

**Question 4.1: What use, if any, would you make of the top 2x10 MHz of the 800 MHz band in the second half of 2012 if it were available for use? What would be the benefits for citizen and consumers of such availability?:**

We consider that the restrictive conditions appear to make it difficult for any benefits to be realised. Thus there is a need to investigate if the constraints could be relaxed so that benefits can be obtained from usage of the spectrum.

**Question 4.2: If we were to offer shared access low-power licences in some way, do you have any comments on the appropriate technical licence conditions which would apply for the different options?:**

We consider that the hybrid option is the most appropriate. For the shared proportion of the spectrum it may be appropriate that low-power users should have priority in urban areas and the high power network should have priority in rural areas. We consider that this geographical-type separation may reduce some of the interference issues though further study is required to determine the sharing parameters between the two uses.

**Question 5.1: Do you agree that national wholesalers need a reasonable overall portfolio of spectrum to be credible providers of higher quality data services? In particular, do you agree that national wholesalers need some sub-1 GHz in order credibly to be able to offer higher quality data services? Please state the reasons for your views.:**

We agree with the proposed scenario where there is a generic mobile market as is currently the case. However if the market separates into a number of different segments each serving a specific market then a narrower range of spectrum portfolios may be required by the national wholesalers depending on the segment served. The consultation document suggests that certain types of market segments may develop. We are not convinced that all these options are valid though we consider that there may be other types of market segment that could develop and these market segments have not been considered in the consultation document. Again this market segmentation will have implications for the spectrum required.

**Question 5.2: Do you agree there is a material risk of a significant reduction in the competitive pressures, at least to provide higher quality data services, in retail and wholesale markets without measures in the auction to promote competition? Please state the reasons for your views.:**

The level of competition is linked to a range of factors and the auction measures are only addressing some of the competition issues.

**Question 5.3: Do you agree there is a risk of potentially beneficial sub-national RAN uses not developing without measures to promote competition? Please state the reasons for your views.:**

We agree that there could be significant benefits resulting from sub-national RAN use though we are not convinced that the auction design will result in these benefits being achieved. The auction design is focused on national networks

**Question 5.4: Do you agree with the analysis that at least four competitors are necessary to promote competition?:**

The number of competitors required could depend on the way the market develops and currently we are not convinced that 4 are required in all situations.

**Question 5.5: Do you agree that the specific measures we propose to take to ensure there are at least four holders of such spectrum portfolios are appropriate and proportionate?:**

The measures are appropriate to the extent that the spectrum is available to meet the requirements of the different options. Additionally the proposed spectrum portfolios are based on specific market scenarios which may not be valid for various reasons.

**Question 5.6: Given the measures we propose to take to ensure four holders of spectrum portfolios sufficient credibly to provide higher speed data services, do you agree that it would not be appropriate or proportionate to introduce a regulated access condition into the mobile spectrum licences to be awarded in the combined award?:**

We agree that currently regulated access is not required in view of the uncertainties on how the market will develop.

**Question 5.7: Do you consider that we should take measures to design the auction to assist low-power shared use of 2.6 GHz? If so, what specific measures do you consider we should take?:**

We agree that specific measures are required to ensure that spectrum is available for low-power shared use but currently we have no strong views on the most appropriate approach for achieving this.

**Question 6.1: Do you have any comments on the proposal to include in one of the 800 MHz licences an obligation to serve by the end of 2017 an area in which 95% of the UK population lives, while providing a sustained downlink speed of 2Mbps with a 90% probability of indoor reception? Do you think there is another way of specifying a coverage obligation that would be preferable?:**

We have some concerns that only including the coverage requirement in one licence may distort the market. We also consider that coverage of more than 95% may be appropriate to reduce the proportion that is dependent on satellite connectivity. The costs and benefits issue is difficult to apply in this situation as an increasing proportion of services are provided online so the costs of providing the services to those not online will increase significantly and

these high costs are not taken into account which could distort any cost benefit analysis for wireless coverage.

**Question 6.2: We would welcome views and evidence on the costs and benefits of imposing an additional coverage obligation focussed on particular geographical areas, and if such an obligation were to be imposed what might be the appropriate specification of geographic areas?:**

We consider that there could be benefits resulting from focusing on specific geographical areas and these areas might be those where there is only limited competition and/or only high cost connectivity is available such as satellite.

**Question 6.3: Do you have any comments or evidence on whether an additional obligation should be imposed to require coverage on specific roads?:**

With the proposed 95% national LTE coverage we consider that there should be adequate coverage for most roads as all the evidence indicates LTE will provide better coverage than 3G coverage.

