

**BT Response to the RA Consultation on
Introducing Recognised Spectrum Access**

Submission date: 7th October 2002



BT Response to the Radiocommunications Agency consultation on *Introducing Recognised Spectrum Access*

Introduction

BT welcomes the opportunity to respond to this consultation on the possibility of introducing Recognised Spectrum Access (RSA).

Headline positions

BT is opposed in principle to the introduction of Recognised Spectrum Access for satellite services. We can see little benefit in its introduction. We believe that it is unnecessary, that it is unlikely to provide any incentive to use the spectrum more efficiently, and that the concept needs to be considered in more detail in the context of European Community Directives. We consider that RSA would be very difficult to administer effectively and that, if applied inappropriately, it could constrain the development of telecommunications services.

It is also difficult to see where or how it could have any plausible benefits for terrestrial services, and we are therefore equally opposed to the concept in this context. We would be particularly concerned if there were to be any question of RSA extending into the licence exempt bands in the UK, and BT would strongly oppose any such move. We believe that this is not excluded under the current drafting, though we understand that it may not be the Agency's intention that this should happen. This should be clarified as a matter of importance.

Principal concerns

BT does not find itself able to provide answers to the specific questions raised in the Consultation Document¹, as these questions assume a positive response to the initial question of whether RSA should be introduced. We would therefore like to explain our position further with the following points.

- 1 In frequency bands that are shared between services, the best use of the spectrum is not necessarily made by the simple application of financial incentives/penalties. Rather than determining which services are prepared to pay most for spectrum, it is preferable to strive for the overall use of the spectrum that can yield the greatest benefit to the UK in which the whole (in efficiency terms) may be greater than the sum of the parts. Such an assessment must take into account international obligations, and then lead to the implementation of regulatory measures, e.g. ERC Decisions, to allow the appropriate range of services.

We believe that satellite infrastructure will play an increasingly important part in the delivery of Government policy objectives, including Broadband Britain and the national coverage for digital television broadcasts. It is important therefore that there is a consistent long-term approach to their implementation. The introduction of RSA to satellite services would

¹ *Introducing Recognised Spectrum Access, a consultation document*, RA July 2002

undermine the ability to plan and provide these services in an economic way, and would not take into consideration their benefits to the wider UK economy.

- 2 It is unclear whether services that currently operate with adequate protection would continue to receive this protection should RSA be introduced. Section 3.6 of the Consultation Document states that “*Satellite operators cannot currently be given formal assurance that their use of spectrum is recognised in spectrum planning*”. However, when applying for a licence for a permanent earth station in the UK which has both transmit and receive capabilities, the application goes through a protracted frequency co-ordination process by the RA to see whether it is compatible with existing FS/FSS links. It is difficult to see what additional benefits RSA would offer for spectrum planning above that currently given to these co-ordinated earth stations. As stated in Annex B paragraph 2, satellite receive-only terminals can be registered using RA372, and presumably they are already taken into account in spectrum planning (why else register them?). In the case of satellite TV transmissions in the 10.7-11.7GHz space-to-Earth band, it should be noted that these have been in operation for the past fifteen years and there have been relatively few problems in sharing with the current terrestrial links. RA recognises that this is not a band that would support extensive growth of such links.

It seems to us that these TV transmissions already have de-facto protection driven by the vocal public/media concern that would result if widespread interference appears in this band. Thus RSA could only be worthwhile seeking if the government made clear that it would not or could not take that position into consideration.

