JRC Response to the Consultation on proposals to introduce Spectrum Trading

Points not covered in the set questions:

- JRC welcomes the opportunity to comment on this consultation.
- OFCOM charges for administering trades should follow the Government's CAT standards (COST, ACCESS, TERMS). According to this principle, charges should not exceed 1% of the cost of the product. We should therefore expect OFCOM to charge not more than 1% of the licence cost to administer each trade (with no minimum charge, ie 75p for a £75 licence).
- OFCOM must act vigorously to prevent market manipulation and distortion of fair trade. For example, by closing the 410-430 MHz band for new civil use, prices will rise in the most suitable alternative band, ie 450-470 MHz. As part of UHF2 band re-alignment, Government will have first option on the surplus created for allocation for its own use by emergency services and military use. Having driven up the price by scarcity and acquired more spectrum, Home Office & MoD will then be able to trade this spectrum back into the market at a premium price.
- Spectrum Trading should enshrine the principle that if Government wants to close civilian access to a band (eg 410-430 MHz), they must make available an equivalent amount of spectrum in a band with similar characteristics (perhaps 470-490 MHz, or the 800 MHz international band 806-890 MHz) to avoid distorting the market.
- It is not clear how decisions would be taken in the future regarding the introduction of new licence exempt bands, and who would be responsible for buying out existing users of spectrum designated for licence exempt operations.
- It would instil more confidence in the industry if Customs & Excise and Inland Revenue could issue guidelines on taxation issues prior to trading being introduced.

Answers to specific questions posed in the consultation document

Q1a Do you believe that spectrum trading will be beneficial to consumers, businesses and radio users?

Yes, provided the rights of existing radio licensees are safeguarded, and there is no obligation to trade.

Q1b What could OFCOM do to increase the benefits and mitigate the disadvantages spectrum trading?

OFCOM can increase the benefits of trading by a rapid introduction of trading with a minimum of restrictions, and mitigate the disadvantages through safeguarding the rights of existing users.

Q2. How could OFCOM's proposals for spectrum trading be amended to reflect the potential benefits of emerging transmission technologies?

No additional measures are considered necessary.

Q3a Should tradability be universal within licence classes and not an option as proposed?

Licence holders should have the right to trade and also the right to refuse to trade.

Q3b Do you agree that liberalisation of spectrum use should be implemented through issuing guidance notes rather than through the precise definition of the licence term?

Liberalisation may not be suitable for all licence classes, but there should be a presumption in favour. Although interference guidelines are likely to need to be defined very precisely, other parameters, especially reconfiguration, do not lend themselves to overly prescriptive control and therefore guidelines are more applicable. One would not want to replace one rigid regulatory regime another different equally rigid regime.

Q4 Are there any reasons why existing licence holders should not be authorised to participate in the trading process? If so, please provide details of which types of licence holders you consider should be excluded from the trading process and why?

All existing licence holders should be allowed to trade, unless there is the potential for dominance or market distortion, and should not be subject to a windfall tax.

Q5 Should RSA be tradable?

We cannot see any reason why RSAs should not be tradable.

Q6 Do you think trading should be introduced more of less rapidly than suggested above?

Having made its intention clear, OFCOM should now proceed rapidly. Not to do so risks introducing an element of stagnation in the market as licensees hold onto licences in the hope of their value appreciating. Making clear that Administrative Incentive Pricing and auctions will be permitted to lower prices as well as raise prices would help to deter any speculative hoarding in advance of the introduction of trading.

Q7a Do you anticipate problems in defining the rights to transmit in terms of transmitted power or equivalent isotropically radiated power and a "spectrum mask" and if so what?

This is likely to be the most difficult element, and likely to give rise to the most difficult problems. It will be necessary for OFCOM to combine regulatory certainty on the principles with flexibility on the interpretation in the early days of trading.

Q7b What alternative proposals (such as standardised frequency trading units) would you prefer?

At this stage, JRC does not wish to offer any alternative proposals.

Q8a How important is it to provide guidelines on levels of interference for each licence class?

Protection from interference is the primary rational for spectrum management. Clear guidelines are therefore seen as essential. They will need to be flexible as what is perceived to be acceptable to one class of user may be unacceptable to another. To take an obvious example, an FM radio broadcaster of classical music has a very different threshold of signal to noise ratio compared to an on-site PMR system. It is also important that complaints of actual or potential interference have a basis in the ability to cause harm or degradation to an actual radio system. This will help to avoid nuisance complaints by activists and unnecessarily restrictive filtering of radio systems.

Q8b Do you anticipate any problems in doing this, if so, what

It is too early to comment in the absence of specific proposals.

Q8c What alternative approaches might OFCOM adopt?

We have no alternatives to offer at this stage, but watch developments in the USA regarding 'interference temperature' with interest.

Q9a Do you agree that on the introduction of trading, current licenses should have a rolling term with a defined notice period for termination?

Yes. It is assumed that the licensee however has the option to terminate his licence before the end of the notice period if, for example, he wished to wind up his business and does not wish to be involved in trading his allocation. We assume that the spectrum would as usual revert to OFCOM and become available for reallocation.

