

**Ofcom's proposals to update the technical conditions of mobile licences in
the 800 MHz band
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**Response from the British Entertainment Industry Radio Group
(BEIRG)**

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Introduction

- BEIRG is glad to have the opportunity to comment on these proposals and looks forward to continuing to work with Ofcom to ensure that as these plans are taken forward there are no negative consequences for the Programme Making and Special Events (PMSE) sector.
- In general, BEIRG supports Ofcom's proposals but seeks further clarification on what research has been done to ensure PMSE users in the 800MHz duplex gap are not adversely impacted by the increased power to mobile networks.
- BEIRG also seeks assurances from Ofcom that there will be mitigations put in place, should PMSE users find greater interference, as there is for DTT users.

Impact on PMSE users in 800 MHz Duplex

- BEIRG has some concerns overextending the range of coverage for mobile services in 800MHz.
- In 3.45, Ofcom proposes not placing any limits on the number of base station antennas, contrary to CEPT proposals. Whilst it is stated that base stations with more than four antennas are unlikely, it remains possible that this could be exceeded and therefore BEIRG would like a hard limit placed on this number. If an operator does have a case in the future where more than four antennas are required, then this could and should be dealt with on a case-by-case basis by reference to the regulator. Since Ofcom believes this situation is unlikely this should not create an onerous regulatory workload. Not having a defined limit on the number of antennas at least theoretically opens the door to potentially unlimited ERP.
- Increased “in block” downlink power potentially extends the range of a particular base station. A 3dB increase with the same antenna pattern only increases the coverage by a relatively small amount. However, such an increase has the potential to massively increase the area where fringe coverage from that base station exists. In fringe areas terminal devices will tend to operate at increased uplink transmit power levels. In locations where there are large numbers of terminal devices in close proximity this can result in high numbers of uncontrolled intermodulation products in the duplex gap and any adjacent bands. Allowing the maximum power to be defined per-antenna further increases the potential range and the areas of fringe reception.
- Locations where there is currently zero 800MHz coverage could in the future become fringe areas thus negatively impacting PMSE users.

Financial Impact on PMSE users

- Whilst there is still some skepticism within much of the UK’s PMSE community regarding the utility of the 800MHz duplex gap, it is, in practice, very useable spectrum with the added bonus that, unlike channel 38, it is available Europe wide. Any decrease in the *actual* - rather than imagined - utility of the 800MHz duplex gap will decrease confidence in its use and thereby increase pressure on other PMSE spectrum such as the coordinated UHF band below 694MHz.
- This in turn will add to the cost of spectrum use by the PMSE community since coordinated licences, particularly for touring or mobile users, are more costly both in terms of licence fees and the administrative burden than the shared licence which covers PMSE use of the 823MHz to 832MHz duplex gap.
- In addition, users who have invested in, and successfully used, equipment in the 800MHz duplex gap will be negatively impacted through no fault of their own if their ability to use the band reliably is reduced or removed by interference resulting from increased mobile base station power levels.
- In addition to the increased costs outlined above, it is feasible that reduced viability of the duplex gap for PMSE purposes may render equipment obsolete, and therefore force some PMSE users to invest in new equipment that is appropriate for use below 694 MHz

Scheme to mitigate potential losses

- In 3.23 Ofcom states: “We do not believe there is a risk of undue interference to other services in adjacent bands: **PMSE**, other mobile services in the 700 MHz and 800 MHz bands, Emergency services, **Short Range Devices**...” BEIRG would be most interested to examine the research undertaken by Ofcom that has led them to this conclusion as we remain deeply concerned about the impact on our ability to operate interference-free.
- In 3.25 Ofcom are similarly confident regarding the risk of interference to DTT reception to some households and that this should not prevent operators from using higher in-block powers. However, the document goes on to state “we do believe that operators should have in place a mitigation scheme to resolve any issues for DTT receivers should they occur.”
- BEIRG believes there should be a similar requirement to mitigate the losses of PMSE users affected by these changes should they occur. If, as Ofcom believes there is no interference as a result of increased mobile base station radiated power then the requirement will not be onerous. In the event that interference to PMSE does occur, the consequences for the users could be financially very damaging. In addition, the investigation and rectification of interference is a specialist job which can be very expensive for particular affected end users. In order to create a level playing field for all spectrum users, all parties must be afforded the same treatment by Ofcom.

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 (including music festivals), 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 audio 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 in which it operates 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/>