

Mr G Chapman  
Radiocommunications Agency  
11B/20A, Wyndham House  
189 Marsh Wall  
London E14 9SX

Our Ref: RU 5055

10 October 2002

Dear Geoff

Please find enclosed the Spectrum Management Advisory Group's (SMAG's) comments on the recent RA Spectrum Trading (ST) consultation.

SMAG acknowledge that ST will be very challenging to introduce, as this is such a new market, and has a wide range of spectrum users, but also highlights that not every eventuality can be catered for through advance regulation.

However, SMAG remains concerned that the consultation, by addressing all spectrum with its many permutations, has over-complicated the introduction of ST in the UK. The overall view of SMAG is that ST should be supported, but risks failing completely if it is introduced with over complex regulation and processes.

SMAG would prefer to see the different types of trading re-classified into a simpler approach using Bronze / Silver / Gold as follows:

- Bronze – dynamic ST, generally for under 2 years, based on sub-leasing or 'loans'
- Silver – static ST, generally for over 2 years, based on sale of rights and transfer of obligations.
- Gold - a requirement to consult and agree changes at the international level.

Bronze / Silver to remain entirely within ITU tables, and if appropriate international standards, with formal Ofcom notification of these major trades. SMAG would like to minimise the overheads and administration for all trade notifications, but at least for the "minor" trades.

Other competition and regulatory proposals are covered more fully in more detailed comments attached as Annex 1 and in the Consultancy Questions responded to in Annex 2.

The consequences of late introduction of ST, such as a slow down of Broadband Britain, adverse environmental impact and quasi spectrum trading (via DTI referral and request) do seem understated. Accordingly SMAG would like to see an early introduction of ST but on the basis that the processes are proportionate and pragmatic.

SMAG also believes that the success of ST will be best judged if an open process of implementation is adopted. This should include a change management programme with key ST scenarios being tested with industry plus an open "Introduction to ST" seminar. To establish user confidence in ST, a portfolio approach to the spectrum available and trading styles will also still need to be tested.

Yours sincerely

Dr J Forrest CBE  
Chairman, Spectrum Management Advisory Group

## SMAG Commentary

### Executive Summary

- SMAG remains supportive of the early introduction of Spectrum Trading (ST) and supports the main objectives listed in the Executive Summary.
- SMAG has doubts that in pursuing ST, the consultation proposals go beyond the 'minimum level of regulation' with quite complex, cumbersome and non-market orientated approaches. The rules seem even at this consultative stage too detailed for a new "Spectrum Market" to develop.
- The proposals may actively inhibit "the promotion of competition" (objective (a)), through being too detailed and prescriptive for this new 'market'.
- Objectives b) + c) + d) are fully supported by SMAG, but as per SMAG's recent Communications Bill submission, we are not sure they are adequately underpinned by Ofcom resources, technical skills and related processes.
- Objective e) is one of the most critical for both spectrum pricing and trading. Ofcom policy on jammers and absolute clarity on their role as Spectrum 'policeman of the last resort' needs to be further reinforced.
- Paragraph (v) in SMAG's view accepts that a market led approach to ST is best overall, with maximum flexibility, but the overall ST consultation seems to restrict flexibility significantly. For example the distinctions between wholesale / retail or dynamic / static ST gain little recognition. The majority of the consultation also adds high overheads, legal and administration costs to the introduction of ST.
- Paragraph (vi) is right to highlight different variants of ST but this becomes in SMAG's view too prescriptive. Taking each of the definitions used:-

Mode - would seem only relevant if restricted to mode options 1 and 2. Change of use should not normally be allowed, and where proposed should be subject to international discussion and agreement first.

Duration – the 'flexibility' in this area is very important. SMAG proposes that Ofcom retain as light a regulatory touch as possible within the Framework and Authorisation Directives.

Extent – this will be a critical part of the detailed regulation. SMAG urges Ofcom to ensure that the partial transfer of rights and obligations does not result in market distortions. This is particularly important in nascent market sectors in which new entrants are seeking to establish themselves.

