

## INDEPENDENT AUDIT OF SPECTRUM HOLDINGS

### Consultation on emerging issues

Vodafone welcomes the opportunity to make brief comments on this early discussion of the issues emerging from the independent audit of spectrum holdings in the public sector.

### Spectrum pricing and AIP

As Vodafone has argued in its response to the Ofcom consultations on the Spectrum Pricing<sup>1</sup> and the Implementation Plan<sup>2</sup> that AIP is unnecessary when spectrum is tradable. Vodafone submits that there are no credible circumstances where an AIP will improve the efficiency of spectrum allocations when the market is also subject to spectrum trading.

In addition, because regulators do not possess perfect information, it is impossible to correctly calculate the opportunity cost of spectrum. If the value of AIP is set too low then it simply acts as a tax on the spectrum holder. However, if the AIP is set too high then it will disincentivise trading by undermining the gains from trade.

Vodafone therefore does not agree that AIP should become the primary mechanism for attempting to achieve an efficient use of spectrum. By 2007 spectrum trading will be in place for the majority of spectrum and the potential gains from trade will prove a sufficient and more effective incentive than AIP to use spectrum efficiently for both private and public sector users.

### Restrictive rights and auctions

In its response to the SFR: Implementation Plan Vodafone highlighted a conflict between Ofcom's current proposal for spectrum usage rights and the holding of auctions for technology neutral licences. Ofcom proposes that, when there is a change of use, the rights revert to restricted rights until there is a bilateral agreement with all affected parties. These restricted rights are almost useless to offer commercial services. An auction would almost inevitably result in a change of use. Therefore, Ofcom would only be able to auction the restrictive rights (which are commercially almost worthless) unless, beforehand, it negotiated with each affected party for every potential use or left this task to the eventual holder of the spectrum<sup>3</sup>. However, the requirement to negotiate over potential interference will impose a significant burden upon the latter and bidders will take into account the costs of negotiation and risks of failure when bidding for spectrum.

A similar situation would arise for Government disposals of spectrum, because it will need to be by an open market sale rather than by bilateral agreement. The Independent Audit may be a good opportunity to ensure that these issues are addressed.

---

<sup>1</sup> *Spectrum Pricing* Ofcom 29<sup>th</sup> September 2004

<sup>2</sup> *Spectrum Framework Review: Implementation Plan* Ofcom 13th January 2005

<sup>3</sup> Ofcom could, of course, abandon technology neutrality and auction spectrum with a spectrum mask and power limits that will not affect other users but will confine the use of the spectrum to a specific technology.

## **RSA**

A related issue arises in respect of the proposal to grant Recognised Spectrum Access (RSA) to Crown spectrum holdings. As Vodafone suggested in its response to Ofcom's consultation on proposals to grant RSA for radio astronomy<sup>4</sup> RSA does provide a useful and pragmatic means of identifying those spectrum users who do not need a licence to transmit and a mechanism for defining their interests. This will facilitate discussions with other spectrum users over changes to use. However, the rights that are extended through RSA place at risk the benefits that can be derived from spectrum liberalisation. A holder of an RSA does not transmit and so does not cause interference to the reception of other spectrum users. As such, the RSA holder has no corresponding value (in terms of its own transmissions) that it can obtain by negotiating away some of its protection from interference; its rights are defined in absolute terms by the RSA and it has no incentive to depart from these or alternatively can request a high price for doing so. Vodafone expects that the Review will take adequate consideration of the impact on all spectrum users of its proposals for public sector spectrum, and will ensure that the grant of RSA does not in practice reduce the flexibility available to spectrum users.

## **Ultra WideBand**

When considering the potential value of spectrum that is currently assigned to the Ministry of Defence, the Review comments that spectrum in the band 3.1 – 3.4 GHz, currently used for radar, is potentially valuable on account of its possible use for commercial mobile applications. Vodafone agrees that spectrum at this frequency is useful for mobile applications and is aware of the work currently underway to consider this band for 4G mobile. However, Ultra Wideband (UWB) is also being considered for operation in the 3.1 – 5 GHz band. Ofcom has commissioned studies that have projected significant potential costs to users of this band, including the Broadband Fixed Wireless Access systems currently licensed to operate at 3.4 GHz, arising on account of interference from UWB devices. Ofcom anticipates that these costs will be discounted from the value that any prospective user would place upon spectrum that became available in a band where UWB equipment has been licensed to operate. The Review should be aware of these interference costs when assessing the potential value of spectrum within the UWB operating band.

**Vodafone UK**

**September 2005**

---

<sup>4</sup> *Recognised Spectrum Access as applied to Radio Astronomy* Ofcom 6th April 2005