

Ofcom Consultation

British Entertainment Industry Radio Group (BEIRG)

Maximising the benefits of 700 MHz clearance

Date: May 2016

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Introduction

BEIRG is disappointed that the alleged needs of other industries are again taking precedence over those of audio PMSE. While the accelerated clearance of the 700 MHz supposedly maximises the benefits of the clearance in terms of earlier delivery of 700 MHz spectrum to mobile operators, it will also increase costs and inconvenience for the audio PMSE community. The 700 MHz band represents a third of the spectrum currently available for PMSE; its clearance therefore represents a major upheaval, in particular for high end professional audio PMSE users, whose equipment is used to produce the highest quality, highest value content.

BEIRG believes that the situation is particularly ironic, given that it is precisely this type of high quality content that the mobile sector is expecting its customer base to download or stream across its increased capacity networks. By the mobile sector's own admission, it is highly desirable audio/video content that forms the core of their increased data demand predictions. BEIRG once again re-iterates the fact that, before content can be distributed across any delivery platform, it has to be created. High value, large productions, use high numbers of wireless audio PMSE links. Bringing forward the clearance will present major challenges for the audio PMSE

community, not least in its ability continue to deliver the quantity and quality of services that event producers and ultimately consumers, have come to expect.

It is essential for the continued provision of world-leading audio PMSE that the transition from the 700 MHz is as smooth as possible, causing minimal disruption. Accelerating the process means that companies will have to replace their equipment inventories sooner, leaving a smaller margin for error for purchasing, testing, and putting into operation new equipment. This exposes all of the events and industries that rely on audio PMSE services to greater risk that something will go wrong, which in the context of a live performance is unacceptable.

The acceleration of the 700MHz reallocation makes it harder for the PMSE industry to:

- Confirm Ofcom's view that the 960-1164MHz is a viable band
- Develop and market suitable equipment
- Achieve penetration into the audio PMSE market place

We anticipate that, under these circumstances, audio PMSE users will choose primarily to replace their 700 MHz equipment with trusted equipment that operates below 694 MHz, rather than 'experiment' with any new equipment in the recently opened 960-1164 MHz band. This is because professional audio PMSE relies on perfect quality of service; professionals will typically use equipment that they are familiar with in order to feel more confident in achieving the expected quality of service. The longer new equipment operating in new frequency bands is available before PMSE users are forced to search for new equipment, the more likely they are to purchase it. This raises significant concerns about the market size for the 960-1164 MHz band and therefore manufacturers' willingness to produce equipment that operates within it.

It should also be noted that the 960-1164 MHz band is currently a UK only solution, thereby further diminishing manufacturers' appetites to produce equipment because of the resulting economies of scale. BEIRG still maintains at this stage – before an industry conducted national 960-1164 MHz measurement campaign has taken place – that, of the two bands examined for potential future use by audio PMSE (960-1164 MHz and 1525-1559 MHz), the 960-1164 MHz band will prove to be the most difficult for audio PMSE professionals to work in. Existing services in the band in conjunction with planned new services will result in a very challenging operating environment.

Ofcom already licenses PMSE activities in the 1492-1525 MHz band. It is BEIRG's view that extending this band up to 1559 MHz for audio PMSE, in addition to the 960-1164 MHz band, is currently the only way to properly mitigate for audio PMSE's ultimate loss of access to the 96 MHz of spectrum that constitutes the 700 MHz band. Ofcom have stated that they believe that 'up to 50 MHz' will be available for audio PMSE in London. If this proves to be true, it will still leave a 46 MHz shortfall compared to the current situation. The opening up of 960-1164 MHz alone will not fully mitigate audio PMSE's loss of access to the entire 700 MHz band. This is particularly true in London, where the whole of the 700 MHz band is currently available for audio PMSE deployment. The contribution of audio PMSE equipment operating in the 700 MHz band to West End theatre, TV production, and large musical concerts, and therefore to the wider UK economy, should not be underestimated.

Answers to Questions

Q2: Do you have any comments on our provisional assessment of the implications the proposed accelerated clearance would have for PMSE users?

Ofcom's analysis of the implications for PMSE is entirely focused on the direct monetary costs of replacing equipment earlier. There is a significant amount of equipment operating in the 700 MHz band and the replacement of this equipment will entail additional logistical, practical and operational difficulties and costs, as well as equipment costs.

The PMSE industry relies on its equipment to work flawlessly. This means that any new equipment, in particular in new frequency bands that have not previously been available to audio PMSE, will require extensive testing before it can be put to use. While this represents an additional financial cost, which Ofcom does account for, it is important to recognise that an accelerated clearance also represents additional risk for audio PMSE end users and content consumers. BEIRG would expect larger PMSE users to phase their equipment replacements in order to adequately test and evaluate any new equipment. An accelerated clearance would considerably condense this process, allowing much less time for this to take place. The result would be that rental companies may have to bring new equipment into rotation sooner than is ideal, leaving sound designers less time to become familiar with new equipment, increasing the risk that problems could occur across a range of live and/or recorded productions.

