of UHF bands IV and V, there is a need for coordination by the regulator, and a recognition of the long life-cycle of the analogue equipment currently in use.
14. In response to specific points raised by Ofcom in this context, we regret that interleave channels 61 and 62 will no longer be available for PMSE use (Q 2), but would have welcomed the exclusion of cognitive devices (Q 3) had they continued to be available.
15. Predictably we welcome any extension to the notice period given if Channels 63-68 are withdrawn from PMSE use (Q 6), but support the Broadcast and Entertainment Industry Radio Group (BEIRG) for some or all of the upper band to be exclusively dedicated to radio devices, specifically Channels 67 and 68.
16. As for the allocation and future use of released spectrum, BECTU has previously argued that some bandwidth should be gifted to the public service broadcasters to introduce more High Definition TV services on the Freeview platform. At risk of repeating arguments deployed in previous submissions, we believe that the current plan for HD services using DVB-T2 on national Mux B will provide too little capacity for Freeview to offer a serious choice of HD channels (probably 4 after DSO is complete), and the platform will be relegated to a mostly Standard Definition (SD) service, viewed as second class by many users.
17. Once all other spectrum in the UHF space has been auctioned off, there will be no scope for Freeview to juggle its frequency plan to re-engineer the Multi-Frequency Network (MFN), and allow more multiplexes to switch to DVB-T2, which would at least offer some extra capacity for HD services. The absence of any medium to long term strategy for growth of the Freeview platform seems to us a serious omission from the proposed DDR plan.
18. Whilst it could be argued that PSB operators are free to bid for 8MHz slots which would allow increased throughput on Freeview, we do not believe they are in a position to join the auction for financial reasons which are all too clear, both among the publicly-owned BBC and C4, and in the commercial ITV and C5.
19. One possible solution which we have proposed previously is to mandate the use of Channel 36 (Q 4), which will be clear across the UK in late 2009, for a national Single Frequency Network (SFN) on DVB-T2, which would offer a significant increase in free-to-air capacity for Freeview, whilst using spectrum in the most efficient way possible

with current technology.

20. BECTU has argued that a predominantly SD Freeview proposition will eventually lead to the platform withering on the vine of technology. Since Ofcom has adopted a profoundly economic approach to the whole DDR exercise, the regulator may wish to consider the future cost, either in re-equipping or ongoing, to consumers who wish to choose a wide variety of HD services, but finding them unavailable on free-to-air Freeview, are forced to move Freesat, clear-to-air BSkyB, or subscription satellite or cable.
21. Ofcom's unwillingness to pre-designate any of the auctioned spectrum for specific applications has been clear throughout the consultation process, but we once again note with regret the regulator's reticence to prescribe specific uses in the public interest. The decision to allocate via auction already poses insuperable problems for some putative users, PSBs and community TV operators for example, but to exacerbate the situation by allowing successful bidders, rather than the regulator, to decide how the spectrum is used marks a striking departure from the public policy attitude to spectrum for nearly 90 years.

TECHNICAL LICENCE CONDITIONS (S.5)

22. The clearest priority we see in this section is the need for protection of current spectrum users. We have already outlined our fears about the PMSE sector above, and urge that the likely interference effects on their activities are fully considered by Ofcom.
23. Unlike analogue modulation, the multi-carrier digital systems used by DTT and any new services that appear in-band have a much more even spread of RF energy across the bandwidth that they occupy, increasing the scope for interference to other services. Allied with this is the planned boost in DDT Mux senders' power output post-DSO, which may rule out use of previously-viable interleave space on a geographic basis.
24. This could lead to new, and unexpected, interference problems for users of interleave space, and existing receivers of DTT services. If Spectrum User Rights are a more effective method of preventing this than stipulated transmission masks, then we welcome the introduction of SUR's (Q 8).
25. However, we note that Ofcom's interference calculations have been based on the current analogue assumption that all viewers have an outdoor aerial at 10m height. Despite this assumption a significant percentage of the installed receiver base operates on indoor aerials - 5% of primary TVs and 45% of second and subsequent receivers, according to Ofcom's own figures.

26. Whilst these aerials may be good enough for analogue reception, thanks to the graceful degradation characteristics of the signal, many of them are likely to prove incapable of reliable DTT reception, posing a problem after DSO. Many viewers may find that their receivers are subject to severe pixilation, service drop-out, or no reception at all. The two main causes will be insufficient antenna gain, and low field strengths based on the assumption that receiving equipment can cope with the interference levels implicit in the 10m-high external aerial assumption. Ofcom may wish to revisit some of its calculations to determine how widespread this problem will be post-DSO. Once again it could mean a significant re-equipment bill for viewers forced to install outdoor aerials (Q 13).
27. One apparent omission from the technical licence specification we draw to Ofcom's attention is the absence of DVB-T2 from the list of approved technologies licence holders may use. This may be a simple drafting problem, but if this is not the case Ofcom should firstly add the standard to the list, and secondly (and urgently) consider the interference problems that might be caused and suffered by DVB-T2 services. This is particularly important given that the encouraging predictions of improved data rates compared to DVB-T are based on pushing the standard fairly close to its limit of 32k carriers, 256QAM, and 1/128 guard bands, where susceptibility to interference is at its highest, as are modulation energy levels with potential effects on other spectrum users.

