

Digital Dividend Review

British Entertainment Industry Radio Group (BEIRG):

Response to DDR Regulatory Statement

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The British Entertainment Industry Radio Group (BEIRG) is submitting this document to Ofcom on behalf of the PMSE Pro User Group. ‘Programme Making and Special Events’, in this context, refers to: (1) professional wireless microphone systems, (2) professional in-ear monitor systems and (3) talkback systems¹.

Introduction

- 1. BEIRG welcomes Ofcom’s conclusion that intervention is required to save the Programme Making and Special Events (PMSE) sector from market failure.**
2. BEIRG welcomes Ofcom’s decision to award spectrum with PMSE obligations to a single band manager through a beauty contest rather than auction. We welcome Ofcom’s decision to seek to ensure that the band manager’s interests are aligned with those of the PMSE sector through the beauty contest. We applaud Ofcom’s recognition that an auction process is incompatible with the objectives of avoiding market failure and disruption to the PMSE community.
3. BEIRG welcomes Ofcom’s decision to continue licensing all of channel 69, which will be included in the single package of spectrum to be awarded by beauty contest. BEIRG applauds Ofcom’s recognition of the importance that professional and community PMSE users attach to the high quality, interference-free spectrum that licensing produces in channel 69 and the unique role played by channel 69 as the only channel available UK-wide for PMSE use.
4. BEIRG welcomes Ofcom’s conclusion that the PMSE sector needs a transition period before PMSE access to the upper UHF spectrum (channels 63-68) is terminated². BEIRG believes that the PMSE sector should retain nationwide access to these channels until 2013. This corresponds to the likely requirements of the potential new licensee(s) as well as the incumbent PMSE users.
5. BEIRG welcomes Ofcom’s conclusion that spectrum allocated with PMSE obligations will entail an explicit protection scheme that covers both the amount of spectrum and the payment for spectrum. BEIRG looks forward to working closely with Ofcom to discuss how long this protection should last and whether a corresponding review process, a minimum of 2 years prior to protection ceasing, might be appropriate.
6. BEIRG agrees with Ofcom’s assessment that the band manager best placed to stimulate trust among PMSE users is one whose interest is closely aligned with those of PMSE users. BEIRG agrees that this must be reflected in its institutional structure – BEIRG believes that that the PMSE sector must be directly represented in the band manager organisation at a strategic level.
7. BEIRG looks forward to working closely with Ofcom to discuss all details associated with the award mechanism. In particular, BEIRG looks forward to discussing the structure and mandate of the band manager organisation, the minimum term of the band manager’s licence, PMSE protection mechanisms, alternative users of PMSE allocated spectrum, exploring other bands outside PMSE allocated spectrum and levels

¹ For a more extensive definition of PMSE and description of the contribution this sector makes to the UK, please see the PMSE Pro User Group response to Ofcom’s consultation on Programme Making and Special Events p. 11-12 <http://www.ofcom.org.uk/consult/condocs/pmse/responses/ProUserGroup.pdf>

² See Ofcom’s regulatory statement, issued on October 12th 2007: <http://www.ofcom.org.uk/consult/condocs/pmse/statement/>

of AIP.