- Paragraph (vii) - SMAG agrees with the progressive introduction provided it is not spread over too long a period (we recommend less than three years). SMAG does not consider that 3G should be specially singled out. Indeed, there is much merit in enabling ST before infrastructure is widely deployed, since this might reduce the cost of subsequent modifications should spectrum be traded. Also, singling out 3G might distort the market for trading in 2G.
- Paragraph (viii) – SMAG again supports the ‘flexibility’ offered by “mutual agreement”. SMAG recommends the current flexibility is not lost, but warns against allowing unrestricted use of technology or service without gaining prior international agreement.
- Paragraph (ix) – ST notification seems very reasonable, but Ofcom should ensure that the notification of small or short duration trades (within ITU tables) should not be so onerous as to stifle the market.

### **General Comment**

- The emergence of 3<sup>rd</sup> party Spectrum Agents, Brokers, and Administrators seems to have been understated, as does the need for a public register of assignments. It would in SMAG’s view be timely for Ofcom to promote this possibility now.
- For trading to work effectively, there must be a good understanding of any "new" spectrum to be introduced (eg the 3G expansion bands) as this will change the effective value of spectrum being traded. Without a reasonable degree of certainty in this area, buyers may become more risk averse and hence the level of trading may fall. This makes the RA long term strategy document even more important than it has been in the past.

### **Section 2 - An Overview of Spectrum Trading**

- SMAG believes that the draft Regulatory Impact Assessment in Annex 1 is both difficult to support, as it is a new market but also hard to justify. The estimate of £138M over 20 years is however sufficient to justify the introduction of ST as soon as possible.
- The emphasis on ‘well regulated’ and ‘free market’ are noted in 2.7. The direction of ST requires deregulation for real success. As stated in 2.9 it also requires ‘balance’ but the ‘light touch’ regulation proposed is critical.

- The introduction of e-business (2.12) to ST is fully supported, but in SMAG's view the opportunity for Spectrum Brokers to undertake a 'middle man' or 'value added' role, described in section 18.4, is missing. The distinction between wholesale (i.e. ST) and retail use of spectrum (e.g. reselling of cellular services or wireless LAN capacity) would have been useful by way of clarification here.

### **Section 3 - Background**

- Under 3.2 the role of major communications landlords and outsourcing specialists should be acknowledged (e.g. NTL / CCI / EDS), particularly under 3.2c.

### **Section 4 - Process for Introducing Trading, Including Two-Stage Consultation**

- The sequence of procedural steps under 4.1 seem quite onerous, and as previously stated may add high overhead to the introduction of ST, and even cause its prospects severe damage to certain types of trade.
- It is also unfortunate that the UK (historically a beacon of telco regulation) has chosen such a prescriptive approach that may fall out of step with a more flexible approach that may be taken in other Member States in the regulation of ST matters.
- There might, for example, be the possibility of some "pre-trading" which allows companies to set in place trading agreements which will become actual spectrum trades as soon as legally allowed. Companies could then start planning network deployment, etc.
- Some consideration should also be given to the fact that some spectrum policy obligations will not sit well in a new ST regime.

**SMAG Answers to “Implementing Spectrum Trading”**  
**RA Consultation - July 2002**

**Introduction**

This annex covers the SMAG comments in answer form to the questions posed in the RA Consultation of July 2002.

1. Do you have any comments on the proposed modes of trade? Are there others that should be considered?
  - Generally SMAG feel that the number of modes and associated processes are too complex as shown in the consultation. Our concerns are supported by the potential risk of costs in overheads alone exceeding the benefits of spectrum trading. SMAG would like to see more flexibility, third party arrangements, and less “legal” processes introduced at the start of spectrum trading, as we wish to see more effective spectrum management arising from the introduction of this tool.
  - The general framework proposed is satisfactory but it appears to exclude options for:-
    - a) Dynamic trading – short term and by time of day; also shorter term leases measured in months rather than years.
    - b) Border trading – the recognition of requirements for flexibility at for example the Northern Ireland / Ireland and UK / France borders seems to have been ignored. Whilst RA will retain some responsibilities in this international area the consultation should at least recognise what happens between major licensees today, and should not be retrograde in introducing new processes.
    - c) Geographic trading – the opportunity for localised or regionalised as opposed to national UK trading does not seem to be encouraged, whilst the demographics of the UK would warrant some encouragement in this area.
    - d) Adjacent bloc trading – this also could be more fully encouraged, but it is not clear that this is what is meant by some of the terms used in the consultation draft.
  - SMAG feel that formal notice periods may also be needed, associated with certain types of trading, but this form of reassurance seems notable by its absence. This task should involve RA (Ofcom) formally

to ensure “squatters rights” do not emerge.

