



OFCOM CONSULTATION: DIGITAL DIVIDEND REVIEW GEOGRAPHIC INTERLEAVED AWARDS 470-550MHz AND 630-790MHz BECTU'S RESPONSE

INTRODUCTION

1. The Broadcasting Entertainment Cinematograph and Theatre Union (BECTU) represents over 26,000 members working in the audiovisual, entertainment, and broadcasting industries. Thousands of them have daily contact in their working lives with radio microphones and other wireless devices operating in UHF bands IV and V, while many more depend for their livelihoods on producing and distributing broadcast TV programmes.
2. Amongst our membership are many experienced practitioners making regular use of wireless devices, and we also have members in most parts of the Digital Terrestrial Television (DTT) coding, multiplexing, and distribution chain.
3. This particular consultation raises two major concerns which impact directly on our members: the continued availability of spectrum for wireless devices post-Digital Switch Over (DSO); and the potential interference effects of new in-band operators which could degrade reception of existing DTT.

WIRELESS DEVICE CONCERNS

4. We have already welcomed Ofcom's decision to make a special case of the Programme Making and Special Events (PMSE) sector, by reserving Channel 69 and some capacity in the remaining interleave spectrum, rather than present the entertainment industry with the unpalatable prospect of an auction in which this disparate, and not necessarily well funded, community would be pitted against multi-national bidders with deep pockets.
5. However, we cannot understate the sense of impending disaster in the sector as practitioners, equipment manufacturers and hire houses, production companies, theatre technicians, news organisations, and broadcasters, begin fully to understand the limited spectrum that will be available to accommodate their wireless activities in future if Ofcom's plans are implemented.
6. Research by a number of industry bodies, particularly the Joint Frequency Management Group (JFMG) and the British Entertainment Industry Radio Group (BEIRG) demonstrates conclusively that the

sector will face insuperable challenges in future due to the spectrum scarcity that the PMSE sector predicts. Anecdotally, our members across a range of broadcasting, theatre, film-making, and event activities fear that some of their current uses and configurations of wireless equipment will be impossible, leading to a poorer experience for their audiences, greater stress and difficulty in engineering work-rounds, and potential financial loss due to serviceable equipment being rendered redundant.

7. The cardinal cause of this spectrum scarcity is actually the subject of a separate Ofcom consultation on the 550-630MHz, and 790-854MHz cleared frequencies, but we repeat that the loss of this enormous quantity of interleave white space is a major blow to the PMSE sector.
8. We have argued previously that if Ofcom's eventual objective is to "re-house" PMSE wireless devices elsewhere in the spectrum, the regulator should proactively lead the process of organising an orderly migration away from UHF, taking account of developments on the international scene, and allowing a sufficiently long timeframe for practitioners and others to write down current equipment.
9. The proposals in the current consultation exacerbate the problem of spectrum scarcity for PMSE users, by including channels 38 (an ideal candidate for discrete low-power usage), 61, and 62, in the main DDR auction, denying their use for wireless devices, whilst blocking geographic access to other interleave channels which may carry local TV or other applications. Ofcom has also rejected the industry's proposal for channels 67 and 68 to be dedicated to PMSE uses, a solution which would not necessarily alleviate all concerns about spectrum scarcity, but would have offered a contiguous block of spectrum, relatively free from adjacent channel interference problems, with a selection of spot frequencies within the tuning range of a single pair of transmit/receive devices.
10. There is no silver bullet solution for PMSE wireless devices in the event of spectrum scarcity, and even if there is scope in future for digitally-compressed, multiplexed, multiple access technologies to offer users the same spectrum efficiency gains that DTT has provided to broadcasters, there is no such technology available at present.
11. We have already pointed out the contradiction in Ofcom's comparatively optimistic analysis of PMSE spectrum availability post-DSO, and the regulator's willingness to postpone the London area reduction in available channels until the 2012 Olympic Games have concluded - a tacit admission in our view that such a large scale event would be impossible to mount in the UK again.
12. BECTU is at one with the PMSE sector in, once again, pointing out that Channel 69, plus the interleave channels covered by this consultation, represent insufficient capacity to meet the rising demand for wireless

devices in the audiovisual and entertainment industries.

13. We call on Ofcom to provide conclusive proof that our fears of spectrum scarcity for PMSE are unfounded, otherwise the regulator should reconsider its view on a number of concrete proposals from the sector, including the gifting of Channels 67 and 68.

INTERFERENCE AND TECHNICAL ISSUES

14. Another specific concern we would raise is the proposal to allow cognitive devices access to the interleave space. We are advised that although initial development has reached the point where devices can detect the presence of a DVB-T signal in a give band with some success, the technology is not yet at the stage where it would be safe or prudent to permit users to rely on it to discriminate infallibly between dead space, and TV datastreams, PMSE devices, or signals radiated by other potential applications in the auctioned whitespace.
15. Should an auction proceed for interleave frequencies, our principal concern would be the integrity of the current DTT platform Freeview. Whilst low-power PMSE users have happily cohabited with analogue TV and DTT transmissions in the UHF bands, the arrival of higher power local TV operators, or prospectively mobile TV and broadband, could cause co-channel and adjacent channel interference problems previously not experienced.
16. We have no specific view on whether traditional transmission masks, or Spectrum User Rights (SURs), are the better solution to the challenge of policing interference in the interleave, but note that for the cleared spectrum Ofcom itself has opted for SURs.