The Band Manager organisation – structure and mandate

8. Interested parties within the BEIRG organisation currently account for around 50% of JFMG activity. Around 1/3 of JFMG's income derives from licenses issued to that part of the PMSE sector encompassed by the BEIRG organisation (wireless microphone systems, in-ear monitor systems and talkback). This is a very high proportion despite the fact that the majority of this disparate group of PMSE users operates without licenses. If licensed usage of these devices increases, as we hope it continues to do³, then the proportion of the band manager's revenue deriving from this sector of PMSE deriving from this sector is likely to increase significantly⁴.
9. BEIRG agrees that the band manager best placed to stimulate trust among PMSE users is one whose interest is closely aligned with the PMSE sector. BEIRG also agrees with Ofcom's assessment that the alignment of the band manager with PMSE interests would ideally be reflected in the band manager's institutional structure⁵ so as to invigilate its technical, financial and managerial capabilities to manage spectrum on a day to day basis⁶.
10. In view of the size of the BEIRG sector's contribution and spectrum usage via the band manager organisation, we believe it reasonable to request that the PMSE sector encompassed by BEIRG is proportionately represented on the board of the new band manager organisation in accordance with Ofcom's recommendation that PMSE interests be incorporated into its institutional structure. This would reflect a clear commitment to the survival of the PMSE industry, which BEIRG strongly advocates.
11. This direct PMSE industry representation within the band manager organisation would ensure that the PMSE sector is aligned with the band manager. This is necessary for the following reasons:
 - a. To stimulate trust among PMSE users and encourage them to cooperate with the band manager.
 - b. To help avoid the range of scenarios which could be damaging to the PMSE industry such as 'predatory pricing that can be excused on the basis of promoting efficiency'.
 - c. To actively encourage the PMSE industry, for example through policy or similar initiatives, to purchase licenses for spectrum usage and take more responsibility for enforcement. BEIRG is keen to ensure that revenue is raised through PMSE spectrum licensing and that an efficient collection system is established.
 - d. To allow the PMSE industry to work in close conjunction with the band manager organisation to assist in any testing that might be necessary to ensure that any 'cognitive' or other wireless devices that might possibly share spectrum with PMSE cannot interfere with PMSE appliances. PMSE industry representatives as well as Ofcom must be satisfied that cognitive or other wireless devices will not interfere

³ We have made specific suggestions about how licensed-usage might be increased and revenue more efficiently collected later on in this document. BEIRG would like to make it clear that increasing licensed usage should be a priority for the PMSE sector.

⁴ It is important to stipulate here that, due to the disparate nature of the PMSE industry and users of wireless microphones in particular, BEIRG cannot directly represent all users of wireless microphones, in-ear monitor systems and talkback systems although it works for the benefit of all users and manufacturers of wireless microphones in-ear monitor systems and talkback systems. BEIRG is an independent and non-profit-making association.

⁵ A3.97

⁶ A3.97

with their applications before cognitive access to the PMSE reservation is considered.

Band Manager - methods of encouraging licensed usage

12. BEIRG recognises that licensing and consequently revenue collection is a problem. Regrettably, many PMSE users currently operate without licenses. If this trend continues under the new band manager regime then this is likely to penalise the band manager and those PMSE users who do purchase licenses (by pushing up the prices). Critically, licence-evasion means that figures indicating the size and contribution made by the PMSE sector to the economic and cultural fabric of the UK are vastly underestimated. Licence-evasion under-represents the number of PMSE users and undervalues their economic and cultural contribution. Proliferation of unlicensed use also causes interference problems due to lack of coordination.
13. Pricing mechanisms are much more likely to succeed as a method for encouraging industry innovation and more efficient use of spectrum if licensed usage increases.
14. BEIRG believes that it is in the interest of the PMSE community as a whole to examine how a more efficient system of revenue collection might be established. The licence fee for PMSE spectrum is currently charged to the end-user only. However, as soon as the equipment leaves the manufacturers' shelves it is capable of operating with or without a licence. The discrepancy between these two realities is the primary reason for unlicensed usage of PMSE equipment. The problem may be solved if there were some viable way to ensure either (1) that PMSE equipment cannot operate without a licence or (2) that PMSE equipment (along with users' details) is put onto a database, which the band manager could then use to collect revenue.
15. BEIRG wishes the following suggestion to be considered by Ofcom and those competing to become the new band manager:-
 - a. Whenever any equipment capable of operating in spectrum operated by the band manager is purchased, the purchaser is also required to buy a basic operational licence, which would involve a registration fee along with contact details being placed on the band manager's register. The registration fee would be paid to the band manager and the band manager would then possess the necessary information to contact the PMSE equipment user for revenue collection or usage inquiries⁷. If equipment is transferred either through sale, rental or exchange then it is the responsibility of the most recent owner to ensure that the details are appropriately amended on the database. The registration fee or basic licence would not constitute any rights to spectrum usage. Licences for rights to spectrum usage would be procured from the band manager organisation. *It is an opportune time to set up this kind of system (similar to TV licensing) since DSO will force the PMSE sector to buy new equipment anyway. The database of licensees would hopefully encompass a large proportion of the PMSE sector by 2013.*
 - b. This principle could form the basis of a tiered licensing system involving the original purchaser, venue and end-user. The licenses could be categorised in the following way:
 - (1): as in (a)
 - (2): venue-specific with a tiered level of access (block-booking of a certain number

⁷ It is important to note that this system would have to comply with EU regulations.

of channels)

(3): Co-ordinated frequency licensing (effectively to cater for demand in excess of that accommodated by the venue-specific licence)

16. Any decision with regard to the method of licensing for use of spectrum with PMSE obligations should only be made after full discussion with BEIRG.