- One of the concerns about complexity is that with too many modes defined in the consultation, the need for arbitration associated with high legal / consulting costs could arise. Simplicity is therefore preferred, and this should be extended to any standard form of “trading regulations” that are foreseen. SMAG suggests the following approach would help at least with the first wave: -

**Bronze** – a simplified but dynamic regime for trades that are within emission levels and ITU tables, but are temporary in nature, ie short term subleasing or loans.

**Silver** - these are proposed major trades within current ITU tables, where licences are fully transferred.

**Gold** – these are the trades that may require some reconfiguration and international consent, since they would affect competition between sectors and/or industrial policy. There should be a simple electronic post box process that allows these requests to be examined and responded to. They would require wider regulatory and industrial consultation, beyond the trading parties concerned.

Bronze and silver alone should be available to all current major licensees and their appointed Spectrum Brokers for real spectrum trading.

- One of the critical factors not covered fully in the consultation is the taxation treatment, which may differ by type of mode. It is imperative that the understanding of capital gains (or losses) or other taxation on transactional value is understood for any likely taxation regime.
  - It is also not clear whether RA are ignoring or treating as irrelevant any foreign ownership or “pre-emptive rights” conditions. Whilst we are not in a current warfare condition some hypothesis planning may be necessary, coupled with ensuring parity and reciprocity of treatment on this matter across the EU. This may not apply to all Spectrum bands but should at least be addressed.
  - Modes 5 and 6 will require wider consultation before being introduced.
2. How should interference disputes be resolved? How far should Ofcom become involved and what should its role be in relation to interference?
- SMAG feel that RA's responsibility in Ofcom should be carried forward as the “Spectrum Arbiter of the last resort”. Without this role it is likely that Spectrum pricing and trading could both fall into disrepute. It is imperative that RA responsibilities are fully retained to minimise all

interference and jamming, with the only exclusion being where RA appointed Band planners have total responsibility for this matter. These planners' responsibilities could in some cases be incorporated within the role of appointed Spectrum Brokers.

- SMAG has a responsibility for Spectrum management in an advisory capacity and is willing to advise RA and Ofcom on such matters of interference and the appointment of Band planners / Brokers.
  - As with answer 1 above, the extent to which Ofcom should be involved should be kept to "the last resort", but the number of modes suggested will lead to very high intervention and arbitration which SMAG feel will be too burdensome.
  - Ofcom should also be involved in arbitration disputes. The disputes should be filed electronically against a web-based system that is open and transparent to the parties to the dispute. On some occasions referral to DTI or OFT may also be required. Overall, the level of trading though that is subject to Ofcom involvement should be kept to a minimum.
3. It is proposed to give scope for trades with, as wide as possible, a variety of time periods and opportunities for reversion. Which combinations do you think will deliver the greatest benefits?
- While short term trading may be the most numerous, SMAG expects that the greatest economic benefits would come from the "large" trades, eg of a 3G carrier. However, SMAG believes it to be unnecessary to speculate at this stage on which trades will be most beneficial as this will become clear in due course.
  - SMAG would be concerned if leasing overheads costs became onerous, but feel that RA could propose a standard template to simplify this process, and ensure most of this activity is both automated and on line.
  - The distinction between wholesale (trade) and retail spectrum trading would help the introduction and clarity of this new ST spectrum management tool.
4. It is proposed to give scope for trades where the extent of transfer of rights and obligations is complete or concurrent. What is your view on this proposal?
- SMAG feels this may be a critical matter for spectrum trading and one for which more detailed legal advice and comment would be appropriate.

5. License classes from a range of sectors for a first wave of the introduction of spectrum trading. (A) What is your view on these proposals? (B) What is your view on the appropriate timing for trading particular license e.g. third generation (3G) mobile licences?