NON-TECHNICAL LICENCE CONDITIONS (S.6)

28. We welcome Ofcom's plan to allow current broadcasters to bid for released spectrum (Q 17) as a logical consequence of their participation in Freeview, although we believe it unlikely that any PSB operators are in a position to join the auction.
29. We cannot however see any argument in favour of advertising agencies also being allowed to bid for spectrum in which they could run DTT services. The values and objectives of the advertising industry do not, in our view, sit easily in a broadcasting system that is underpinned by public service values, and they would not make appropriate service operators.
30. There appears to be no requirement for Ofcom to consider the implications of the auction outcome producing a further concentration of cross-media and cross-platform ownership. This could lead to market distortions should existing large media enterprises establish TV services in the released spectrum, which in some cases could be a detriment, not a benefit, to consumers.
31. We note that Ofcom has specifically ruled out intervention should BSkyB acquire spectrum rights through the auction (S 9.98), although the regulator intends to "keep this under review". BECTU believes that

Ofcom should adopt a more robust attitude to the potential concentration of ownership across TV network platforms, and across print and other broadcast media, and perhaps apply the same criteria as would apply in the event publishing enterprises seeking to acquire licences for current radio and TV services.

32. Similar assessment should also be made of ownership concentration that may be prompted by the award of spectrum to MMS operators, some of whom will conceivably be existing media enterprises.
33. We note the possible imposition of a 50MHz spectrum cap on successful bidders, and appreciate that this accommodates the anticipated 48MHz necessary for a national DTT Mux. However, of the available 128MHz (and 16MHz of interleave on C61/62) this represents a significant proportion of the spectrum to be allocated, and causes us concern over potential market dominance, especially if cross-ownership issues are not fully addressed.
34. While the assumption that six 8MHz Multiplexes are necessary for a national multi-frequency DTT network may be perfectly reasonable, we believe that the efficiency gains of single-frequency networks using DVB-T2 have been seriously underestimated by the regulator and the broadcasting industry.
35. With adequate frequency planning, new entrants to DTT services could offer an extended choice of services by adopting SFN technology to operate national networks on just one 8MHz band. We appreciate however that for existing Freeview operators any move to SFN would involve significant re-engineering costs. We proposed earlier that Channel 36, for example, would be a perfect candidate for a DTT SFN.
36. In these circumstances the proposed spectrum cap could be significantly reduced to a level where no single bidder would pose a threat of market distortion.
37. Interoperability between new and existing DTT services seems to us a sine qua non of the licence regime, and we believe it should be mandated (Q 18).
38. We believe that the proposed indefinite licence duration is a hostage to fortune, given the limited obligations that are planned for successful bidders, and the proposal that spectrum can be traded on to new owners with no regard to the application or technology that they implement.
39. Spectrum in our view is a precious public resource, with the UHF channels due to be auctioned off currently serving the worthwhile public purpose of TV broadcasting. We do not believe it is appropriate to grant use of this resource to bidders, in effect, ad infinitum, especially considering the light regulatory regime in which they will

operate. We appreciate that the broadcasters desire reasonably long guaranteed access, and would support the 12-18 year timeframe they proposed.

40. Bidders would also be better placed to assess the value of spectrum if they knew exactly how long their licence was, rather than run the risk of the regulator repossessing an indefinite licence on strategic grounds.
41. Whether or not licences are, effectively, indefinite, we do not support the concept of spectrum trading in any form. Should spectrum change hands under the proposed regime, the regulator will have little power to influence subsequent events, even if they damage consumer interests. We propose therefore that Ofcom should have the right to call in licences that bidders wish to relinquish, in order that their disposal and future use can be assessed to determine whether the public interest will be served.
42. There appears to be little scope at any point for Ofcom to prescribe specific uses of, and services in, the released spectrum, although we note that rights can be revoked in the name of strategic spectrum management. We consider that this limited right to prescribe falls far short of the current public situation, where the TV spectrum was effectively allocated on the basis of various historical public value tests, and we believe this should be continued. This is not the first time in the DDR consultation process that BECTU has urged Ofcom to adopt a more proactive and interventionist stance in support of the public interest.
43. The absence of a "use it or lose it" provision for licencees is, to BECTU, a major weakness in the DDR process, opening the way for speculative bidders to buy spectrum without any serious intention of offering services - an electromagnetic land bank. This would be the worst possible outcome to the auction and we urge Ofcom to include a requirement that successful bidders must initiate services within the category their bid embraces within a specified time from the award, or face their licences being revoked.

