

**Comments on the
RADIO SPECTRUM MANAGEMENT REVIEW
initiated by the Radiocommunications Agency, UK, June 2001**

First, I thank you for the opportunity of being invited to comment on this important document. My comments may seem somewhat negative, but have been made in the spirit of promoting the use of radio frequencies.

The purpose of the consultation paper

In places, it seems as if the outcome of the review is already given before the consultation starts. In section 71, it is stated that “the review concurs with the findings of an earlier study for the RA that ... for television and radio there is merit in pricing the use of spectrum... “. What is then the purpose of the consultation?

The postulated world of the consultation paper

The paper uses several terms that are not defined, and for which the meaning is not clear:

‘opportunity cost of the spectrum’ (section 24). One can guess, that it means the value that somebody is willing to pay for the use of spectrum, but this could be wrong. It is a shame it is unclear, since this seems to be a major factor in the whole philosophy.

‘applying economic principles ... to frequency management’ (sect. 5). Frequency management is what is done within the appropriate institutions. Is the purpose to make those institutions function better economically, for instance by achieving more work per employee? Or is the purpose to use (also) the economic parameter to achieve solutions to problems within frequency management? Or is it to obtain a financial input to the state budget? Section 24 talks about the ‘Agency’s economic efficiency objectives’. This can only be seen as covering the first or the last option.

‘economically efficient use of spectrum across the UK economy as a whole’ (6). This seems to confirm the last option in the paragraph above, but it could also be seen as trying to optimise the total economy, including the cost of radio equipment maintenance, and the benefits of introducing new technology.

‘Economic gains from efficient use of spectrum’ (13-14). It is said that incentives that promote efficient spectrum use will contribute to economic growth. This sounds right, but such incentives or measures need not be economical.

‘potentially serious mismatches between ... the value... the spectrum... and the fees’. (19) This is presented as if there should be a kind of proportionality between the three. Such considerations point towards the goal being the revenue generating machine.

Proposals to the consultation paper

Encourage systems that can share

In section 30 there is reference to ‘the economic principles ... namely avoiding inefficient congestion in electromagnetic signals’. It is used as an argument towards a

‘more technology-neutral approach to spectrum management’. One can fear that what is meant is that the revenue generating principles should be applied to more technologies. However, the more logical consequence of trying to avoid congestion would be to encourage technologies that can be shared by many users and operators in the same place, such as with directional antennas towards geostationary satellites. Here, there is no need to use economic principles to limit the number of operators in the same band. In addition, section 30 advocates the ‘regulation of signals transmitted from outside the UK (such as by satellite)’, which could be seen as coming into conflict with the EU ‘TV across frontiers’ Directive.

Similarly, the answer to ‘Discussion Issue vii’ on licensing being the solution to more efficient use of the spectrum, could be that through a licence exemption of satellite terminals with high directivity, an intensive use of the band could be achieved, which is efficient use of the spectrum.

Aiming towards better social and economic use of the spectrum

Section 22 states the objectives of the Radiocommunications Agency, which include ‘spectrum management tools to promote the best social and economic use of the radio spectrum’. If this is understood in the sense of increasing the total economy for the whole society through more efficient use of the spectrum, there is an obvious proposal that comes to mind:

Many portions of the spectrum are reserved for the use of radio astronomy. These bands could be used by the general public, if the radio astronomy observatories were not situated near heavily populated areas like Britain. The same measurements could be carried out from remote islands, far from Europe. By insisting on protection within and near the radio astronomy bands, this community is prohibiting the rest of the population from using these portions of the spectrum effectively. One wonders, if the criteria for action if ‘spectrum is not being used’ are being applied in these bands, but the problem is not whether astronomers are looking in all directions in all their bands all the time. The problem is, that they could just as well do it from other parts of the world, far from the continents.

Conclusion

In the review document there is an attempt to describe the radio communications world and the role of the regulators in a way that does not fit reality. The picture we are given tries to promote the radio spectrum as if it was gold. But not only that, it is not gold that everybody can find and use. It all seems to belong to the regulator, who is looking for arguments to sell it at the highest price.

That way of looking at the radio spectrum is artificial, and when asked to comment on it, and on the overall principles of the spectrum review, one can only say: They are not correct.

Let us briefly compare the radio spectrum with other resources:

Land: It is a scarce resource, subject to trade with some restrictions, subject to tax.

Sea: It is not without limits, but it is free for all, most of it having international status.

Air (oxygen): It is a limited resource, it is needed to sustain life. So far, it is free.

Spectrum: A scarce resource. It has long been recognised that one should pay for the cost of administering it. It needs to be used efficiently. This can be achieved in many ways, and technologies that favour many users and operators in the same band should be encouraged. Services that do not need to occupy spectrum where the population lives, should be given, and be encouraged to use, other options. Technologies, that have difficulties sharing, would have to divide areas or spectrum, or improve the

technology. How much spectrum to use for such 'bad sharers' must depend on the importance of their service to society, so this becomes a more or less political choice that has to be made at the political and regulatory level. But if this kind of service can be realised with a different technology, also that should be given a fair chance, and the best one will win in the end. The distribution of spectrum resources etc. between several operators in a given area and band can be done using many criteria, for instance economical ones, according to the political climate.

In other words, the money-generating machine can be justified from the point of view of benefitting society in general. It does not aid, and it is not needed for, the promotion of use of radio frequencies.

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