- SMAG supports the progressive introduction of Spectrum Trading, largely in line with the first and second wave as described, provided there was not long a gap between waves.
- SMAG is not convinced that some areas of spectrum should wait until the third wave, and this applies to defence spectrum in particular.
- the range of spectrum available for trading should be part of an RA strategy towards trading that is published, such that there is broader visibility of the TOTAL SUPPLY of Spectrum that could be made available. Without this the complexity for the buyer and trader becomes rather onerous.
- Traditionally the technologies associated with communications have been intertwined with spectrum assignments. In the new Comms Bill era this will increasingly be irrelevant. With the introduction of ST during convergence it is more logical to define markets more broadly than by technology. Accordingly SMAG have reservations that defining 2G and 3G markets as separate is distorting reality. The spectrum for 3G may well be used for additional capacity and as such should not be inhibited from early trades.
- Some of the players who are involved in the wireless industry may be very nervous about the precise rules associated with trading, and this needs to be addressed through simplification and where appropriate bilateral discussions which address these concerns. It is also of some concern that a set of UK rules may be more complex than other parts of Europe, thus having the effect of undermining trader confidence and distorting the Single EU (spectrum) Market.
- The lack of reference to the ISM bands that are open and “spectrum price free” seems an omission from a buyer’s perspective.
- SMAG's view on timing is that the first wave should be trialled in 2004 with a view to being fully introduced for the first wave in 2005.

6. License classes from a range of sectors for a second wave of the introduction of spectrum trading? What is your view on these proposals?

- SMAG are supportive of these areas for trade but with two reservations:-
  - a) it should be clearer that the sectors involved have already experienced several years of published Spectrum pricing payments. This is to minimise the risk of “squatter’s rights”. This should also

overcome any trading in the free ISM Band.

b) It is not comprehensive enough, particularly with regard to the potential release for trading of defence spectrum.

- SMAG propose that the timing of the second wave should be 2 years after the introduction of the first wave ... perhaps 2006. It is important however that RA (Ofcom) do publish the likely bands that will be available and timing with a longer-term perspective. The spectrum market is likely to be severely distorted if this does not occur.
- SMAG would like to see reciprocal arrangements being negotiated within the EU for parity and reciprocity of access to first and second wave spectrum trades, before the commencement of this second wave. This is also important to gain consistency across the EU and to ensure that EU opportunities in Spectrum Trading are open to all. SMAG also believes that the EU needs some active encouragement in this area of second wave sectors.

7. In your view what is the best approach for introducing the more complex forms of trading?

- The most complex trades in principle are those involving reconfiguration and a change in use. These need not be complicated in practice - there are many means whereby change of use could be simplified including the publication of initial guidelines as to what is allowed, along with a simple process of arbitration.

8. What is your view on the overall timing of the introduction of Spectrum Trading?

- SMAG's view is that :-

First wave should start in 2003/4 with trials and full implementation by 2005.

Second wave should start in 2006 subject to the points made in answer 6 above.

9. In planning for the introduction of spectrum trading it would be helpful to have an estimate of the likely volume of trading.

a) For each licence sector and class on which you can express a view, what volumes of trade would you expect?

b) Would you expect a different volume depending on the available modes of trade?

- SMAG is not in a position to forecast a volume of trade as:-

- a) trading rules are not yet concluded and generally appear too complex.
- b) the analysis of substitutes in the spectrum market depend heavily on the final rules adopted.
- c) Valuations of spectrum may differ widely if more sector flexibility, and ITU relaxation is granted.
- d) The taxation regime is far from clear at this stage.

- Overall SMAG believes that the highest volumes of trades will be in first wave sectors, provided a dynamic short term approach is adopted.
- The modes of trade are useful by way of background but apart from mode 1 they add a degree of complexity that may not be required. This will not become clearer until after trials. Therefore it is felt that SMAG should not comment more fully on question 9b.

10. For the proposed licence sectors in the first wave, do you have any views on how extensively change of use or reconfiguration should be permitted?

- SMAG feels that until the first trials of spectrum trading are complete it is too early to be too prescriptive. However it would appear most sensible to ensure that the first wave of trading is only within ITU table definitions.
- Change of use and reconfiguration will be critical for the future of ST and will need mechanisms to be established to allow for appropriate clearance.

