

Final Text of the FCS Response to UHF Strategic Review Consultation

Dear BR Member,

Here is the final text of the FCS response to the Ofcom Consultation on UHF.

I am grateful to those who provided comments.

FCS responses to Consultation Questions

Question 1: Do you agree with our assessment of the trends in current and future demand in the band?

Yes. In general, the FCS research indicates a need for a continued high level of voice service in the band with the possibility of significant growth in the amount of low-speed data.

Higher-speed data traffic is expected to grow also but, due to the complexities in the band, a different frequency range will have to be identified to carry those communications.

Question 2: Do you agree with our assessment that the risk of continental interference is limited to the east and south east of the UK during periods of atmospheric lifts?

Yes. FCS members have previously reported no significant issues associated with continental interference and anticipate little change going forward.

Some FCS members reported that what continental interference that had been experienced was likely to be largely due to inappropriate choice of antenna or even the antenna design itself. There may be some evidence of this being accidental or due in some cases to ignorance.

On this point, the FCS would like to further note that should additional services be established in neighbouring countries, it is still not clear that they would cause interference on a scale that could not be managed by prudent technical arrangements.

See the FCS answer to Question 4.

Question 3: Do you agree with our assessment that these bands could enable the implementation of our UHF policy proposals? Are there any additional uses you think we should consider if this spectrum becomes available for use?

The FCS considers the Ofcom view that, overall, the use of the band should remain as it is, is the correct approach.

However, we note the increase of polling data systems and their potential to interfere with the voice communications of other sharers. The FCS therefore proposes that these bands are prime candidates for the introduction of data-only channels. These would permit the off-boarding of these polling services out of voice channels.

The current use of the band is growing and is expected to continue to grow over the foreseeable future. Thus, the amount of traffic is expected to increase.

Recalling the nature of much of the use in the band and the importance of the communications, the introduction of completely new services that could disrupt the current delicate arrangements would seem imprudent. The FCS suggests such new services would be better served in other bands.

Question 4: Do you agree with our conclusion that aligning UHF Band 2 with continental Europe is not required?

Yes. The FCS notes that the FCS research and the Ofcom consultation both note the lack of adverse impact of the continental interference. This implies that, at best, only a limited benefit could be obtained from any re-alignment. Considering the disturbance and cost of any such activity, there is unlikely to be any overall benefit. Indeed, there may be a significant dis-benefit when the knock-on effects across the rest of the country are considered.

Question 5: Do you agree with our proposal to add additional channels to the Simple UK and Simple Site licence products from spectrum within the 458.5 to 459.5 MHz band?

Yes.

Question 6: Do you agree with our assessment that the risk of interference between Simple UK and Simple Site use and licence exempt short range devices in the 458.5 to 459.5 MHz band is low, and that any interference can be mitigated by users changing channels?

Yes.

Question 7: Do you agree with the proposal to initially increase the sharing criterion from two to three, and, subject to further analysis, move to four in the longer term?

Strong Agreement.

The FCS considers this a very important policy change. We believe the initial change from 2 to 3 should be implemented as early in 2017 as possible.

The work conducted by the TAG sub-group of BRIG (see the report of 26th March 2015) established a mathematical case that demonstrated that there was very little technical risk of increased interference resulting from this change. In consideration of the substantial benefits in terms of spectrum efficiency (a 50% gain initially and a 100% gain if and when the criterion is move to 4), it appears an obvious policy change to be made as soon as possible.

However, the TAG report also addressed the issue that sharing as a policy was already encountering severe problems arising from interference to sharers from systems using GPS polling (as an example).

Note: The web-submitted version of the response was limited by a 1000-character limit. The following text is added into the web-response:

"The FCS Response contains further information that cannot be entered here due to the 1000-character limit."

The additional information is transmitted to Ofcom by email.

The current licensing terms limit sharers to transmit a maximum of 50% of the time with the intention that this would permit other users to share the band. The development of sharing conditions is established under the WT Act (see 9.4.a)

- 9(4) The terms, provisions and limitations may also include, in particular—
(a) terms, provisions and limitations as to strength or type of signal, as to times of use and as to the sharing of frequencies);

But, certain data transmission types such as polling, often contravene this by denying the use of the shared band to other sharers. They transmit continuous data streams that leave gaps in their transmission that are too small for other users to make use of. Thus, these data transmissions interfere with others seeking to share.

The TAG report noted that the introduction of a sharing criterion increased to 3 (then 4) would develop sufficient new capacity in the spectrum to allow a small number of channels to be taken from the voice traffic pool and re-purposed to shared data channels. A suitable access protocol would have to be developed. The alternative would be to off-board such data channels to dedicated channels (if available).

The TAG group report stressed that this matter is NOT related to any increase of sharing criterion from two to three as the problem exists today and is becoming increasingly significant. The TAG group therefore sought to use the change in sharing criterion as a constructive way to alleviate this problem. There are however other (and perhaps better) solutions relating to the utilising any radio spectrum returned from the Home Office to define data-only channels.

To assist in finding a remedy, the FCS proposes that the sharing policy be expressed in terms that stress the requirement that transmissions on shared channels are not of a nature that precludes the use of the channel by other users, including voice users.

The FCS notes the information in the consultation relating to the number of failed licence applications in London (recalling that it is anticipated that other metro areas will also register failed applications soon). We would point out that the Business Radio community is, in general, well informed. It is therefore likely that licence applications to support communications that should (for technical reasons) be located in the UHF bands are not being made on the assumption that they will be refused. Instead, less well suited bands are chosen for the application on the principle that something is better than nothing. These instances are invisible to Ofcom and so cannot be included in the data on refused applications.

Question 8: Do you agree with our proposal to change the planning levels we use in our modelling by reducing both the RSL and unwanted levels by 12 dB for VHF Band 1 and VHF Low band?

Yes. The FCS supports this change.

Question 9: Do you agree with our assessment that moving towards more common duplex spacings will increase spectrum efficiency?

Yes. The FCS notes that most business radio equipment is capable of employing a wide range of duplex spacings. However, on complex installations, having a simpler set of duplex spacings is expected to result in better control of proximity effects like intermod. Hence, even with such flexible equipment, there is a direct benefit to be gained from this policy change.

Question 10: Do you agree with our proposed activities for improving stakeholder guidance? Are there further steps you think Ofcom could take to ensure stakeholders and licensees can make an informed decision when considering their licencing needs?

Yes.

In relation to our response to question 7, the FCS notes that many of the problems relating to the use of data streams mixed with voice communications on the same channel could be avoided if the guidance was more clear.

Clearly, as the sharing criterion is improved, more use will be made of the radio spectrum. It is in the interests of all parties to maximise the benefits derived from this policy change.

Question 11: Are there any other policy options you think we should consider to make use of UHF 1 and 2 more efficient?

The FCS notes that the exclusion zones defined for UHF1 are relatively small and are located in areas where there is unlikely to be any serious shortage of spectrum in other channels due to low population.

The FCS therefore urges Ofcom to continue discussions with UHF1 spectrum holders to modify the conditions to make access to this band much easier.

Finally, the FCS takes the view that the current interpretation of the Principle of Technology neutrality is not sustainable. We consider that the future management of the UHF (and equally many other bands) will necessitate a much more detailed examination of the proposed use of the band to avoid non-coexistent usage. Thus voice communication should not be mixed with heavy polling for example.

Kindest regards

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