Q9b What notice period would be appropriate?

Although a five period is not unreasonable, there are examples where a 5 year notice period would be considered a disincentive to investment, especially for larger projects which may take a number of years to bring to fruition, and then expect to be operational for 10-20 years. The Government's own Airwave project illustrates the need for lengthy licence periods, and utility networks are not dissimilar.

Q10a In what circumstances do you believe it would be appropriate for OFCOM to revoke or serve notice on licensees?

Where licence obligations or competition rules have been broken. We do not see a case for OFCOM to have the power to intervene in the market simply to bring about change (para 6.7.12). The intention of spectrum trading is to permit the market to determine changes. If OFCOM remains concerned about the ability of the market to bring about rationalisation as suggested in para 6.7.12, then an appeal process should be devised to permit a private company to achieve the objective

Q10b Would the proposed guidelines provide sufficient certainty to licensees and potential purchasers and sufficient flexibility for the necessary management of the spectrum by OFCOM?

No, as proposed, the guidelines still give OFCOM the right to change the frequencies on which users operate without users receiving full compensation.

Q10c Are there circumstances in which it might be appropriate for OFCOM to have a power to terminate licenses on shorter notice, with compensation?

No examples of this type of action come readily to mind, but if it becomes essential, OFCOM should be required to seek legal sanction through the courts to evict the existing user, which would also provide the forum for settling compensation.

Q11. What problem do you anticipate in separating non spectrum licence conditions (such as roll out obligations) from spectrum related licence conditions and allowing licensees to pass on their obligations as part of a trade should they wish?

Although Government has sought to impose non-spectrum related conditions on licenses, they have not generally been successful as they are largely unenforceable in practice.

Q12a What intermediaries do you expect to emerge in the market for spectrum licences?

We would expect that initially, Spectrum Management Organisations, SMOs, would be the main intermediaries to emerge, especially in areas where they currently exist, and where users have a current need for access to spectrum to service a business critical need not easily provided by public services. These SMOs may provide the roles defined as 'brokers' and 'market makers' to a limited extent subservient to their primary business role.

Q12b Are there any features of intermediaries which may require regulation?

Until the market matures, it would be wise for OFCOM to ensure that no player uses their control of the market to favour particular proprietary technical solutions through subversive use of planning standards, or to distort the market in an abusive manner.

Q13. Do you agree OFCOM's proposed arrangements for the spectrum currently managed by JFMG, JRC, CSS and the CAA?

We agree with OFCOM's proposed arrangements.

Q14. Do you agree with the extent of information that OFCOM is proposing to make available to the market?

In some cases, it may be necessary to restrict the information in the public domain to protect data describing radio links which support the Strategic National Infrastructure, in particular, utility installations.

Q15a. What problems do you anticipate in the process for administering spectrum trading?

OFCOM needs to undertake a complete overhaul and validation of the data on licensees and their licences that it has inherited from the Radiocommunications Agency. The accuracy of the current data is limited in some circumstances. The next stage would be to test the new spectrum management processes.

Q15b. Do you agree with OFCOM's outline procedure?

In principle but as proposed the procedure seems lengthy, unduly bureaucratic, and could be costly to the acquirer.

Q16a What kind of leasing and hiring arrangements do you envisage arising?

JRC sees this as one of the most important areas of trading to derive maximum economic benefit from use of the radio spectrum. Major network operators need large numbers of channels to adequately cover the areas of densest traffic, but the consequence is that the spectrum is used less intensively in other areas. Leasing permits this spectrum to be brought to the market without the owner relinquishing long term control which would reduce the flexibility of the network operator to reconfigure networks to adapt to changing traffic patterns.

Q16b. Do you agree with OFCOM's proposed arrangements for approval and registration of spectrum leases and hires?

The principles look generally sound, especially the concept of concessions for SMOs.

Q17a Do you think liberalisation of spectrum use as proposed should be pursued as well as trading?

This would seem the way to derive the maximum economic benefit from the measures proposed.

Q17b. Do you agree with the constraints on liberalisation outlined above?

The constraints on liberalisation should be kept to a minimum. Novel applications using radio emerge almost every day, and fitting these new applications into existing service categories restricts industry's ability to solve problems using radio techniques. A minimum of constraints will encourage innovation, a key Government objective.

Q18a. Do you agree with the proposed process for approval of licence reconfigurations or changes of use?

The process described should only be implemented for major reconfigurations or changes of use involving large blocks of spectrum. In the majority of cases for individual licences, it will thwart the process of permitting reconfigurations and change of use. For day-to-day applications, a more streamlined process will need to be devised.

Q18b. Are there any other factors which OFCOM should take into account in whether or not to approve an application for a change of use?

An important factor is to consider whether it creates a monopoly for a particular type of service.

Q18c. Should OFCOM make commitments to performance targets for assessing application for change of use?

Yes, this would give users confidence that applications would not get bogged down in detailed considerations.

Q19a. What types of disputes do you envisage arising as a result of spectrum trading and licence liberalisation?

We see the major areas of dispute deriving from an assessment of whether the interference is significant or not; and the extent of the interference in space and time.

Q19b. Beyond its statutory duty on disputes, how far should OFCOM become involved?