11. For the proposed licence sectors in the second wave, do you have any views on how extensively change of use or reconfiguration should be permitted?

- Apart from the timing and conditions answered in 6 and 7 above, SMAG view the answer to 11 as being the same as 10.

12. Would having different trading rules for different licence sectors and classes have any undesirable impact?

- SMAG feels that different trading rules would generally be undesirable in terms of complexity, overheads, legal costs and market distortion across the spectrum market.
- SMAG supports the maximum harmonisation of trading rules, whilst still allowing wide flexibility in trading options. For example, differing approaches may be needed for wholesale/retail spectrum.

- SMAG is concerned that the implications of trading rules may inhibit the opportunity to introduce Spectrum Brokers and Band planners.

13. In what circumstances do you consider it would be appropriate for Ofcom to a) require prior clearance or consent for competition purposes for a proposed trade and b) withhold consent for a trade on competition grounds?

- SMAG has not taken legal advice on this matter but feels that the balance should be set in favour of ex-post spectrum competition policy and as such would be more a matter for OFT and not Ofcom.
- Ofcom will retain a dual role in advising on the suitability of trades in both the communication sector and also for the wider non-communication sectors. For the former it is felt that Ofcom's role should be limited to a) ensuring all major trades do not lead to market dominance in a given UK communications market and b) reviewing competition in communications to ensure adequate consumer choice. In the latter case Ofcom's remit should be limited to ensuring that all major trades beyond communications are subject to OFT review where dominance is suspected.
- Ofcom should retain the right to be the "Spectrum arbiter of the last resort" as described in answer 1 above. Ofcom also needs to ensure that international obligations and enforcement measures are maintained.
- Ofcom should rarely be required to give any comment or prior clearance or withhold consent in any matters of spectrum trading, except in the case of significant change of use. Should this rise above a minimal number then the trading procedures will have failed.

14. How should tradable licences be structured?

- SMAG is of the view that a user-led approach of negotiation is better than a strict division into FTUs.

15. Are there licence classes or sectors for which division of spectrum into pre-defined FTU's with fixed boundary conditions that would facilitate trading?

- SMAG's view is that the use of FTUs would seem most appropriate for users who only need small coverage areas - mostly PMR users. However fitting PMR allocations into FTUs is likely to be complex.

16. Are their licence classes or sectors for which user negotiable boundaries would facilitate trading?

- SMAG believes there are and that user negotiations should be encouraged. SMAG feels that a workshop that brings users together

should be facilitated once some of the more complex spectrum trading rules have been agreed and simplified.

17. Are there licence classes or sectors for which spectrum reconfiguration on demand would facilitate trading?

- SMAG believes this is an area of complexity where Spectrum Brokers and Band Planners should be acknowledged and appointed.
- SMAG believe RA should be more specific on reconfiguration that they may have in mind before fuller comments can be provided.

18. What changes if any do you consider are needed to licence term and security of tenure to promote the successful introduction of spectrum trading? Please be specific about possible licence sector(s) and class(es) to which you are referring?

- SMAG believes that licences should be issued in perpetuity, like land, but there should be a "forced repossession" capability whereby Ofcom could buy back the spectrum at a fair rate (option (c)). Although this may reduce the strategic scope of Ofcom as suggested, their strategic scope will be reduced in any case once trading is well established.

19. What are your views on continuation of annual licence fees?

- SMAG would prefer these to continue with no change, unless they are in the Gold trading categories referred to above, in which case the whole approach to re-assignment would need to be reviewed.
- In the Bronze category the sub licensees should be paying the original licensee, but for Silver a new mechanism would need to be put in place for direct payment to RA (Ofcom) after the trade.
- In the Gold category the pricing level for the spectrum should be equivalent to other market prices in the same or other sectors and fees payable, whether completely up-front or combined with annual payments, would become due on completion of a Spectrum trade. However, SMAG notes that the situation might arise where, eg, some cellular spectrum (2G) is priced, while some (3G) is not because it has already been auctioned. Broadly this is the equivalent of leasehold and freehold in the housing market. SMAG believes there should be an option for owners to "buy the freehold" by making a payment to Ofcom if they so desired.
- Indeed, SMAG believes that Ofcom should seek to move away from annual prices as soon as possible, given the complexity of setting annual fees and the risk of error. Hence there should be more pressure for spectrum owners to "buy the freehold" which could, for example, be linked to the terms of the licence so that "buying the freehold" granted a licence in perpetuity.