Band Manager – pricing mechanisms

17. BEIRG recommends that the commercial band manager will use a pricing mechanism as a method of encouraging industry innovation and efficient use of spectrum. The pricing mechanism should ultimately reduce specific spectrum usage by encouraging the development and deployment of more spectrally efficient equipment. It must ensure that the cost of licence assignments allows for duration, time of day, location and demand for frequency so as to keep costs low for community use and to encourage more efficient commercial use of spectrum. The fee will also be partially determined by how much in advance it is paid for.

18. The band manager should, through its pricing mechanism, encourage PMSE users to purchase their licences as far in advance as possible. The licensee would then be entitled to sell the licence back to the band manager at a discount if it is no longer required. The licence should be viewed as a depreciating asset; remuneration will be determined by how far in advance the licensee returns the licence to the band manager. A variety of payment methods could be used.

19. If the goal of AIP is to move toward an increasing percentage of market value over time, what will be the basis for analysis of 'opportunity cost' of spectrum? BEIRG understands from Annex 2 to the DDR Regulatory Statement that the opportunity cost of PMSE use is no more than £250 million. However, this sum is 'not indicative of the AIP that may be charged for access to any spectrum provided via an administrative process.'⁸ We can infer from this document that AIP is likely to be based on 'marginal changes in spectrum availability' and the 'impact of this on other spectrum users'. Could Ofcom please elucidate further on this modelling process?

20. If spectral efficiency is also an objective, what measures will Ofcom use to determine progress in this regard (for instance, realistic number of wireless microphone systems per MHz) and what is the expectation of progress over time?

Duration of the Protection Period for PMSE

21. Ofcom is currently of the view that 'a decade of protection would offer a reasonable balance between the lifecycle of equipment and the opportunity cost of precluding alternative uses of the spectrum'.

The PMSE Pro User Group strongly disagrees with this assessment. For the vast majority of PMSE users (those based in the greater London area), PMSE protection until 2018 will in reality provide only a five year lifecycle for the new equipment designed to operate in the PMSE reservation. London does not switchover to digital broadcasting until 2012 and PMSE access to the cleared spectrum is likely to continue until after the Olympics in 2013. Therefore, the PMSE sector in London will be able to use its existing equipment which operates in Channels 63-68 until 2012 at the earliest,

⁸ A2.42

at which point it will become redundant. New equipment which operates in the PMSE reservations will then have to be bought. This equipment will then have a guaranteed lifespan of only 5 years, at which point Ofcom have suggested that PMSE protection will cease (2018). Although the PMSE sector can access the digital interleaved now, users will not purchase new equipment until it is absolutely necessary in order for them to amortize the value of their existing equipment.

Transitional arrangements – access to ‘cleared’ spectrum

22. Although transitional PMSE access to UHF spectrum (channels 63-68) was covered in a separate regulatory statement, issued on October 12th 2007, this is an issue that must be addressed here as it is incorporated within the DSO/DDR plan as a whole.

The PMSE Pro User Group welcomes Ofcom’s distinction between the timing of the digital dividend award and the timing of the spectrum’s availability for use (made in point 9.16). It would not make sense for either the incumbent users or the future licensees of this spectrum for PMSE access to be terminated in a piecemeal fashion across the UK. Therefore, we maintain that the UHF spectrum channels 63-68 and 31-37 and 39-40 should be retained for nationwide PMSE use until 2013 (after DSO is complete across the UK). These arrangements would facilitate a smooth transition, ensure sufficient spectrum and equipment availability to cover the Olympics at all venues across the UK and would be unlikely to disadvantage future licensees and their corresponding consumers.

23. Ofcom’s current position is that the PMSE users of channels 63-68 will be given six months notice before ending temporary access. Temporary access will be terminated up to the point where new users need access to the spectrum.

