

## About Arqiva

Arqiva has its headquarters in Hampshire, with other major UK offices in Warwick, London, Buckinghamshire and Yorkshire. It now has 9 international satellite teleports, over 70 other manned locations, and around 9000 shared radio sites throughout the UK and Ireland including masts, towers and rooftops from under 30 to over 300 metres tall.

The company is owned by a consortium of long-term investors, comprising the Canadian Pension Plan Investment Board (CPPIB), and Macquarie entities, and other long term investment funds and has 3 operating divisions: Terrestrial Broadcast, Satellite & Media and Wireless Access.

Arqiva is technology- and service-neutral and operates at the heart of the broadcast and mobile communications industry. We are at the forefront of network solutions and services in an increasingly digital world. The company provides much of the infrastructure behind television, radio and wireless communications in the UK and has a growing presence in Ireland, mainland Europe and the USA.

Arqiva is a founder member of Freeview (Arqiva broadcasts all 6 Freeview multiplexes and is the licensed operator of 2 of them) and was a key launch technology partner for Freesat. Arqiva is also the licensed operator of the Digital One national commercial DAB multiplex.

Alongside the BBC, Arqiva's Spectrum Planning Group plays a critical role in planning Digital Switch Over (DSO).

In addition for broadcasters, media companies and corporate enterprises Arqiva provides end-to-end capability ranging from –

- outside broadcasts (10 trucks including HD, used for such popular programmes as Antiques Roadshow, Question Time, Proms in the Park, a wide range of sporting events and the IIFA Awards 2007 “Bollywood Oscars”);
- satellite newsgathering (30 international broadcast SNG trucks);
- 10 TV studios;
- spectrum for Programme-Making & Special Events (PMSE) through JFMG;
- playout (capacity to play out over 70 channels including HD); to
- satellite distribution (over 1200 services delivered).

In the communications sector the company supports cellular, wireless broadband, video, voice and data solutions for the mobile phone, public safety, public sector, public space and transport markets.

Major customers include the BBC, ITV, Channel 4, Five, BSkyB, Classic FM, the five UK mobile operators, Viacom, Turner Broadcasting, Metropolitan Police and RNLI.

Arqiva has purchased spectrum in two Ofcom auctions, has band managed (i.e. sub-leased spectrum to third parties) the 412 MHz spectrum (including making spectrum available for PMSE use during the UK leg of the 2007 Tour de France) and is evaluating the options to band manage the 28 GHz spectrum.

## Introduction

There is considerable pent-up demand for spectrum, and every forecast concludes that demand will continue to increase. A considerable proportion of this demand should be met from commercial spectrum owners releasing unused, or lightly used, spectrum and from public sector owners feeling the heat from the application of AIP.

If this did not happen then access to spectrum would become an increasingly high barrier to entry with a tendency for unproven innovative uses, especially from start-ups, to be squeezed out by existing uses.

Despite the considerable progress made by Ofcom towards facilitating a secondary market, there are no spectrum brokers operating and few trades have concluded so far. And the absence of a legally certain means of leasing spectrum has locked most users out of exploiting others' "white spaces", with that unused spectrum, therefore, failing to earn revenues for the relevant spectrum licensees.

The result is that spectrum demand is still focussed on the primary market where few auctions have been concluded, and none recently (nor, indeed, are any imminent). And it is far from clear whether the Government initiative which is Digital Britain provides most sources of spectrum demand with clarification and certainty, or with distraction and delay.

This is hardly achieving optimal use of spectrum, and in this environment small companies are unlikely to be able to develop innovative wireless services with any certainty of obtaining access to spectrum.

As such Arqiva strongly supports the core proposals made in this consultation to make trading quicker and simpler and to introduce leasing, when EU rules clearly permit it, with the option of TWLI as an interim solution.

However whereas the market had looked to Ofcom to kick start commercially viable band management, where transaction costs wouldn't be disproportionate and there would be no unnecessary regulatory burdens, Ofcom has instead proposed two unnecessary restrictions on the application of TWLI and leasing:

Firstly, Ofcom proposes an arbitrary maximum term of 2 year's duration, which is inconsistent with investment in infrastructure to exploit the spectrum accessed. Arqiva's experience with 412 MHz is that most potential spectrum tenants were looking for an absolute minimum of 3 years' security of tenure, with the average requirement (before investment in the necessary infrastructure could be justified) being 5 years; and

Secondly, only PMSE users are intended to benefit.