20. Ofcom could provide only a minimum level of information for spectrum trading and leave further information provision to the market, or Ofcom could provide higher levels of information.

a) What is your view on the optimum level of provision of information by Ofcom, b) What type of information would assist or encourage trading and c) Should Ofcom have power to compel disclosure of market information?

- SMAG believes that RA (Ofcom) have made significant strides recently to provide more information via their web based Spectrum Strategy. We hope this will extend particularly into areas of more detail around future releases of spectrum; publication of spectrum pricing and payments to date; notice periods of spectrum handback to RA; major classification changes related to spectrum use; and permitted emission levels.
- SMAG feels that for 20 a) it will remain a matter for “buyer beware” (caveat emptor) with the introduction of spectrum trading, but to limit the recourse the above information must be clearer.
- SMAG feels that the main method to encourage trading (20b) is to simplify the trading process, such that involvement of RA (Ofcom) is minimised wherever possible.
- On 20 c) Ofcom will have to publish a register of owners of the spectrum to enable a market in trading to take place (so that potential buyers can approach potential sellers). This register will have to contain details like geographical area and amount of spectrum. Since an observer to this register could deduce any trading activity, then Ofcom may as well publish directly the details of any trades. The only open issue is to whether the price of the trade should be published. Since prices of auctions are published, SMAG does not see why traded prices should not also be published.

21. Should Ofcom publish details of potential trades before they take place?

- SMAG can see no reason for this, other than those in the Gold category, which would require fuller international consultation.

22. Are there topics other than those listed in table 17.1 that will need to be considered before trading regulation are finalised and trading is introduced for particular licence sectors and classes?

- SMAG feels that the overall complexity of this consultation needs to be simplified as a first step.
- Most of the items listed in table 17.1 are more of a trading regulations checklist, but the main omissions appear to be regional interests; planing consent; notification beyond Ofcom; taxation treatment; EU referral.

23. For license sectors and classes in which you have an interest how would you like to see trading start?

- SMAG feel that the complexity needs to be reduced first, more in line with the Bronze, Silver, Gold approach shown above, and then linked to first wave trials. There is also a question of whether there is support for auctioning prior to trading. In practice, SMAG does not see how this would work for spectrum already in use, and considers that there should be a simple introduction. See also earlier comments around leasehold and freehold.

24. What steps if any should the government take to recoup capital gains realised as a consequence of the introduction of spectrum trading?

- SMAG feels that the likelihood of major gains is really quite low. In the case of Bronze types of trade they should be exempt. In the case of Silver and Gold they should be the subjects of normal capital gains (loss?) treatment as with other UK based assets. The taxation treatment in this area seems understated but is a potential major area that could confuse and undermine the introduction of ST if not explained for fully.
- It is important that any fiscal or taxation regimes proposed remain cost competitive with the EU, so as not to inhibit international spectrum management or trading.

25. What steps (if any) should OFCOM take to facilitate:-

a) the start of spectrum trading markets?

b) development of successful trading markets?

c) introduction of intermediaries?

- SMAG has covered most of a) and b) above by asking for simplicity, trialling the first wave and the use of third parties.
- SMAG is keen to see the introduction of Spectrum Brokers and Band Planners but this is too early to agree Ofcom action until the trading rules are clearer and the opportunities for these intermediaries better understood.

26. Do you agree with the analysis in the draft regulatory impact assessment?

- SMAG does not agree, as this is neither comprehensive nor totally relevant at this stage. The main reasons are that to fully assess the impact requires a more stable set of rules and a better track record than can be drawn upon, even though the Draft RIA in Annex 1 is an interesting but academic hypothesis. Essentially, we should be sure that the benefits outweigh the costs, which seems likely. Beyond that, there seems little reason in trying to predict the benefits.