As far as PMSE users and rental companies are concerned, a phased termination of PMSE access to channels 63-68 will cause serious disruption. For instance, it will result in touring theatre and live music shows having to use multiple sets of equipment as productions travel around the country. As far as the PMSE sector is concerned, the transition needs to be national and simultaneous.

24. While Ofcom perceives that it is theoretically possible to argue that, as the PMSE sector already has access to the ‘digital interleaved’, equipment operating in these frequencies will be able to do so on a relatively nationwide basis, thus solving the disruption problem. However, in practice, this is not so. The shortage of available channels combined with the disparity in channel availability from venue to venue means that many larger-scale productions will not be feasible and travelling productions will have to use multiple sets of equipment (possibly rendering them financially unviable). In addition, this theoretical argument does not consider the huge volume and value of equipment that operates in channels 63-68, 31-37 and 39-40 that would be rendered redundant and the new equipment that would have to be developed and purchased. The financial implications for rental and production companies would be disastrous. Even if compensation were offered to those users whose equipment was rendered redundant, it would not solve the problem of developing the new equipment. BEIRG urges Ofcom to guarantee continued PMSE access to channels 31-37, 39-40 and 63-68 until 2013 because of the timescale required to develop the new equipment.

25. It is extremely doubtful that phased termination of PMSE access and phased availability of channels 63-68 will be appropriate for the new operators of these bands.

The new licensees will, in all probability, be intending to run their new services nationwide. As nationwide use of these bands will not be possible until London has switched over to digital broadcasting in 2012, it would have no value to evict PMSE users from channels 63-68, 31-37 and 39-40 until this date.

To further illustrate this point, it doesn't make sense for potential new licensees to buy the rights to channels 63-68 in the North West when they will not be able to use the same spectrum in London. This will essentially mean that this spectrum will be redundant when it could otherwise be used by PMSE.

26. Ofcom has stated that the digital dividend will be awarded as soon as possible to 'allow citizens and consumers to benefit from new services with minimum delay'.

If PMSE users are evicted from spectrum on a piecemeal basis, which is then not used for new consumer services until switchover is completed nationally, then there will be a significant period of time in which citizens and consumers lose existing services and do not receive new services. It is in the interests of citizens and consumers to retain PMSE access to channels 63-68 and across 31-35 and 37-40 until after the 2012 Olympics. It seems extremely unlikely that the consumer will buy any new wireless information device that only operates in certain parts of the country.

27. New licensees are unlikely to need to use channels 63-68 until switchover is complete across the UK. Therefore, the PMSE industry must be allowed to continue to access this spectrum until switchover is complete in 2012/2013.

28. BEIRG believes that Ofcom has taken these arguments into account, as is demonstrated by point 9.16 of the Regulatory Statement. However, separating the timing of the digital dividend awards from the spectrum's availability for use is merely the first step. We urge Ofcom to make clear in the licence conditions for channels 63-68, 31-37 and 39-40 that rights of usage do not start until at least after the Olympics in 2012. This would contribute to a smooth transition for the PMSE sector and ensure that there will be the biggest pool of equipment available to cover the Olympic Games.

Useable spectrum in the PMSE reservation – does supply meet demand?

29. BEIRG has carried out technical research and production feasibility assessments subsequent to Ofcom's publication of the white spaces maps. Consequently, BEIRG is extremely concerned that the amount of useable spectrum has been reduced to such an extent that many larger-scale productions will be rendered unfeasible in many areas across the UK and travelling productions will have to use multiple sets of equipment due to the disparity in channel availability from venue to venue. Indeed, there are a number of important cities where, according to Ofcom's figures published on 16th January, on current evidence it would be extremely challenging to stage any major productions after DSO has taken place (and PMSE access to channels 63-68 has been terminated).

30. BEIRG understands that Ofcom has used PMSE spectrum demand figures from 2005 to assess whether the amount of spectrum available in the PMSE reservation is sufficient to meet demand. The irregular pattern of large productions at any given venue and the consequent irregular pattern of demand for a high number of channels at that venue mean that PMSE spectrum demand may vary dramatically from one year to the next. The 2005 figures are not adequately indicative of PMSE demand.

Therefore, BEIRG does not share Ofcom's confidence that there will be sufficient spectrum available to cater for the PMSE sector post-DSO. This view is further reinforced by the fact that PMSE spectrum demand has significantly increased since 2005, a trend which is set to continue. It would therefore have been more appropriate to use the most recent information available when conducting this research.