In the early days of spectrum trading, OFCOM may have a key role to play in an advisory capacity, indicating what its approach might be in formal proceedings. This might help parties to a dispute resolve a problem without invoking the formal dispute resolution procedure.

Q20a Do you agree that an assessment of whether a spectrum trade can be expected to result in a substantial lessening of competition is appropriate?

Yes, but it must be qualified by a judgment in the context of the overall market. Niche areas of the market may not be sufficiently large to support a number of competing providers, and this must be a significant element in the judgement. A further consideration may be the competitive environment for the service provided. By way of example, there is only one company licensed to use national Public Access Mobile Radio (PAMR) spectrum, but an assessment of the overall market would conclude that although competition does not exists at the spectrum level, it does exist at the service level (in the case of publicly provided services).

Q20b How should such a test be applied in practice?

A complaints driven response might be a more effective use of OFCOM's resources than scrutiny of each trade in advance.

Q21. In what way do you anticipate that administrative incentive pricing (AIP) will need to be changed to take account of spectrum trading?

We agree that administrative pricing and trading are complementary. The danger is that if AIP or the reserve price in an auction are set too high, spectrum remains unused, a waste of a scarce natural resource. As the consultation seems to imply, better to err on the side of setting AIP (& reserve price in auctions) low and allow trading to ensure spectrum is used to the maximum economic benefit of the nation. At current AIP for PMR, it is likely that wide area PMR will continue to decline and ultimately disappear.

It must be noted that in spectrum audits conducted by RA, about 15% of the spectrum was retained unused by RA for a variety of reasons. If this spectrum is released to the market, the marketable price of PMR licences will fall.

Before any increases are introduced in AIP, OFCOM ought to be required to release into the market spectrum currently reserved for future use or any other reason. Once a market mechanism is in place for trading, there can be no reason for OFCOM to allow spectrum to remain unused which would have the consequence of driving up prices.

Q22. Do you agree with the proposals for application for spectrum trading to television and radio broadcasting spectrum?

Although this is a sensitive area, in principle there appears no reason why broadcasting spectrum should be treated any differently to other services. Although the centrally planned system works well in the main, there are many opportunities at the margins, especially in trading 'interference' where a market mechanism would be far more efficient than a centrally managed model. It would be unfortunate if this increased flexibility were not introduced at the same time for broadcasting as other services.

Q23. Do you agree with the proposals for programme making and special events spectrum?

We agree in general. This is another area where it is likely that the market will only support one SMO. In the past, two 'providers' did operate in this sector, but not to the overall satisfaction of the customers. Technical complexities of the customers' requirements and the spectrum deployed make this another example of where simple competition theory expires.

Q24. Do you agree with the proposals for application of spectrum trading to public wireless networks?

In general, yes.

Q25. Do you agree with the proposals for application for spectrum trading to private business systems?

In general, yes, although it may be appropriate in the case of private systems to have a 10 year licence period of notice rather than the 5 years proposed in paragraph 6.6.4.

Q26. Do you agree with the proposals for application of spectrum trading to fixed terrestrial and satellite links?

In general, yes; but the UK must be careful not to confer rights onto non-UK operators. Benefits from spectrum trading must accrue to the UK Government and the UK economy and must not be allowed to generate windfall profits for non-UK organisations unless the spectrum (or an RSA) has first been purchased at UK market rates.

Q27. Do you agree with the proposals for application of spectrum trading to maritime and aviation spectrum?

In general, yes.

Q28 Do you agree with the proposals for application of trading to science and technology spectrum and that trading is inappropriate for licence exempt spectrum?

Most certainly, yes. Furthermore services using licence exempt spectrum are seen as a major growth area. Clarification as to how further licence exempt spectrum can be allocated is highly desirable.

Q29 Do you agree with the proposals for application of spectrum trading to the emergency services and Ministry of Defence?

We agree in principle with this proposal. The implementation will have to be carefully framed to protect the rights of existing users who currently use spectrum nominally allocated to the Ministry of Defence but little used by it. OFCOM may also need to exercise some influence over public holders of spectrum to ensure that they participate in the market constructively as the incentives for Government users are different to the private sector.

Background

A. JRC Ltd is a wholly owned joint venture between the UK electricity and gas industries specifically created to manage the radio spectrum allocations for these industries used to support emergency and safety critical operations. JRC also represents gas and electricity interests to government on radio issues.

B. JRC manages 4 MHz of spectrum, of which 2·8 MHz is for PMR applications and 1·2 MHz for telemetry and telecontrol services. JRC created and manages a national cellular plan for co-ordinating frequency assignments for some of the largest networks in the UK.

C. JRC manages VHF and UHF allocations. These networks keep utility control rooms in touch with their field engineers. The networks provide comprehensive geographical coverage to support the installation, maintenance and repair of plant in all weather conditions on a 24 hour/365 days per year basis.

D. The Scanning Telemetry Band is used by radio based Supervisory Control And Data Acquisition (SCADA) networks which control and monitor safety critical gas and electricity industry plant and equipment throughout the country. These networks provide reliable communications to unmanned sites and plant in remote locations.

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