- 3 The application of RSA to satellite transmissions received across the EU but originating from outside the UK may be subject to particular EC scrutiny. Where a transmit licence has been granted by an EU national administration the levy of an additional UK charge for service protection may be deemed to represent a differential tax on the service being supplied in the UK. In the context of Article 12 of the Treaty of Rome this could be considered to be a barrier to deployment of a service in the UK and may be subject to challenge at the European level.
- 4 RSA would need to be very flexible, and therefore very complicated, to accommodate the very diverse services provided by satellites. It would need to provide protection as required across a wide range of situations from individual earth stations to nation-wide coverage, from a single low-bit rate carrier to multiple transponders across several hundred Megahertz, for different receive antenna sizes (resulting in different interference scenarios), transmissions from a single satellite to those from several satellites at different orbital locations, LEO satellites, etc. Further complications would arise from the range of people who might need to apply for and be billed for RSA. Although the consultation document seems to focus on satellite operators, in some, perhaps even most, circumstances it may be more appropriate for the up-linker, the service provider, the content provider or even the end customer to apply for RSA. It would be very complicated to implement a system covering all the differing requirements, legally hard to define, and therefore likely to be costly to administer. In order for the UK to remain competitive internationally, it is important that regulatory processes are efficient and effective. With the increasing emphasis on proportionate and light-rein mechanisms and a reduction of regulatory burdens, we would question whether the introduction of RSA is consistent with this approach.
- 5 One of the main purposes of the introduction of RSA is to provide a mechanism for providing efficiency incentives (3.3). Whilst BT fully supports the principle of efficient use of the spectrum, it is difficult to see how the introduction of RSA will achieve this. Downlink satellite transmissions are not unrestrained, they occur only when a satellite is equipped with

the appropriate (ITU co-ordinated) transponders and there is an up-link, authorised by an Administration, to provide the transmission. Spectrum is limited, and it is very expensive both for the satellite operator to provide equipment on board the satellite that may not be used efficiently, and for the service provider to use more bandwidth than is absolutely necessary for the service. These factors will outweigh any incentive from licensing/RSA although any additional costs could destroy a business case. Satellites are already highly efficient users of the spectrum, with frequency reuse through spot beams and multiple orbital slots, and the use of digital techniques. If additional charges are made, they will become a disincentive to use the spectrum more efficiently, but it may result in an uneconomic service which will be terminated, no doubt to the detriment of the UK telecommunications market.

Other points

- 1 **Single transmission link.** Satellite downlinks are just one part of a single transmission link; they cannot exist without an up-link. The up-link may be in the UK, in which case a licence fee would be paid to the RA, or in another country where again a licence fee will almost certainly have been paid. To charge for the down-link spectrum as well as the up-link, i.e. charging for both ends of a transmission, would be double charging. Section 2.2 states that *RSA would be available for transmissions from outside the UK that were intended for reception in the UK.* It is unclear whether this includes transmissions that originate in the UK, are up-linked to a satellite and then returned to the UK as well as those transmissions that originate outside the UK.
- 2 **Co-frequency satellite operators.** If one satellite operator pays for RSA across the whole country in a given frequency band it would presumably constrain the development of terrestrial fixed links in this band. However, a second satellite operator could transmit on the same frequencies from a satellite at a different orbital location without causing any interference problems to the original satellite operator's services. There would be no need for the second (or any subsequent) operator to pay for its own RSA but it would effectively be protected from terrestrial link expansion. This would result in an unfair competitive environment.
- 3 **Satellite exclusive spectrum.** The consultation document implies that RSA would be granted in the exclusive satellite downlink bands (4.3.2 first bullet, and Annex F Table of illustrative fees). The statement in 4.3.2 requires further explanation. It states that if the use were exclusive, Ofcom would not assign any further users of UK transmitters within the frequency and geographical boundaries specified. If the use is exclusive to satellite downlinks there should be no UK transmitter in the frequency band and therefore no need for RSA. In addition, in his Independent Review of Radio Spectrum Management, Professor Martin Cave advocated that where there was no opportunity cost, as in the case of satellite exclusive bands, there should be no administration pricing charge for spectrum use. Thus, there is no justification or need for RSA in these bands.
- 4 **Transmit/receive earth stations.** Most Permanent Earth Stations (PESs) are combined transmit and receive earth stations and, in the frequency bands shared with terrestrial FS links, are therefore subject to the usual co-ordination and site clearance procedures. Transmitters in the UK, both FS and FSS, are licensed specifically to ensure that there is no unacceptable interference to receivers of either service. The consultation document is not clear on whether RSA would be applicable to the downlinks to these PESs but, in our view, the registration of terminals should provide recognition within the UK assignment procedure, and therefore RSA is unnecessary.