While it will be essential that the spectrum demands for PMSE, as a vibrant existing use for otherwise unused spectrum, could be efficiently met, it is hard to escape the conclusion that Ofcom is principally consulting on simplifying spectrum trading to ensure that it could appoint a commercial band manager for PMSE, rather than to address wider market concerns.

That would be a missed opportunity with an increasing opportunity cost for UK plc and Arqiva urges Ofcom to be far less hesitant in addressing the failure of the spectrum markets to meet demand.

Ironically, as there are so many proposed changes to be implemented in the next couple of years governing the terms on which PMSE users could access spectrum, it is far more likely that, given the opportunity, non-PMSE users could benefit to a far greater degree from the proposals made in this consultation.

## **Answers to Questions**

*Q1: Are there any features of the present spectrum trading regime that need to be changed in order to encourage or facilitate spectrum market developments? If so, have we correctly identified the features that need changing?*

*What features, in addition to those described in the following sections, would be advantageous to change?*

*It would be helpful if you would explain the reasons for your suggestions with evidence of practical difficulties being caused at present and estimates of the costs that these impose and the savings that your suggestion would gain?*

As research both in the UK and elsewhere has shown, most spectrum is little used most of the time.

Ofcom cannot satisfy its principal spectrum-related statutory duty to secure optimal use of spectrum for as long as large swathes of it are left in the hands of those who make little or no use of it while there is considerable unmet demand for spectrum in the market.

Ofcom has made considerable progress towards facilitating a secondary market in spectrum by making an ever-wider range of spectrum licences tradable. And the increasing application of AIP to public sector users is rightly focusing their attention on spectrum which is soon to become an expensive, under-performing asset.

Yet so far few spectrum trades have been concluded to date (even fewer if “fire sales” following corporate collapses are excluded). Spectrum brokers or traders (as essential for a vibrant, liquid secondary market in spectrum as estate agents are for property) have yet to set up shop in the UK. And band management (although arguably more advanced in the UK than in much of the rest of the EU) remains essentially uncommercial and focused on satisfying demand from specific user groups.

While a contributing factor to this lack of activity must be the sheer unfamiliarity of many companies to accounting for a spectrum licence as a tradable asset similar to a property lease, the current paucity of information on spectrum licences and actual usage combined with the obstacles to spectrum leasing make it difficult for companies seeking spectrum to have their demands met by the secondary market.

It is no wonder that spectrum demand remains focused on the primary market, so that Ofcom continues to have **Significant Market Power** in the supply of spectrum.

That isn't healthy.

Arqiva therefore welcomes Ofcom's proposals to simplify trading, to introduce a form of quasi-leasing and to introduce legal leasing when the relevant EU legislation permits it. These measures are steps in the right direction but, on their own, won't be sufficient to guarantee that the secondary market will play the part it could in reducing the considerable barrier to entry which access to spectrum represents.

Start ups wanting to bring innovative services to market usually have enough problems raising finance (especially at the moment) without additionally having to overcome hurdles to accessing spectrum lying fallow, hurdles created by disproportionate transaction costs and unnecessary regulatory burdens.

So Arqiva would urge Ofcom to go further.

### Trading

Removing the decision stage (for most licences) in the trading process is a welcome move, but it isn't clear why Ofcom needs to publish information in advance of a transfer being completed.

While transfers that have taken place must be made public, it is not obvious what the advantages might be of the additional stage currently required by the Trading Regulations of publication of request to transfer.

Ofcom states that pre-trade publication increases the information available to the market to assist the direction of spectrum to the use which generates greatest benefits. That is a possible outcome (although implies prior knowledge of the network the transferee intends to deploy), but carries with it the risk that such publication by Ofcom might:

1. provide information of commercial benefit to a competitor; or
2. be made in advance of any announcement to be made post-trade by transferor and/or transferee to a Stock Exchange or other financial authority.