An accelerated clearance is likely to have implications for the take up of the 960-1164 MHz band beyond those predicted by Ofcom. While Ofcom states that “there is sufficient time between now and Q2 2020 for manufacturers to develop and bring to market equipment that operates in the new band,” an accelerated clearance allows limited time for any new equipment to be developed, let alone for it to be accepted by the audio PMSE community and penetrate the market. As described above, PMSE users are not comfortable buying equipment that they have not had a chance to test or assess extensively before use. Their jobs depend on flawless productions. An accelerated clearance means that PMSE users will possibly be forced to replace their 700 MHz equipment before any new equipment, operating in the 960-1164 MHz (or any other new band), arrives on the market.

Ofcom acknowledges this to some extent: “Following clearance, the remaining interleaved spectrum in the 470-694 MHz band is likely to be sufficient to serve the needs of the majority of events. We would therefore expect most users to replace their equipment with radio microphones which function in this band.”

However, Ofcom do not acknowledge that this presents a major problem for the market viability of the 960-1164 MHz band. The business case for manufacturers to build new equipment relies on PMSE users buying equipment in the 960-1164 MHz band. The likely cost of equipment and the conditions of operating in this band already look likely to limit the market to professional users. Given that the new spectrum is currently a UK only solution, any further reduction to the size of the market is concerning. BEIRG re-iterates that, quite aside from being persuaded that the band is viable for use technically, manufacturers will also need to be certain that there is a business case for building equipment in the new band in order to justify the research and development costs.

BEIRG understands that the new 960-1164 MHz band will likely have to be for high-end professional users only, but we remain to be convinced that the new spectrum presents a viable business case if its use is restricted to only the largest, most spectrum intensive events. Manufacturers are very willing to work with Ofcom in order to further assess the real-world viability of 960-1164MHz band for audio PMSE deployment, but ultimately manufacturers are businesses and, as such, will need to satisfy themselves that they will be able to achieve an acceptable return on investment, within a reasonable timescale, as will their customers. At present, it is far from clear whether this will be possible.

Q3: Do you agree with our provisional assessment that SDL is likely to represent the optimal use of the centre gap?

BEIRG does not support the use of the centre gap for SDL. BEIRG understands that SDL technology is years away from development. If during this time audio PMSE is denied access to the centre gap, this will represent an inefficient use of spectrum. BEIRG believes that the centre gap would be better used for PMSE or at the very least used to deliver two high definition DTT multiplexes with continued access for audio PMSE in geographical areas where those frequencies are not being used to deploy DTT.

Ofcom justifies denying audio PMSE access to the centre gap following the 700MHz clearance on the premise that new spectrum has been made available in the 960-1164 MHz band. However, we do not yet know what form equipment for the 960-1164 MHz band will take, how it will coexist with incumbent services, and what additional

skills will be needed to utilise it. It is too early for there to be industry consensus that the 960-1164 MHz band is commercially or technically viable as no industry involved testing has yet taken place.

Conversely, operating in the UHF spectrum is a proven concept and there is already a significant quantity of PMSE equipment available that is capable of tuning in to the centre gap spectrum. It would be an inefficient use of spectrum to deny audio PMSE access to the centre gap when PMSE equipment that can tune into the gap is already available and while no new SDL service is ready to be deployed.

In the event that Ofcom does allocate the centre gap for use by SDL, BEIRG asks that audio PMSE maintains access to the centre gap for as long as possible to ease the potentially now accelerated transition out of the 700 MHz band. This will give some leeway to large PMSE users in the event that the new spectrum proves more difficult to work with, or is more prohibitively expensive to transition to in the short term, than Ofcom anticipates.

As has been the case over many years, it once again appears that, with regard to the centre gap, the needs of the PMSE community are being firmly placed below those of Mobile Network Operators. Given the MNO's increasing reliance on high quality content, in the creation of which audio PMSE is an essential component, BEIRG questions whether Ofcom's priorities are misplaced.

Conclusion

BEIRG understands that it is Ofcom's prerogative to secure what it believes to be the best use of spectrum. However, Ofcom must respect that the burden of transitional issues to audio PMSE is high, jeopardising the industry's continued contribution to the economic and cultural success of the creative industries. Audio PMSE does not stand to gain from the 700 MHz clearance; there are only costs and considerable inconvenience for the industry. Ofcom should therefore take all measures possible to ensure that audio PMSE suffers as little disruption as possible. An accelerated clearance only presents more challenges and costs for the industry and, in BEIRG's view, should be avoided altogether.

British Entertainment Industry Radio Group

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. Venues and productions 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.

As well as being vital in producing live content, wireless PMSE technologies play a key role in helping to improve security and safety levels within the entertainment industry and other sectors. Their benefits include improving the management of electrical safety, the reduction of noise levels, the development of safety in communications and reducing trip hazards as well as providing an essential tool for the security orientated services. Wireless equipment and the spectrum it operates in are now crucial to the British entertainment industry.

BEIRG is a member of the Association of Professional Wireless Production Technologies (APWPT)¹, 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.

¹ <http://www.apwpt.org/>