- 5 **Charges.** The illustrative charges for RSA given in Annex F need considerable explanation. An example is given of a large earth station with national coverage, but does this mean one earth station anywhere in the UK or all earth stations throughout the UK? In practice, large earth stations would not require national coverage, but just the immediate co-ordination area. It would appear that the operator or user of a multi-transponder satellite would have to pay several million pounds per annum for national RSA.
- 6 **RSA Trading.** The consultation document proposes that RSA would be tradable and interchangeable with licences. It is difficult to comment on this as it must depend on the outcome of the wider consultation on spectrum trading. Initial thoughts show that tradability of RSA would have little benefit. A mere change of ownership should be trivial if there is no change of use. If RSA is applied to a wide range of scenarios, it would be very difficult to have effective trading as it would become very piecemeal, which could result in inefficient use of the spectrum. It would be better to return spectrum to Ofcom/RA when a particular link is ceased, although it is difficult to see in what way RSA could be "returned " to Ofcom in any meaningful way since it only seems to buy protection. Interchangeability between RSA and licences would be even less appropriate, not to say very difficult, in many scenarios; e.g. satellite services can be received from several satellite operators at the same location and frequency but from different orbital slots and presumably each one could have an RSA. It would seem impossible to convert one of these RSAs into a transmitting licence without adversely affecting the others. It could also encourage spectrum speculation and hoarding, which conflicts with the aim of increasing the efficient use of the spectrum. The comment in 6.1 that a grant of RSA to radio astronomy spectrum "*would provide a mechanism for these to lease spectrum to commercial users*" raises some concern. Assuming the band has been allocated on an international basis to radio astronomy on an exclusive basis, allowing commercial users in the band would be contrary to the provisions of the Radio Regulations.

It is not clear to us how an auction might be expected to work in practice. It seems to be accepted that an auction would be appropriate where the good being auctioned is in scarce supply and there are a number of competing bidders. The concept of auctioning protection for services transmitted from outside the UK is difficult to consider within the current framework of international regulations and co-operation in spectrum matters.

- 7 **Security of tenure.** If RSA were introduced the security of tenure (Question 5) should be similar to that of transmit licences. The current system of annual payment for licences seems to work well. Although RSA could not be granted literally in perpetuity, as changes to the Radio Regulations may affect the services that are permissible in a given band. They should, however, be quasi-perpetual as now, with a guarantee that they would not be revoked without due consideration and proper notice as far as possible and with compensation for the costs involved in changing frequency or ceasing to operate as appropriate.
- 8 **Terrestrial transmissions.** Concerning the suggestion in 6.2 that RSA might be used for the situation of terrestrial stations outside the UK that impact on spectrum use in the UK, we are unclear as to what exactly the RA has in mind. If this means charging the foreign licensee for keeping spectrum empty in the UK (so that foreign transmitter co-ordination requests are not denied, or so services can be provided from across the border), we would be concerned that this sets a dangerous precedent. It would also not seem to be within the spirit of the Radio Regulations, may not be an efficient use of the radio spectrum within the UK and might also not be consistent with the international frequency co-ordination procedures. Strictly speaking, it would not seem to be within the purview of what is envisaged within the draft Comms Bill. Within the draft Bill, although RSA is undefined, it does suggest RSA would be limited to signals sent "*with a view to **reception** at places in the UK or in territorial waters adjacent to the UK*" (115 b) ii). (Our emphasis).

- 9 The statement in 4.7.1 about “*the possibility that the use of subscriber terminals in the UK would not be authorised*” is curious. It is difficult to see the point of this paragraph and how subscriber receive terminals, as long as they are compliant with relevant standards and directives, could cause interference to other services. It is also unlikely that the transmission from the satellite would cause interference.

Conclusion

Having carefully considered the idea of Recognised Spectrum Access, BT is of the strong opinion that this is an unnecessary and undesirable concept. We therefore take the position that we are opposed to the introduction of RSA for both satellite and terrestrial services.