Unless Ofcom removes all unnecessary stages in the trading process, it will remain more attractive for companies to follow the popular U.S. practice of using a non-trading company to hold a spectrum licence, which then creates a lack of visibility for *de facto* trades as those companies are sold.

### Leasing

Arqiva supports Ofcom's intention to introduce a legal form of spectrum leasing when EU regulations permits this, but does not support its initial restriction to leases of a mere 24 months' duration. This would render leasing unviable for companies wishing to invest in infrastructure. Other than for PMSE users, whose spectrum requirements are generally very different from those of other spectrum users, it is hard to envisage too many users for whom such leasing terms would be of much use.

This would be a major missed opportunity.

Leasing property is an essential option for both residential and commercial users and, in liberalised markets for the supply of spectrum, there is no reason to assume that leasing won't also be an essential means of meeting demand for many.

Therefore Arqiva proposes an initial maximum term (before more onerous reporting requirements kick in) of 5 years, subject to periodic review (see our answer to Question 5c below).

Until spectrum leasing becomes a legal option, Arqiva agrees that TWLI could be an interim solution. But we are very surprised that Ofcom is proposing that TWLI should only apply initially to the commercial PMSE band manager (when appointed).

Companies which invest in the necessary resources to bid to become the commercial band manager, but which fail to win that contract, shouldn't then be disadvantaged if they nonetheless wish to establish themselves as a band manager serving a wider range of users.

There may also be implications for the band manager(s) which the MOD hopes to appoint.

### Spectrum information

Although not specifically within the scope of this consultation, one factor which inhibits spectrum trades is the lack of information available to potential purchasers.

It is difficult to identify un- and under-used spectrum, whether held by commercial licensees, the public sector or awaiting award by Ofcom (other than spectrum already identified in the spectrum awards programme).

Presently only basic information is provided by Ofcom on individual spectrum licences. Such information relates more to ownership than to actual usage. As such it is impossible, without reference to the licensee, for a potential purchaser or tenant to identify spectrum which could be suitable for their purposes.

Arqiva recognises that Ofcom has recently consulted on the provision of spectrum usage information by spectrum licensees in order that such information then be made publicly available. But while Ofcom now considers the extent to which usage information should be made publicly available, Arqiva proposes that Ofcom move to publish Technical Licence Conditions and licence expiry dates on the WTR for each spectrum licence, without which a potential purchaser or tenant cannot determine the value to them of some or all of the rights of any tradable spectrum licence.

### Extending licences

In considering spectrum rights we would draw parallels with the residential property market where potential purchasers of flats might be discouraged by short leases, but at least they would have a statutory right, once they had owned the lease for at least 2

years, to request terms for an extension of up to 90 years. In addition tenants have a right of appeal if they disagree with the freeholder on those terms.

But at present the Spectrum Access licence class has no means in place for the extension of licences. If investment in infrastructure and marketing isn't to be discouraged for licences nearing the end of their term - where, for example, the "DECT guard band" licences have a little over 6 years remaining – then there needs to be a clear process in place for licensees to request terms for an extension.

Arqiva proposes that Ofcom moves to introduce a clear procedure for licensees to obtain extension terms from, say, 5 years prior to expiry. Ideally those terms would offer licensees the option of purchasing an extension either by paying an additional lump sum or by switching to AIP. There should also be an independent adjudicator to rule on appeals.

In addition, putting in place a clear framework for the extension of spectrum licences would tend to reduce any concerns which Ofcom might have that spectrum leases could represent too great a proportion of the entire value of the relevant spectrum licences unless leases were limited to a duration which was so short as to be commercially unattractive. Should the unexpired term on a licence dwindle to a few years, this could become a concern for Ofcom even with a maximum term for a lease of only 24 months.

*Q2: Do you agree with our targeted approach to deciding which trades need to be subject to more rigorous procedures and our specific proposals? Are there other factors that we should take into consideration or particular licence sectors or types of transaction that should be subject to additional procedural requirements?*

Arqiva believes that the default position should be for spectrum trades to proceed without Ofcom's consent and that, if there are to be any exceptions requiring "more rigorous treatment", they would have to be very few and it would have to be very clear to the market what such exceptional circumstances might be (to provide the necessary certainty in advance for potential transferors and transferees) and what the justification for each was.

