

Ofcom

British Entertainment Industry Radio Group (BEIRG)

Ofcom Annual Plan 2015/16: Invitation to Comment

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Executive Summary

- The PMSE sector is a vibrant, varied and exciting component of the UK creative industry, and adds significantly to the creative industries economy. Ofcom's Annual Plan for 2015-16 should fully recognise and support the requirements of PMSE, especially in the four key areas described in this response.
- BEIRG asks Ofcom to acknowledge the need for a clearly defined spectrum strategy for PMSE users, rather than making a series of extemporary decisions which are based around benefits to other industries. This strategy should be published as soon as possible, given the external pressure of the World Radiocommunication Conference 2015 and the fast pace of domestic plans to clear the 700 MHz band.

- BEIRG calls upon Ofcom to include in its Annual Plan the identification of sub 2GHz UHF spectrum which can be identified for the long-term and secure use of the PMSE sector.
- BEIRG asks Ofcom, through its Annual Plan, to enforce the efficient use of spectrum by all parties before considering allocating more spectrum to Mobile Network Operators (MNOs); BEIRG believes that, MNOs already have enough spectrum to fulfil their needs and can make more efficient use of the spectrum currently available to them
- White Space Devices pose a significant threat to the PMSE industry; BEIRG believes that Ofcom is proceeding with the introduction of WSDs at too quick a pace. Its Annual Plan should include a commitment that more detailed and conclusive research will be undertaken and a burden placed on promoters of WSDs to prove that their devices will not cause harmful interference, rather than on incumbent, licensed users to adapt and compromise their legitimate and well established use of white space frequencies.

Introduction

The PMSE sector is the backbone of the UK's Creative Industries. For instance, the shows which have allowed the UK to build its world class theatrical reputation rely on wireless microphones both on and offstage. Given that the current annual turnover of London theatres alone is £618.5 million, which represents just over 22 million attendances annually,¹ it is clear that the economic effect of the sector is enormous. In fact, this figure excludes downstream revenue such as merchandise; once included, the estimated economic impact is £1.5 billion. Similar figures apply to theatres outside London. Spectrum is integral to every aspect of these performances; without appropriate consideration given by Ofcom to its management, these productions will not be able to continue.

Theatre productions are only one facet of the PMSE sector; wireless microphones are key to both the security of and creative success of globally renowned music festivals, international tours, sporting events and enormous individual spectacles such as the Olympics, Royal Wedding or the Jubilee celebrations. As well as being part of these high-profile occasions, wireless microphones are part of the everyday fabric of the UK; they are used in school assemblies and productions, at every football or rugby match and in many places of worship. Like our theatres, these different pieces of UK culture hold significant economic value and represent a diverse group of workers.

Long-Term PMSE strategy

¹ SOLT, *London Theatre Report*, pg.8,
<http://www.solt.co.uk/downloads/pdfs/pressroom/London%20Theatre%20Report%202014.pdf> (accessed on 15th August 2014)

Despite the prevalence of PMSE across the UK, Ofcom have yet to codify a definitive spectrum strategy for PMSE, despite repeated requests for one, and offers of assistance, from BEIRG. As such, Ofcom policy regarding the PMSE sector appears to be an ad hoc set of decisions based on the view that the needs of PMSE users are a by-product and an afterthought.

The industry had been racked with uncertainty for several years as discussions regarding the clearance of the 800 MHz and 600 MHz bands progressed. PMSE users hoped that that clearance would mark the end of this uncertainty and the creation of a stable environment in which they could work. Instead, almost immediately, discussions began about the clearance of the 700 MHz band, and the potential introduction of unlicensed white space devices (WSDs). In effect, manufacturers, suppliers and users of PMSE equipment have not enjoyed the stability, on which any industry relies, for over a decade.

If, five years ago, Ofcom had developed a strategy for PMSE and allocated the sector a sufficient quantity and quality of secure spectrum in which to operate, much of the instability discussed throughout this submission could have been avoided. Instead, PMSE was asked to adapt and modify to fit in with Ofcom's policy towards others sectors such as Mobile Network Operators (MNOs) and those promoting WSDs.

BEIRG has been in an extended dialogue with Ofcom on the subject of a clearly defined strategy for some time, but there has been little progress. As the World Radiocommunication Conference 2015 approaches, the international need for Ofcom to set out a distinct plan for PMSE is becoming more pressing. How else can Ofcom advocate for the UK PMSE sector on the world stage? On a domestic level, Ofcom's ostensible intention to announce a decision regarding the future of the 700 MHz band before the end of the year means that it is clear that the strategies for PMSE and MNOs are not running in parallel. The process of preparing for the clearance of the 700 MHz band is progressing with pace. And yet, BEIRG sees little indication that, by the time a 'point of no return' in that process is reached, Ofcom will have set aside dedicated spectrum for PMSE use. If this occurs, the backbone of huge swathes of UK culture will be irretrievably crippled.

