

## **Spectrum Framework Review**

### **A Response to the Ofcom Consultation Paper**

In section 1.3, Ofcom sets out a summary of the proposed changes to spectrum management. The initial analysis is given in terms comparing year 2000 with a projection for year 2010 in terms of how proportions of spectrum use could stand comparing “command and control” with market mechanisms. The section does not give any indication as to which segments of the spectrum in terms of frequencies are judged to be suited to market mechanisms. The charts given in section 4.6 on the balance between market mechanisms licence exempt and command and control are too simplified to give any real indication of the intentions.

I believe that the spectrum trading concept is hardly applicable to frequencies below the UHF level. I recognise the importance the UK Government many attach to the use of electronic communications in stimulating the UK economy and bringing about organisational change in public services. However, it should be recognised that wired networks are likely to continue to dominate electronic communications in the UK for the foreseeable future. In terms of capacity and potential for development, a justification of this view can be seen in the large installed base of fibre optic trunk and street level communications and the widening provision of DSL services.

It is also to be noted that radio services at the HF level are International, either in terms of the broadcast reach or harmonisation of frequency allocations. In this sense, it would appear that the spectrum trading concept will not be applicable. Also note the Amateur Satellite Service is a separate entity under ITU regulations and the frequency allocations for it are harmonised at the International level. As such they should have the same protection as the amateur HF bands are not suited to spectrum trading.

Whatever the opening intentions for the spectrum trading concept, it is vital that not all should be determined on economic grounds and there should be a balance with public and cultural interests. Ofcom should also observe the legal obligation to protect radio services.

I welcome the move to an approach that allocates the use of bands without control of purpose. This is the de-facto situation on the use of the amateur bands and self regulation in the form of band planning has been effective.

My primary interest is in the continued operation of the Amateur Radio service in an environment that is free from interference. The paper states (2.7) that a key role for the regulator is to prevent interference, but it is not clear what mechanisms will be in place for this purpose and to what extent the former Radio Investigation Service will be retained.

I welcome the commitments given at 4.7.1 that Ofcom will work to resolve interference problems, but a clarification of what capacity Ofcom will have for this purpose and how the priorities for enforcement action will be determined is needed.

The paper also suggests that where there are relatively few users of the spectrum, the regulator could achieve the goal of preventing interference by deciding on the most appropriate use of each frequency band. However, this needs careful thought on the move to further unlicensed services. The essence of unlicensed services is such that the regulator will have no information on the density or the growth of such until serious interference problems occur. This will be a particular concern on UWB and in those parts of the spectrum where shared use arrangements are in place. Similarly there are concerns about cognitive radio (software defined frequency hopping) as again the operation may be difficult to monitor. Ofcom has an obligation to support innovation and Radio Amateurs have a long history of innovatory use of the spectrum. They often work with signals that are close to the noise levels and they have particular concerns for the use of the 1.3GHz and 2.3GHz bands.

The reference to amateur radio (4.4.1) as used for hobby or voluntary activity is noted, but Amateur Radio as defined in the Radio Regulations of the ITU is as follows:

*Amateur Service: A radio communication service for the purpose of self training, intercommunication and technical investigations carried out by amateurs, as duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interests. A similar definition is given for the Amateur Satellite Service.*

I understand that a further consultation exercise will follow on the licensing of Amateur Radio, but at this stage, we take to be self evident that any move to eliminate or even radically simplify the Amateur licensing system would be at odds with the ITU definition of the service.

Reference “Entitlement to Transmit in Spectrum Licensed to Others” at 5.3.1, an attempt is made to set out a de-facto situation for existing unlicensed transmission by way of the example of radiation from a hair dryer. It is stated “those who own such equipment have effectively been given an entitlement under EMC policy to transmit into spectrum licensed to others.” It is not clear how this statement is intended to be understood. If this interprets the EMC regulations as a permission to transmit then it runs counter to all the normal interpretation of interference and EMC as understood by anyone working in this field. (ITU RR Articles 15.12 and 15.13). As it happens, this misinterpretation has been used by proponents of “broadband over existing copper infrastructure” and in particular PLT. The misunderstanding was that any radio service could operate effectively provided the noise level at the receiving antenna did not exceed the maximum permissible level as defined in the appropriate EMC standard. This is quite incorrect. The EMC regulations do not adequately protect all radio services they simply provide a practical framework in which radio services and electrical products and systems can co-exist. The situation that radio services can operate satisfactorily depends on the fact that most products do not approach the maximum permissible levels except, perhaps, at a few spot frequencies and many interfering products operate for only a short time. This is a statistical consideration of time and frequency applied to the interfering products and to potentially susceptible radio services.

Most interfering products are under the control of the user who is in the position to make a decision about their use and finally, if all else fails, it is often possible to apply mitigating measures to reduce the interference.

I would like to be assured that Ofcom will maintain a database of interference complaints and have a publication scheme for interference complaint statistics accessible to the general public, rather than make individual responses to requests for information under the Freedom of Information Act.

I note the expectation in the paper that the switch over from analogue to digital TV will release spectrum that can then be auctioned off to others. Information reaching me from other sources suggests that the DTV community does not necessarily support this view. If the Government time table for switchover is to be met and near full coverage of the UK retained for DTV, then a different situation may have to be accommodated.

Angus Annan  
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