DIGITAL TERRESTRIAL TELEVISION

17. Since TV use, either local or aggregated across transmitter sites, has been identified as the most likely application for interleave spectrum, it seems sensible for the packaging to consist of 8MHz lots, aligned with the GE-06 frequency plan and channel numbers (keep it simple).
18. It is equally pragmatic to insist on interoperability between new operators and existing DTT. However, we note that Ofcom has once again proposed auctioning spectrum on the basis of technology and application neutrality. We believe that this falls short of the regulator's responsibility to ensure "total value to society", and runs the risk of spectrum efficiency falling short of the maximum, and the public good being poorly served.
19. In particular, we believe that for DTT applications in the interleave space Ofcom should mandate the use of the DVB-T2 standard. The regulator is already committed to the new standard, in the form of HD transmissions on Freeview Mux B, and given the long service live of TV

equipment in the UK, this could be the last opportunity for years or even decades, to initiate the creation of an installed base using this more efficient standard.

NON-TECHNICAL LICENCE ISSUES

20. Our views on the non-technical aspects of the licences, and the auction itself, are similar to our comments on the disposal of the cleared spectrum in a previous consultation.
21. We do not believe that granting licences that, to all intents and purposes, are indefinite is an appropriate approach to the allocation of electromagnetic spectrum. Viewed historically, the net present value of the spectrum has increased continuously since the first military and public broadcasts began early in the 20th Century.
22. Although at any given time it has been difficult to predict the technological advances that would increase demand for spectrum, they have inexorably arrived in due course. It is fair to assume that we are in exactly the same position now, where the monetary value of any spectrum released from public ownership will increase over time, but it is impossible to predict by how much.
23. In those circumstances we believe that finite licences are more appropriate for the channels being auctioned, and predict that although the regulator retains some prerogative to revoke licences on strategic band management grounds, there will be no end of practical problems with incumbents trying to exercise their grandfather rights to slots.
24. The absence of a "use it or lose it" clause seems to run in contradiction of Ofcom's obligation to extract maximum public value from the DDR - dead speculatively-purchased spectrum serves no public purpose - and we believe that there should be a provision for licences to be called in if successful bidders do not launch the applications they promise at auction.
25. BECTU believes that bids should be subject to a public value test to ensure that applications deliver genuine benefits to consumers and society, and notes with concern Ofcom's proposed agnosticism on the technologies and applications that are rolled out.
26. We oppose spectrum trading in an environment where the regulator has no regard to the technology or applications subsequently implemented, but believe that if trading is permitted, transactions should be subjected to another public value test to ensure that Ofcom's non-monetary obligations are fulfilled if licences change hands.

OWNERSHIP

27. We support Ofcom's proposal to exclude political and religious groups

from the auction, but believe more rigorous ownership rules are required that take account of cross-platform, and cross-media, concentration of ownership. This is particularly important in the case of this auction due to the geographically-defined nature of the lots to be sold, and consequent interest from existing local media.

28. On the question of Sky and NGW/Arqiva, we draw the same distinction between the two companies when commenting on whether or not they should be allowed to join the separate auction of cleared spectrum. BSkyB is an existing platform operator, channel provider, and content generator, with a dominant technological position in satellite broadcasting, raising clear questions of concentration should it be allowed to bid.
29. Conversely, NGW/Arqiva is a platform operator, and if moved to bid for spectrum should be treated as a new entrant in the context of content provision and channel operation.
30. Ofcom's view that no spectrum cap is needed underestimates, in our view, the potential difficulty of a single aggregated bidder for interleave bandwidth being in a position where the regulator is, by its own choosing, unable to intervene on matters of technology or applications. We believe that a cap of some sort would avoid this situation and encourage mixed ownership.
31. On the question of the auction process, our observations are simply that some of the models mooted, for example the combinatorial clock, will make the procedure, to many eyes, appear somewhat opaque, although the frequency-specific nature of this disposal eases this problem to some degree.
32. We note though that the comparatively high deposits required to take part in the auction will probably deter the community-based and not-for-profit sector, which limits the field of bidders and applications, and deters a sector which, arguably, can provide strong public benefit with new services.

SUMMARY

- Our principal concerns in this consultation are the spectrum scarcity likely to be faced by PMSE wireless users post-DSO, and the potential interference risk, both to them, and to existing DTT operators.
- We acknowledge that Ofcom has taken steps to ameliorate the scarcity problem for PMSE users, but believe that the reserved spectrum on offer is insufficient for the sector's needs.
- We recommend that DVB-T2 be mandated for new DTT services in the interleave space, fully interoperable with existing and new operators.

- Cognitive devices, in our view, are not yet sufficiently developed to be used safely anywhere in the interleave space.
- We question the absence of any public value test in assessing bids, and a number of non-technical licence details, for example indefinite duration and tradeability.
- BECTU questions whether the design and execution of the planned auction will yield a convincing level of non-monetary value for society without much more aggressive intervention by the regulator.

TONY LENNON/TH/20.8.08/DDR GEOGRAPHIC INTERLEAVED