



Met Office response to Ofcom Consultation: Recognised Spectrum Access ("RSA") for Receive Only Earth Stations in the Bands 1690–1710 MHz, 3600–4200 MHz and 7750–7850 MHz

Overall comments

The Met Office considers increased recognition and protection for passive satellite-to-earth receiving sites to be essential and welcomes proposals that better serve this purpose. Indeed, receipt of satellite information is crucial to the operational capability of the Met Office in its mission to provide a wide range of environmental, weather and climate-related services underpinning public safety and well-being. We feel that RSA as an instrument could be useful – *and we expect that we would be likely to participate in such a scheme if introduced* - assuming that the prime intention is to protect reception sites rather than as a tool to re-plan spectrum and place potentially detrimental limitations on incumbent services within assigned reception bands.

Our specific comments in answer to the questions posed follow.

Technical and geographical parameters

Question 1: Do you agree with the list of proposed RSA parameters for assessing interference and for setting fees for receive-only earth stations? Are sufficient parameters defined for a grant of RSA? If you disagree, please give your reasons and suggest alternatives.

On initial viewing, the suggestion to provide identical protection parameters and distances (60km) for all proposed bands and for both geostationary and polar-orbiting satellites seems potentially simplistic, though direct consultation with Ofcom assures us that this is designed to “over-compensate” and provide an upper level of protection. On this assumption (and without significant further theoretical analysis both from ourselves and our partner organisations, eg – EUMETSAT, ESA), the proposed parameters could be used as a basis for a workable solution, though it may be useful to fully review this criteria before implementation to ensure that it provides a solution for all users.

Fees for RSA

Question 2: Do you agree with the proposals for introducing fees for RSA for receive-only earth stations in the bands concerned on the basis of parity with existing PES fees (with a minimum fee of £500) and that the full fees be implemented from the date of grant of RSA? If you disagree, please give your reasons and suggest alternatives.

In accordance with our response to the recent Ofcom consultation entitled “SRSP: The revised Framework for Spectrum Pricing”, the Met Office recognises and supports the necessity to liberalise and release spectrum to meet increasing technological and socioeconomic demand. The application of AIP-type market-based fees to the grant of RSA is expressed in this consultation as being a means to encourage rationalisation of spectrum usage in respect of satellite reception. The Met Office, however, would be extremely unlikely (or even unable) to be driven by AIP mechanisms to reduce current reception requirements and surrender its site in favour of use of another reception site, mainly due to security and business continuity concerns on dependence on third party facilities, as well as the relative timeliness of data provided by on-site reception facilities as opposed to remote connections (a factor crucial to our operation). Indeed, it is perhaps more likely that key reception services may in fact need more contingency back-up sites rather than less to ensure that satellite data vital to our business continuity is protected, especially given the probable intent to populate these bands with fixed links

around incumbent passive users (raising the potential threat of interference to those passive services) and the limitations this may place on acquiring new sites in future (see response to Q4 below on trading aspects) if current sites are compromised. Furthermore, as frequency bands for meteorological satellite-to-earth broadcast are determined by international agreement and via other organisations outside of the UK, the Met Office would have little or no control over these frequencies and would therefore be unable to reduce the bandwidth that we need to protect - a concern that is likely to be common to many users responding to this consultation. The huge investment decisions made (through international collaboration) re: satellite technology, and the frequencies chosen (or internationally allocated) to broadcast in far outweigh considerations for in-country spectral reception costs, thus we do not foresee that market-based RSA fees would be the primary driver in encouraging a significant rationalisation in spectrum use for satellite reception.

In terms of whether fees should be applied at parity with existing PES fees, this in principle would seem like a basis for implementation of AIP-like fees, but we are not in fact able to fully discern from the reasoning given why a registration scheme (as alternatively suggested on p23) would provide a lesser “level of comfort” to users than the RSA scheme proposed. The suggestion that Ofcom (as the national regulator with responsibilities to balance all radio communications needs for UK society) would not act upon a comprehensive database detailing the whereabouts and requirements of UK passive reception users and in fact actively plan fixed links detrimental to their operation seems an unlikely scenario. Indeed, re: the ability to signal the (denial of) opportunity cost, it might be suggested that non-transmitting receiving services could in fact not be subject to the same fee levels as actively transmitting services as they do not provide any potential interference to adjacent services, either directly or via out-of-band emissions (in fact there is no denial to other passive services which could operate in close proximity, presumably leading to an overlap and “double-charging” of RSA for spectrum). In a “closed band” such as the L-Band, we would actually expect there to be zero market cost as there should be no denial of opportunity to other services. A further point is that where actively transmitting applications are introduced to bands currently used by incumbent passive services, this will potentially significantly raise future AIP valuations and create an unhealthy “cliff-edge” scenario in RSA costs at grant renewal (see response to Q3 below). Whilst fees may start at a fairly reasonable level, users could soon end up being charged substantial (and potentially prohibitive) amounts for the ‘denial of opportunity’ for the use of fixed links over a considerable area around the site.

In respect of the £500 minimum fee (if this represents the minimum cost basis for Ofcom administration of either scheme), this seems sensible, though this may still exclude the needs of the sizeable amateur community, who are unlikely to benefit from such a “voluntary” scheme. Essentially, whilst we fully support and appreciate the protective elements of this proposal, we are concerned that the sole application of AIP market valuations as a “one size fits all” solution across the spectrum will not necessarily achieve the optimum outcome for the UK and may simply increase costs to users, especially where there is consideration for amateur usage or taxpayer-funded public services offering wider societal benefit. As stated above, satellite information is crucial to the operational activities of the Met Office (underpinning our forecasts and public safety warnings) and it is therefore important that passive satellite ground stations are recognised and protected. Thus, in conclusion, we would seek clarification on why a simple costs-based registration scheme does not offer the same protection as RSA, but will engage with whichever process is implemented if it provides tangible protective benefit without the imposition of future flexibility and interference problems, or prohibitive future financial requirements.