31. Incorrect conclusions can result from a lack of knowledge or understanding of local conditions. Taking Leicester as an example, Ofcom has stated that, based on 2005 figures, there is sufficient supply of spectrum to meet PMSE demand. However, this ignores the fact that the theatre in Leicester was closed for 9 months for refurbishment in 2005, which radically reduced spectrum demand and has consequently skewed Ofcom's assessment. This example further illustrates why it is essential that the PMSE sector is directly represented on the board of the new band manager organisation, providing production experience and practical understanding of local conditions.

790 – 862 MHz pan-European mobile sub-band

32. The post-UK DDR EU plans for the 790 – 862 MHz pan-European mobile sub-band aren't likely to be implemented until at least 2015 (and only after technical compatibility studies have been undertaken and delivered at the World Radio Conference in 2011). In light of these recent developments, Ofcom's plans to sell off the cleared spectrum that coincides with these bands could be viewed as premature from a pan-European perspective.

TV Channels 61 and 62

33. Any proposal that would involve the reduction in useable digital interleaved spectrum for PMSE use is to be deprecated. Consequently, BEIRG opposes Ofcom's recent proposal to clear channels 61 and 62. If these channels were auctioned in a similar fashion to the cleared spectrum, this would result in reduced capacity for the PMSE industry.

Local TV

34. Whilst BEIRG understood from the outset that local TV would be located in the digital interleaved spectrum, it will, by default, result in less digital interleaved spectrum for the PMSE sector to use for content production. Neither national nor local TV content can be made without adequate spectrum provision being made for PMSE equipment.
35. Where digital interleaved spectrum suitable for local television is not bought for this use and therefore remains available, this spectrum must be awarded, with PMSE obligations, to the new band manager organisation.
36. Where local digital TV operates, the new band manager organisation should be awarded the consequent interleaved spectrum, which in turn should be used for PMSE provision.

Cognitive access to the digital interleaved

37. The PMSE Pro User Group is extremely concerned by Ofcom's proposals to allow cognitive radio devices to operate in the interleaved spectrum despite the caveat 'provided that it can conclusively be proved that these devices will not interfere with

either digital television services or PMSE equipment.' These devices, also known as 'whitespace devices' and due to be brought to market by some of the biggest names in the computing industry, are not yet in production.

38. As neither the DDR consultation document nor the PMSE consultation addressed the issue of cognitive access to interleaved spectrum, BEIRG is surprised and concerned at the degree of support that these suggestions received in the DDR Regulatory Statement published in December 2007.
39. Whilst BEIRG is, to some degree, reassured by Ofcom's stipulation that cognitive devices will only be allowed to operate in the interleaved spectrum provided that it can conclusively be proved that these devices will not interfere with either frequency-stable digital television services or transient licensed PMSE equipment. These technical details must be addressed in greater depth.
40. Prototype devices submitted to the FCC have so far failed to demonstrate that they can adequately detect digital TV signals, let alone low power devices like radio microphones. BEIRG believes that it is essential for Ofcom to undertake its own testing of cognitive equipment and take into account test results in the EU as well as the United States⁹. Ofcom must be cautious with accepting test results from the FCC, which don't necessarily apply to the type of DVB in the UK. It is absolutely crucial that the testing process be rigorous and undertaken with an agreed methodology.
41. It is imperative that cognitive radio devices do not interfere with PMSE applications. Therefore, the PMSE sector must be fully and actively involved in the testing process through its involvement with the band manager board. It is essential that PMSE sector representatives, as well as Ofcom, are completely satisfied that cognitive devices will not interfere with their applications before cognitive access to the interleaved should be permitted.
42. Separate from the more technical concerns, the PMSE Pro User Group believes that the principle that these devices should be allowed to operate, on a license exempt basis, in the same area of spectrum that PMSE users will be paying for via AIP requires further detailed consultation and discussion.

⁹ The prototype cognitive radio devices being are currently being designed to detect U.S. 8VSB DTV signals, not the OFDM-A type used in the UK and elsewhere in Europe. Also, these cognitive devices submitted to the FCC so far do not even pretend to be able to detect wireless microphones let alone offer protection. This does not entail a genuine cognitive radio function and therefore are only in effect manual scanners.