In the consultation Ofcom has unspecified concerns in relation to policy, competition and spectrum management.

Arqiva agrees that competition law should be relied upon to deal with any competition issues arising from a spectrum trade, with the statutory pre-notification providing an opportunity for initial consideration. But other than for roll out or similar non-spectrum obligations, it is far from clear what the policy and spectrum management concerns might be which could justify "more rigorous treatment", especially given that Ofcom hasn't felt the need to withhold consent from any of the (admittedly few) trades conducted thus far.

Interference to third parties will always occur and, given the choice, it can be assumed that victims would rather they received no interference at all, no matter how minimal. As a complete absence of interference would be an impossible goal, Technical Licence

Conditions (TLCs) are determined to ensure that outgoing interference wouldn't be unduly harmful to third parties.

While a partial trade may increase the risk of interference to third parties, any deployment made by an incoming licensee would still have to be compliant with the TLCs prevailing before the partial trade. Obviously if the purchaser wishes to make that purchase conditional upon securing a variation to the TLCs, then spectrum neighbours should be consulted. But Ofcom seems to be suggesting that it might withhold consent to a partial trade, or make such consent conditional upon licence variations agreed with spectrum neighbours, even if the network the purchaser wished to deploy were to be compliant with the prevailing TLCs.

This raises the prospect that Ofcom may seek to block a use of spectrum by a potential new licensee, unless spectrum neighbours (which may be competitors) agreed to it, even if that same use could be legally made by the current licensee.

Indeed the original spectrum licensees would have been able to deploy different networks to serve different uses within the relevant spectrum provided both networks were compliant with the TLCs.

*Q3a. Do you agree that the requirement for Ofcom's consent to proposed transfers should be dispensed with for the generality of tradable licences subject to justified exceptions?*

Yes, although as stated in answer to Question 2 above, such exceptions should be few in number and fully justified (which the current consultation hasn't done, in particular the disproportionate example given that the commercial PMSE band manager should obtain Ofcom's consent to any non-PMSE use of the spectrum made available to it - even where there was no PMSE demand for the spectrum in question nor had there been for a prior period).

Disproportionate constraints will tend to:

1. maintain the barrier to entry that is access to spectrum artificially high;
2. constrain innovation; and
3. undermine market confidence in the essential process of spectrum liberalisation.

*Q3b. If the need for prior consent was removed, do you consider that Ofcom should continue to have a power to give ex-post directions?*

If the exceptional circumstances which required "more rigorous treatment" were appropriately targeted then a power to give ex-post directions should be unnecessary.

*Q3c. Do you agree with our proposals to introduce single-transaction time-limited transfers?*

Yes.

*Q4a. Would our proposal for TWLI offer a worthwhile reduction in regulatory burden compared to the status quo? Please provide as much quantitative and qualitative evidence as possible of the benefits and the practical seriousness of any drawbacks.*

Absent a legal form of spectrum leasing, band management would not be viable. The equivalent in the property market would be that all demand for property would have to be met by sales.

Although virtually all demand for spectrum is met by sales, there is no reason to assume that there isn't demand which could otherwise be met, and the absence of a cost- and time-effective means of doing so is having detrimental impact on competition and innovation.

Arqiva supports the proposal to introduce TWLI, but is concerned that Ofcom proposes to arbitrarily restrict its value to the market by limiting its application to:

1. transfers between the commercial PMSE band manager and PMSE users; and
2. time-limited transfers of up to 24 months.

Quite apart from the fact that there isn't a clear definition of PMSE use (the existing PMSE band manager, JFMG, licenses some non-PMSE use on Ofcom's behalf), this would potentially distort competition amongst band managers and may discourage market entry.

In addition, while the usage patterns and amount of advance notice may make the demand for spectrum by PMSE users very different from that of other potential purchasers of spectrum, it is hard to see why Ofcom should seek to favour a particular source of demand (which would already benefit from the application of FRND rules) over others which may have similar characteristics unless the sole justification for the resources used to introduce TWLI is to ensure that Ofcom could appoint a commercial band manager for PMSE, rather than to address any wider market concerns.