BEIRG asks that Ofcom priorities the creation of a PMSE strategy in its Annual Plan.

Ofcom's role as a regulator: The Need for Alternative Spectrum

BEIRG recognises the importance of market independence, but suggests that spectrum is not a resource which can be allowed to become subject simply to market forces.

PMSE users' primary competitors for spectrum are MNOs; companies, and an industry, whose size and resources deliver an obvious advantage when advocating for their interests compared to the smaller and more disparate companies who represent the PMSE sector. Yet, clearly the PMSE sector provides benefits to society and the economy which cannot be jeopardised simply because they are delivered by smaller stakeholders. The consultation document states that the preferred method for spectrum allocation is market mechanisms, but this method is incompatible with the reality of incumbent spectrum

users. Ofcom itself has acknowledged this in the past, through its decision to exempt PMSE users from spectrum auctions. BEIRG welcomes and applauds this realism.

However, this action alone is not enough to protect the specialised interests of the PMSE sector. If spectrum is governed by market fluctuations, PMSE investors will have little inclination to operate in the UK; this will severely limit innovation as there is little point in investing money in research and development which may be rendered useless by the decision to award even more spectrum to MNOs. By allowing commercial giants to force PMSE users into an ever decreasing quantity and quality of spectrum, Ofcom jeopardises the future of the creative economy. A significant decrease in quality of spectrum will mean that international companies may no longer consider it worthwhile to stage music tours, theatre productions or major sporting events in the UK.

Therefore, BEIRG suggests that, as part of its regulatory role, Ofcom gives more consideration as to how to defend the security of specialised sectors such as PMSE. The clearest way in which Ofcom could achieve this is by allocating a sufficient quantity and quality of spectrum in which PMSE users can operate, free from interference and secured for the future. This spectrum would offer a long-term solution to the problems facing the PMSE sector; if users could be sure that they could access interference-free spectrum without the fear it would soon be reallocated, industry uncertainty would disappear. This would mean the return of economic security to the sector and less of a pressing need for the PMSE sector to be protected from larger, more influential sectors.

The need for such alternative spectrum has been made even more pressing by Ofcom's proposed reallocation of the 700 MHz band. Presently, progress on the reallocation of the 700 MHz band appears to be far more advanced than the identification and allocation of alternative spectrum for PMSE users. BEIRG urges Ofcom to complete the latter before the former; if the 700 MHz band is cleared before other spectrum is provided, PMSE users will find themselves unable to function at their current level. Therefore, BEIRG asks that Ofcom includes the provision of alternative spectrum for PMSE users in their Annual Plan.

Efficient Use of Spectrum and projected demand for mobile data

Much of recent Ofcom policy has been driven by the premise that mobile data demand will increase dramatically over the next ten years and, therefore, Mobile Network Operators require the allocation of additional spectrum for their use. BEIRG asks, as part of its Annual Plan, that Ofcom focuses on maximising the spectral efficiency of MNOs. This should include an undertaking to conduct an independent review of the efficiency with which MNOs utilise their current spectrum holdings. BEIRG also ask that Ofcom complete an independent review of future mobile data demand.

The past actions of extending mobile broadband spectrum access, without supporting or demanding the reuse of existing resources, have not encouraged sufficient efficiency amongst the mobile industry. Whilst PMSE is an efficient user of spectrum, able to utilise interleaved spectrum and to operate alongside other users such as DTT, mobile telephone technology is not and, at present, is unable to coexist with other users.

Additional spectrum should only be allocated for use by MNOs once they have shown that they have made efficient use of their current spectrum inventory and their need for additional spectrum has been confirmed by critical, independent analysis. Currently, BEIRG does not believe that MNOs have made a convincing case in this regard. Much more efficient and cost-effective use could be made of this spectrum, and it is therefore imperative that mobile telephone companies make the most of their large spectrum holdings, as meeting any likely future demand will be greatly dependent on this. Ofcom should model the outcome of a re-farming effort by the mobile companies and ensure they comply with this to ensure the greatest possible level of spectral efficiency.

The increasing complexity of handsets has already led to a steady decline in mobile handset radio performance, which in turn leads to an increase in the required number of base stations to maintain network coverage². The addition of further complexity to mobile handsets (and/or other mobile network user equipment such as dongles and tablet computers) will not promote spectral efficiency. BEIRG believes that MNOs should be encouraged to exclude poor performing handsets from their networks.