Term of grant

Question 3: Do you agree that grants of RSA in the bands should normally be on a rolling annual basis, with a 5-year revocation period?

Given that general procurement cycles for satellite technology can be as much as 20-30 years or more, the suggestion of a 5 year revocation period without any guarantee of continuation could promote great uncertainty amongst satellite data users. Both operational and financial planning for satellite services need long lead times and if an RSA was revoked prematurely (for example due to a change of Ofcom policy) and interference was subsequently experienced by a new service with no recourse to finding a new site due to densely-planned new services within the band and their likely reluctance to trade (see also Q4 response below), then this could lead to significant problems for business continuity, especially in the case of vital public services such as those provided by the Met Office. Indeed, an alternative situation could be that a fee renewal at the end of the 5 year period could see the prohibitive “cliff edge” rise in costs scenario referred to in Q2, also inhibiting continuity or the ability to plan for it. The Met Office urges therefore that if 5 year periods are to be introduced, that reassurance is given on the renewal of these grants (ie – RSA holders given first refusal on renewal of occupied spectrum), in accordance with Ofcom’s 2nd suggested AIP principle in the SRSP consultation that users can only respond in the long term.

Tradability and conversion

Question 4: Do you agree that grants of RSA in the bands should be tradable and that grants of RSA and WT licences should be inter-convertible? If so, do you agree with our proposal to model the process for trading and conversion on that for RSA for radio astronomy?

Whilst tradability of RSA may initially appear to represent a mechanism for change-of-use scenarios under the proposed schema, we are unable to comment on whether the introduction of RSA for radio astronomy provides a good model for this proposal and we do have some concerns on practicalities. When privately buying or selling an RSA for a given 60km area (as per outlined proposal), it may not be configurable with the requirements of a third party who wants to either directly trade an RSA (unless they place their reception site in exactly the same place, thus potentially necessitating them to buy the actual physical property as well) or who wishes to trade for an active transmitting (and therefore convertible) license (eg – a fixed link service). Certainly in the second scenario, with different mitigation criteria and spatial coordination requirements for active service licensing and passive RSA grant, this could be logistically difficult to reconcile and Ofcom may need to take a greater role in coordinating and re-planning given their overview from holding the master data set and their capability to model interference scenarios. The Met Office cannot accept any mitigation (criteria as outlined in the table on p17) in its operations and without the intervention of Ofcom, we are uncertain how such an approach could be mediated. Therefore, we feel that by potentially leaving trading to the trading parties alone without the guidance of the national regulator to ensure coordination and that enforcement works, it may not be possible to guarantee the protective attributes offered by RSA, thus fundamentally undermining the scheme.

Furthermore, we believe that such an approach to trading could mean that there is little overall forethought put into planning spectrum use generally, which could consequently lead to difficulties for reception services (especially those public-funded services of wider socioeconomic value) in being able to acquire new locations where they can secure RSA in newly-congested spectrum (either through cost or lack of desire of other services to trade). Ultimately this could conversely lead to a general level of inertia in spectrum use without intervention from the regulator, as users would be faced by disparities in



the availability of suitable physical purchasable land and land with sufficiently empty or tradable spectrum.

The process for granting RSA

Question 5: Do you agree with our proposed procedure for considering applications for the grant of RSA to receive-only earth stations. If you disagree, please give your reasons and suggest alternatives?

In principle the method for granting of RSA seems a workable proposal and we believe a coordinated role with the regulator should also form a part of subsequent transactions for spectrum (see Q4 tradability above).

The Case for Introducing RSA

Question 6: Do you agree that RSA for receive-only earth stations could provide greater security against interference and help promote optimal use of the 1690 - 1710, 3600 - 4200 and 7750 - 7850 MHz bands? If not, please explain why and describe any alternative mechanism that you consider to be necessary.

As stated above, any mechanism that better recognises and protects the reception of satellite information crucial to the operational activities of the Met Office is welcomed – and we feel that either an RSA or a cost-based registration scheme could achieve that, though we believe that for wider society to benefit from such a protection scheme, the fee for getting a station recognised should be minimal where possible so as not to prevent users (notably amateurs or public services) from requesting or renewing RSA. Indeed, this premise of greater security is based upon the assumption that this proposal is aimed at protecting satellite reception rather than as a means to signal opportunities for mass implementation of (eg) fixed links into the bands stated, with the limitations this could place on incumbent services – if there was in fact an intention to invite mobile applications into the band, then this would provide little or no security at all (quite aside from the possibility that market-based RSA fees could in future become completely unaffordable and marginalise the important role of passive reception). It is assumed that such a scheme will be backed up by a robust enforcement operation, and we also favour a more coordinated approach to the proposed tradability aspect as we feel that without some level of central coordination from Ofcom this approach will be difficult to reconcile appropriately to ensure sufficient protection – the key advantage of the RSA proposal – thus potentially undermining the value of the RSA grant.



Any questions or comments regarding this response should be sent to:

*Alastair Price
Met Office
FitzRoy Road
Exeter
Devon
EX1 3PB
Or email: alastair.price@metoffice.gov.uk*

OR

*Roger Carter
Met Office
FitzRoy Road
Exeter
Devon
EX1 3PB
Or email: roger.carter@metoffice.gov.uk*