BBC response to **RSPG** public consultation: *Draft opinion on a long-term strategy on future spectrum needs and use of wireless audio and video PMSE applications*

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1. The BBC welcomes this opportunity to respond to the RSPG's opinion on the long-term availability of spectrum for PMSE. As one of Europe's largest television and radio broadcasters, the BBC makes daily use of PMSE equipment of all types.

2. As members of the European Broadcasting Union, we fully endorse and support the views expressed by the EBU on behalf of their members in their response to the RSPG's consultation. There are, however, further points we wish to make.

3. Given the many recent changes in PMSE spectrum, we welcome the RSPG's recognition that stability and certainty of access to spectrum are important to PMSE users. Acquiring professional PMSE equipment can be a large part of the cost of operating a TV or radio production business, and these costs need to be recovered over many years of operation. Artificially shortening the life of such equipment by removing access to spectrum bands will therefore increase the cost of TV and radio production. For this reason, we welcome the call that equipment tuning ranges should be as large as possible, but this alone does not mitigate completely for changes in available spectrum bands or add stability to the bands to which PMSE users need certainty of access.

4. The BBC has for many years been active in research into PMSE technologies, including working towards greater spectrum efficiency, and developing 5G technologies. We welcome the RSPG's view that further research is necessary and might benefit from funding to further these aims. We note, and support, the view expressed in the EBU response to this consultation that R&D cannot be relied on to deliver the required efficiencies in the timescales envisaged by the RSPG. In particular, we echo the comment that public mobile networks (currently 3G and 4G, in the future 5G) cannot deliver the latency and reliability essential to live PMSE applications such as studio and theatre radio microphones and wireless cameras for sport events.

5. The BBC places great value on the availability of harmonised tuning ranges, and on the ready availability of equipment to work in those ranges. We have worked with Ofcom and other UK PMSE users to verify the usability of the 960-1164 MHz band for audio PMSE, but note that only if the band is made available widely throughout Europe will economies of scale encourage greater and more economic equipment availability. With the reduction of available spectrum in the DTT bands (formerly 470-862 MHz, now just 470-694 MHz), the prospect of a frequency range with similar propagation characteristics being available is very attractive to PMSE users.

6. The RSPG mentions that it will continue to monitor developments in UHF spectrum, and specifically refers to the recent USA incentive auction for the 600 MHz band. As a result of that auction, and the ongoing repacking of DTT broadcasting in the USA, various new bands are being examined in the USA for PMSE use[1]. The BBC believes the RSPG should monitor developments in spectrum ranges identified for PMSE outside Europe, especially where there is

[1] As contained, for example, in Report ITU-R BT.2069 *"Tuning ranges and operational characteristics of terrestrial electronic news gathering (ENG), television outside broadcast (TVOB) and electronic field production (EFP) systems"*, which is currently undergoing revision to contain updated information on bands under consideration in the USA.

the possibility of significant economies of scale, with a view to determining whether any of the frequency bands identified elsewhere is also suitable for harmonisation in Europe.