Additionally, Mobile users already offload onto Wi-Fi to make voice calls and to send and receive data in an already overloaded SRD Band. As a more efficient, reliable and better quality means of data transfer, this raises the question of how much more spectrum the mobile community actually needs in future. The future may see most consumers offloading services onto Wi-Fi, as a preference to mobile broadband, especially with increasing amounts of people working from home. Use of Wi-Fi could allow for a much larger capacity and faster throughput of data. This offloading of voice calls and data is not accurately reflected in predictions for future data use.

Defence Against Future Threats to PMSE

BEIRG asks that Ofcom's Annual Plan acknowledges the need for continued investigation of the feasibility of introducing White Space Devices (WSDs), as opposed to the current language of 'enabling' the introduction, which suggests that WSDs will be introduced regardless of concerns. To facilitate production of high quality content, PMSE access to spectrum must be free of interference. This is being put at risk by the possible operation of WSDs in the same spectrum as PMSE users.

If Ofcom allows WSDs to operate without licences, any ability to protect licensed users will be diminished once the devices have been introduced. In 2011 Ofcom stated that "practical trials and demonstrations are necessary to validate that using the geolocation approach effectively prevents harmful interference"³. These trials, organised with the cooperation of BEIRG, are still on-going, and yet Ofcom appears to have already taken the decision that WSDs will be introduced regardless of the outcome.

² Eurexcm Engineering, *Study for the European Commission – Enterprise and Industry Directorate General: Technical support relating to performance of antennas of mobile phones, Final Report*, 28 January 2014

³ Ofcom, *Implementing Geolocation: Summary of consultation responses and next steps* (1 September 2011), pg. 2 (Available at: <http://stakeholders.ofcom.org.uk/binaries/consultations/geolocation/statement/statement.pdf>)

Furthermore, the proposed opportunities for redress which are available to those licenced users who do suffer interference from WSDs are insufficient. In the consultation *Implementing Geolocation*, Ofcom proposed that in the event of WSD interfering with licensed users “we will immediately deal with the problem by removing the relevant frequencies and areas from the database, which we will require database providers to reflect within one hour”⁴. Theoretically this would mean that WSD would recognise that they are no longer permitted to use that frequency of spectrum and desist. But for many PMSE users, such as theatres, live TV broadcasts, live music and large political and industrial events, this proposed one hour turnaround would be disastrous. For any of these events, even a minute of interference would simply ruin the show and potentially cause its cancellation.

Additionally, there is the likelihood that, no matter how careful manufacturers are to ensure that their products minimise any possibility of interference with other users, there will be people who deliberately hack into WSDs to suit their own purposes. It is highly unlikely that these people will put the same safeguards in place to protect incumbent industries. These ‘rogue’ devices will be totally out of the control of Ofcom’s safeguards.

Given the damaging consequences of these potential scenarios, it is essential for the PMSE industry that interference is prevented in the first place, rather than addressed later. BEIRG asks Ofcom to designate further research into the potential impact of WSDs as one of their priorities for the coming year. BEIRG recognises the work which Ofcom has done in this area, but industry fears are still not allayed, as the capabilities of the technology are still not fully understood. Before any more work is done to further the introduction of WSDs, all potential consequences need to be discerned.

BEIRG urges Ofcom to complete additional research into the full implications of WSDs before allowing their integration; BEIRG once again stresses the importance of protecting the welfare of incumbent users before popularising new industries.

Conclusion

BEIRG asks Ofcom to realise that time is running out for the PMSE industry. If action is not taken to clarify the future of spectrum, then a steady decline of investment and innovation will be seen in the creative sector. PMSE users have the right to understand what is planned for the asset which is vital to their continued existence. BEIRG urges Ofcom to publish a fully formed strategy of intention before the end of 2014 and warns against a wholly commercialised outlook: unchecked growth in any sector which relies on a finite resource can only occur at the expense of other users.

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⁴ Ofcom, *Implementing Geolocation* (9 November 2010), pg. 48 (Available at: <http://stakeholders.ofcom.org.uk/binaries/consultations/geolocation/summary/geolocation.pdf>)

The British Entertainment Industry Radio Group (BEIRG) is an independent, not-for-profit organisation that works for the benefit of all those who produce, distribute and ultimately consume content made using radio spectrum in the UK. Entities that depend on radio spectrum include TV, film, sport, theatre, churches, schools, live music, newsgathering, political and corporate events, and many others. BEIRG campaigns for the maintenance of 'Programme Making and Special Events' (PMSE) access to sufficient quantity of interference-free spectrum for use by wireless production tools such as wireless microphones and wireless in-ear monitor (IEM) systems.

BEIRG is a member of the Association of Professional Wireless Production Technologies (APWPT)⁵, which promotes on an international level the efficient and demand-driven provision and use of production frequencies for professional event productions, as well as safeguarding such production frequencies for the users on the long run.

⁵ <http://www.apwpt.org/>