



Directorate of Airspace Policy

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Dear Professor Webb

Ofcom Spectrum Framework Review

The Civil Aviation Authority (CAA) welcomes the opportunity to comment on Ofcom's Spectrum Framework Review.

CAA has delegated authority for managing that part of the radio spectrum allocated to aeronautical radio services. In addition CAA has also been contracted by Ofcom to distribute aeronautical wireless telegraphy act radio licences, recognising the close link between the management of aeronautical spectrum and the management of the airspace.

The CAA supports the overall principle of a review of how Spectrum is managed, modernisation and the aim to increase spectral efficiency. CAA has contributed to the Government's Independent Spectrum review in 2002 and will play in part in the recently announced review of public spectrum, to be completed by Professor Martin Cave.

Aviation is a safety critical service and requires an element of institutional safeguarding. CAA would not support an over regulated environment, however any changes to the spectrum management regime must be introduced in a way whereby the necessary safety controls are not lost. Economic principles and a drive for de-regulation must not undermine this.

Aviation is significantly reliant on the availability of spectrum to meet the communication, navigation and surveillance requirements that are necessary to support the safe and expeditious flow of air traffic by commercial aviation, military operations and general aviation, including recreational/sport users. Although aviation has a commercial aspect it is, as a global transport sector, significantly different from other industries. Safety and international issues require recognition and must be taken into consideration when discussing the implementation of new regulatory mechanisms. There are a number of institutional constraints placed on the use of aeronautical spectrum which include:

- International Obligations as defined by ICAO and ITU
- The need to achieve interference free co-ordination with adjacent states

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- The need for a single service provider for each designated volume of airspace
- The need to provide appropriate aeronautical spectrum for integrated military aviation
- The need to meet safety criteria for UK aviation and international operators using UK airspace

As noted in the review these factors will limit the application of market-based mechanisms to aviation spectrum. CAA do however, recognise that there is a need for aviation to demonstrate that it is an efficient and resourceful spectrum user and that other schemes, such as Administrative Incentive Pricing, may have a role to play in delivering greater efficiency. Naturally, the CAA would look to participate fully in discussions with Ofcom as to how such issues can be addressed.

CAA has already provided detailed comments on the implementation of Spectrum Trading and Spectrum Liberalisation in response to Ofcom's previous consultations on these subjects. As recognised in the consultation the potential to introduce market based mechanisms for spectrum management such as Spectrum Trading and Liberalisation into aeronautical bands is limited. CAA therefore agrees with Ofcom's assessment in section 4.3. of the consultation that the international nature of aeronautical bands and the treaties associated with them will prevent reductions of restrictions on permitted use. It should be noted that the list of international obligations in section 2.5. of the review should include ICAO as it is UN body, the UK has signed up to its conventions and as such has certain obligations.

CAA also have an interest in the introduction of market based regulation mechanisms in other bands that may have an impact on aeronautical services. CAA has a number of agreements in place with Ofcom and other organisation to ensure that CAA are consulted where an assignment or new radio service may interfere with aviation frequencies. These agreements must be maintained so that the integrity of safety of life service is not diminished and the processes for these new market-based mechanisms must reflect this.

CAA note Ofcom's intent to maximise the use of trading and liberalisation where there are not constraints such as those that exist for aeronautical radio services. CAA would only question how this goal allows for harmonisation within Europe, as use might be tied down by ownership rights and limit the opportunity for change.

With regard to interference, CAA believes that Ofcom should place increased emphasis on prediction and resolution of likely interference situations, including adjacent channel interference, before systems are implemented. Reliance on detection after implementation could cause unpredicted interference and create a dangerous situation for aircraft. This would be likely to lead to a change to aeronautical safety cases.

Ofcom has made clear its wish is to be a light touch regulator and that it prefers to move away from central management considering licence exemption and market mechanisms as its means of regulation. CAA has been working with Ofcom to consider the possibility of deregulation in the aeronautical sector. However there are constraints on the potential for licence exempt use. These include the fact that aeronautical signals cross international boundaries, the international mobility of aircraft and legally binding international requirements. There is also the need to maintain international harmonisation for operational and safety reasons. These limiting factors will inevitably result in the need to maintain a licensing regime within the aeronautical sector however there is scope for modernisation

and further linkages with other CAA regulation. CAA will continue to work with Ofcom with a view to making proposals to improve the licensing process for customers however which do not undermine safety or the UK's international obligations

The consultation also considers technologies, which might co-exist with licensed use, in particular Ultra Wideband and frequency agile radios as well as software-defined or cognitive radios. These new technologies have the potential to significantly impact on existing radio services and there is particular concern to protect those services that are used to protect the safety of life. Cognitive radios could potentially cause a major problem for aviation since aeronautical services rely on a number of ground transmit, airborne receive bands for navigation. These could be very susceptible to interference from the hidden transmitter situation. It could make detection of interference very difficult and provide for an unknown environment. In addition aviation uses a number of systems such as radar that rely on working down on the noise floor. Any system such as UWB will increase the noise floor and degrade the performance beyond an acceptable limit. CAA has been active in other forums in considering the possible effects of these new technologies and will contribute to Ofcom's consultations on these technologies.

Finally CAA notes Ofcom's intention to explore the scope for the release of Spectrum from Government and other agencies, including aeronautical spectrum. Whilst CAA are happy to contribute to Ofcom's studies it would be sensible to co-ordinate this work with the Government's review of spectrum used by public sector organisations, which has recently been announced, to avoid duplicating effort.

Regards,

Original Signed

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