If that were the case, this would not only call into question the proportionality of introducing TWLI but the artificial restrictions governing its application would limit the contribution that this new option could make towards Ofcom satisfying its principal spectrum-related Statutory Duty, to secure optimal use of spectrum.

Ofcom cannot know that TWLI would prove to be a short-lived expedient and should not reduce the positive market impact which TWLI could have by acting as if it did.

Arqiva would therefore strongly recommend extending TWLI to other licence classes from its availability and we would further urge Ofcom not to wait until the appointment of the commercial PMSE band manager to launch TWLI.

In respect of the potential drawback of TWLI identified by Ofcom, that contracts may not document the rights well, this is already the case with property leases and, if necessary, contract law is there to resolve disputes.



*Q4b. Would TWLI streamline the trading process sufficiently for the band manager with PMSE obligations to operate?*

There seems no reason why not, but this is a matter only JFMG is likely to be able to comment on in detail.

*Q4c. Would TWLI generate worthwhile benefits for other licence classes, frequency bands or types of transaction despite the drawbacks? If so, in which other categories should it be introduced and how might the drawbacks be mitigated in practice?*

There seems no reason why not and consequently no reason for Ofcom to distort competition by discriminating in favour of a single band manager and one use of spectrum.

However Ofcom's current proposal to limit the time-limited transfers to periods of up to 24 months would limit its usefulness to other licence classes, especially where users needed to invest in comms infrastructure to deploy.

Also, as noted above in answer to Question 4a, Arqiva would strongly recommend extending TWLI to other licence classes from its availability and we would further urge Ofcom not to wait until the appointment of the commercial PMSE band manager to launch TWLI.

As the 24 months' limit seems to have been arrived at purely to encompass most anticipated demand from PMSE users, Arqiva would suggest that TWLI be introduced with a longer maximum period – say, 5 years - which would encourage greater investment by end users in infrastructure, stimulating competition and innovation.

*Q5a: Do you agree with our proposal to create a regime for spectrum leases? What do you see as the advantages and disadvantages?*

Yes.

The small number of spectrum auctions concluded thus far, combined with minimal secondary market liquidity (where there is a lack of spectrum brokers and most commercial companies whose spectrum licences have been made tradable probably still don't view those licences yet as tradable assets to exploit), has created an artificial spectrum scarcity. Artificial because most spectrum is actually unused or under-used in many locations for most of the time.

This scarcity is compounded by the continuing absence of a legally secure means of leasing spectrum, with the result that access to spectrum represents an unacceptably high barrier to entry for many smaller companies, the very source of much innovation.

In addition, there is suboptimal exploitation of spectrum as "white spaces" are left scattered all over the country where the current licensees' primary networks haven't been deployed.

Obviously existing spectrum licences' TLCs will restrict the potential applications for which their white spaces could be used (although geographic separation could help accommodate very different uses), but until a regime for spectrum leases is put in place there could be a considerable opportunity cost as the National Asset which is spectrum isn't as fully utilised as it could be.

One sector which should benefit in particular from the introduction of commercial band managers is the public sector, especially the MOD with its vast spectrum holdings. However RSA may be a complication to the public sector's use of band managers, an issue which needs clarifying urgently both for public sector spectrum owners and potential users of their white spaces.

Arqiva strongly supports Ofcom's proposals to introduce spectrum leasing.

*Q5b. What advantages would spectrum leasing offer over TWLI? Please provide as much quantitative and qualitative evidence as possible to support your view*

Leasing would offer the security of a widely accepted, legally sound and internationally recognised (of benefit to non-UK companies or companies with major non-UK shareholders) means of obtaining access to spectrum, whereas TWLI would be a UK-specific "work around".

In addition, spectrum leasing would enable band managers to provide spectrum to end users with less recourse to Ofcom than is proposed for TWLI, reducing cost of sales and thus lowering barriers to entry.