SPECTRUM PACKAGING (S.7)

44. Our instinctive response to question of sizing frequency lots is to opt for an 8MHz raster, aligned with the GE-06 frequency table. This satisfies the "keep it simple" rule, and from a broadcasting point of view favours the DVB-T2 standard which is optimised for that bandwidth.
45. However, we recognise that other technologies make different spectrum demands, and can see merit in a mix of 8MHz and 5MHz lots (Q 20). If necessary DVB-T2 is capable of operating in a 5MHz slot, but there are drawbacks to the mixed approach. Principal among them is that breaking the alignment between the UK frequency plan and GE-06 could pose a range of challenges and problems including interference

issues, and complications for equipment manufacturers who want to export to the EU and beyond, while also serving the UK market.

46. In areas of the UK that abut the rigid 8MHz European frequency plan there could be unexpected effects if spectrum slots are no longer contiguous with those in GE-06. Channels in the UK could end up straddling two co-channel services in France for example, which may be digital or analogue and given our comments about interference problems earlier, Ofcom may wish to give this aspect of mixed packaging further consideration.
47. Whatever package sizes emerge, we have no strong preference as to whether lots be frequency-specific, or frequency-generic (Q 21). If Ofcom were adopting a more prescriptive approach to the allocation of spectrum to specific applications, however, we would favour a frequency-specific division of lots, purely on the grounds of simplicity. The regulator's observations about a frequency-generic auction being simpler (S 7.40) would not then obtain.
48. On the question of single auctions for Channel 36 and 38, we appreciate the reasons for the proposal and support it (Q24). We have though expressed a preferred application for C 36 above, and would welcome this channel being designated for a DTT SFN.

AUCTION FORMAT (S.8)

49. We have few comments to make on the actual auction process, except to repeat that our preferred disposal of the DDR released spectrum would consist of gifting bandwidth to existing broadcasters to allow the growth of HD services, and the award of remaining bandwidth to bidders on the basis of the social value they offer, not just the monetary value.
50. One point that has to be made though is that once bidding starts for application-neutral frequency-generic UHF slots in earnest, on the combinatorial clock basis, with the scope for supplementary bids and possible agglomeration of bidders during the process, only those observers with a high-level combination of accounting, legal, and engineering skills will have the faintest idea what is going on.
51. This may pose a future problem for Ofcom - if the auction outcome is questioned it will be difficult to explain to challengers exactly how it was fairly conducted. Those expecting pellucid transparency will instead face Stygian opacity.
52. The proposed deposits due from bidders are prohibitively high for interested parties from the community, not-for-profit, and voluntary sectors. They would probably have ruled the PMSE sector out of the contest for spectrum at the first stage, had Ofcom not acknowledged the disparate nature of the radio mic community and made special

arrangements. It is likely that other social-purpose potential bidders may not be able to afford a place at the auction table, significantly cutting the range of applications that might be proposed.

COMPETITION AND EFFICIENCY (S.9)

53. Many of our concerns over this section have mostly been expressed in earlier comments, and we have already responded to the proposed 50MHz spectrum cap (Q 36).
54. BECTU agrees that the emergence of BSkyB as a potential bidder does merit further attention, since it is already a channel operator, service provider, and platform distributor, and there may be significant cross-platform and cross-media ownership issues to consider (Q 41).
55. We however see no problem in NGW/Arqiva bidding for cleared spectrum, since this would add only another one (or possibly two) national DTT Multiplexes to the six already being operated by Freeview (Q 45). NGW/Arqiva is at present a distributor of services, rather than a service provider, channel operator, or media enterprise, so we foresee no ownership issues if the company were, for example, also to bid for MMS spectrum since it would, in effect, be a new entrant. We assume though that any new DTT services would fall under the existing regulatory regime.
56. Our overall view is that Ofcom's efforts to achieve competition and efficiency are undermined by the decision not to adopt a proactive role by either stipulating the services expected and inviting bids for them, or establishing a mechanism by which bidders' proposals for use of the spectrum are subjected to a public value test.
57. The DDR process as currently planned may well achieve economic competition, but without necessarily securing the social gains that were originally envisaged. As for spectrum efficiency, the absence of a "use-it-or-lose-it" provision could create a situation where bandwidth lies idle for months, years, or decades, if purely speculative bidders are attracted to the auction.

SUMMARY

- In previous rounds of consultation on DDR BECTU has expressed dismay at the market-driven nature of the process, and the reluctance of Ofcom to incorporate mechanisms which will specifically extract social benefits from a spectrum disposal exercise which seems aimed only at the highest bidders. Our views have not been changed by this consultation.
- We remain concerned that the PMSE community may be severely affected by the loss of interleave space in the released spectrum, and will continue our comments in the separate consultation now

underway on retained spectrum and band management.

- The future of free-to-air terrestrial TV will eventually be jeopardised if PSB operators do not have access to extra spectrum for expanded HD services, and we see no way that this will be secured through auction.
- We support mandatory interoperability of new DTT services with the existing network, and believe that the DVB-T2 standard should be explicitly specified as the transmission system.
- Release of spectrum under DDR represents the allocation of an immensely valuable public asset. We fear that without "use-it-or-lose-it" rules, public benefit could be reduced by speculative cyber-squatting, and by granting indefinite licences to successful bidders, Ofcom runs the risk of selling the public purse short.