*Q5c. Do you agree with our proposal to limit the simpler leasing procedure without reference to Ofcom to shorter leases of up to 24 months? Would you suggest a different cut-off or a parameter other than lease length? If you suggest an alternative, it would be helpful if you would describe how this would work in practice*

Arqiva recognises that the longer the term in which spectrum rights are leased to end users, the greater the cost a lack of transparency *could* have.

Arqiva also agrees, at least initially, that determining a watershed by reference to length of lease would be clear and would avoid the need for subjective judgements and attempts to define spectrum markets.

However the determination of any watershed must balance the *perceived* cost to the market as a whole against the *actual* cost to individual potential end users for whom purchasing spectrum may be impractical, and whose requirements are for a lease of sufficiently short duration that the likelihood must be that a lack of transparency would have minimal market impact.

Certainly there is a considerable gulf between a lease of, say, 5 years' duration and the trade of a licence with more than 10 years to run. It is not obvious why 2 years would be an appropriate watershed, other than that such a period would satisfy most customer

requirements for a single band manager, specifically the commercial PMSE band manager.

Yet Ofcom's duties to keep its regulations proportionate, and to secure optimal use of spectrum, are in relation to the market as a *whole*. As such the watershed should not be determined to favour one band manager over any of its competitors.

If Ofcom distorts the market for leasing spectrum by applying an arbitrary cut-off fashioned to meet demands from one user group, this would have wider implications including potentially for public sector spectrum owners, for whom leasing spectrum may be a far more attractive means of gaining a new revenue stream and/or reducing their AIP charges, than permanent transfers.

Arqiva therefore suggests that Ofcom initially sets the watershed at 5 years with a commitment to review the operation of the market every 5 years, making non-retrospective adjustments to the watershed as could then be justified.

Over time, with more auctions concluded and greater liquidity in trading, the lack of transparency around short-medium term leases would tend to have reduced *perceived* impact on the market.

*Q5d. Do you agree with our proposal (i) for longer leases to be subject to similar procedural requirements as licence transfers and (ii) to allow partial leasing but not sub-leasing?*

Arqiva agrees in principle that longer leases should be subject to similar procedural requirements as licence transfers. But where the watershed is drawn will be crucial in determining how much of the potential value arising from introducing spectrum leasing could actually be achieved, particularly in helping small companies test and launch innovative new services.

If, as seems likely, the UK is in the vanguard in introducing leasing then where Ofcom determines the watershed to be would tend to influence what other Member States choose to do. Get the balance right in the UK and the impact could well spread across the EU.

Get the balance wrong and end users will try to work around such disproportionate constraints – however well the anti-evasion provisions appear to be drafted.

A further proposal which could easily become disproportionate is the prohibition on sub-leasing, as not only does Arqiva have experience of market demand for our spectrum to be sub-leased (and, as more end users enter the market for spectrum rentals, it can be assumed that such demand would increase), but the band manager would always retain the licence obligations to Ofcom providing an incentive to maintain contractual control over sub-tenants of its spectrum (especially if Ofcom charges for investigating complaints of interference).

*Q5e. Do you agree that spectrum leasing should be available for all tradable licence classes? If not, which should be omitted and why?*

Yes.

*Q6. What capital and operational costs would automated trading impose on band managers and customers? Do you agree with our assessment that automated trading would be second-best to leasing but would provide a workable alternative?*

Arqiva agrees that automated trading would be second-best to leasing, not least as the commercial sector has had greater success in delivering IT projects on time and to budget than the public sector (and would any cost overruns be borne solely by those engaging in spectrum trading activity, or by all of those who pay towards Ofcom's administrative costs?).

*Q7b. Do you have further evidence on the benefits, costs or risks of the options?*

Arqiva supports Ofcom's direction of travel, but the constraints proposed will translate into a reduction in costs which won't be as great or as widespread as they should have been.

*Q7c. Do you agree with the conclusions of this impact assessment, in particular on the preferred options?*

Arqiva agrees that the options considered seem comprehensive and we support the intent to reduce transaction costs, in particular with the introduction of spectrum leasing and TWLI, if necessary as a stop gap.

Ofcom is to be congratulated for undertaking such a wide-ranging review of the current obstacles to achieving a vibrant, liquid secondary market in spectrum.

---