**Question 6.4: Do you have any comments on our proposal not to use the combined award to address existing not-spots?:**

We consider that by default the coverage requirements could address many of the not spot issues

**Question 6.5: Do you have any comments on our proposal not to impose 'use it or sell it' obligations but to consider including an additional power to revoke during the initial term of the licences?:**

We agree that there is no requirement to impose a 'use it or lose it' obligation though we have some concerns about the powers to revoke certain frequencies. We consider that this obligation should only be applied after careful consideration of the situation and should not be applied in exceptional cases such as the network roll out is delayed due to market conditions or situations outside the control of the operator.

**Question 7.1: Do you have any comments on the proposals relating to the duration of the initial licence period, our rights to revoke the licence during this period, the charging of licence fees after the end of the initial period and our additional revocation powers following the initial period?:**

Generally we are in agreement with the proposals

**Question 7.2: Do you have any comments on the proposal to amend the spectrum Trading Regulations to apply to the auctioned licences in the 800 MHz and 2.6 GHz bands, to include a competition check before we consent to**

**a spectrum trade of mobile spectrum and not to allow transfers that would increase the number of 2.6 GHz low-power licensees?:**

Generally we are in agreement with the proposals though we note that normally Ofcom approval is not required for spectrum transfers though approval is for transfers in the 800 MHz and 2.6 GHz bands. A similar obligation is proposed for the 900 MHz, 1800 MHz and 2100 MHz bands and we wonder why competition in these bands is more likely to be affected by spectrum trading than in other frequency bands. Alternatively are there reasons other than competition why transfers in these bands require Ofcom approval.

**Question 7.3: We welcome views on the merits of the proposed approach to information provision, in particular concerning the type of information that may be helpful and any impacts that publication of information might have both on licence holders and the wider spectrum market.:**

This question appears to have a link to question 6.5. We are concerned that the proposals in their current form may result in an incorrect view of spectrum usage due to the time required for the roll-out of the network giving the impression that the spectrum is unused.

**Question 8.1: Do you agree with the way in which we are taking account of the main factors relevant to spectrum packaging and why?:**

A comprehensive view of the factors involved has been taken and generally we are in agreement with the approach taken. However we consider that more attention should have been given to the possibility of regional lots as there could be some operators just interested in serving a specific region

**Question 8.2: Are there other factors that we should consider to develop our approach to packaging? If so which ones and why?:**

No comment

**Question 8.3: Do you agree with our packaging proposals for the 800 MHz band? Please give reasons for your answer.:**

Generally we are in agreement with the proposals. However we are concerned that the technical co-existence conditions may result in inefficient spectrum usage and the conditions should be developed to avoid such situations occurring.

**Question 8.4: Do you agree with our proposal not to allow relinquishment of 900 MHz spectrum and why? Do you have any other comments regarding our packaging proposals for the 900 MHz band?:**

We agree with the proposals, particularly as this band is currently being opened to other technologies resulting in a period of dynamic change and we have no other comments

**Question 8.5: Do you agree with our proposal not to allow relinquishment of 1800 MHz spectrum and why? Do you have any other comments regarding our packaging proposals for the 1800 MHz band?:**

Some of the options for proposed spectrum portfolios require the operators to hold a certain amount of 1800 MHz spectrum but there does not appear to be any or sufficient spectrum available to meet this requirement. Thus we consider there may be a need rethink the proposals for this band so that appropriate spectrum is available.

**Question 8.6: Do you agree with our proposal not to make provisions to include 2.1 GHz spectrum in this auction and why?:**

We agree with the proposal as we consider there is little likelihood of any spectrum being released by the existing holders.

**Question 8.7: Which aspects of our packaging proposals for the 2.6 GHz band do you agree with and why?:**

We agree with the proposed split between paired and unpaired spectrum as the demand for paired spectrum is clearly identifiable whereas the demand for unpaired spectrum is more uncertain. In our view this paired spectrum should be offered in 10 MHz lots as we consider there is unlikely to any significant demand for 5 MHz channels. In view of the uncertainties related to the use of the unpaired spectrum we consider that a flexible approach is required for determining the size of lots for this spectrum.

**Question 8.8: Do you agree with our proposed approach for eligibility points and why?:**

The approach appears to be valid and it ensures a more transparent auction process.

**Question 8.9: Which approach to reserve prices do you think would be most appropriate to secure optimal spectrum use in the interests of citizens and consumers, and why?:**

We consider that the use of reserve prices that are close to the estimated value of spectrum will ensure that the spectrum is purchased by those that intent to use it in an efficient manner so reducing the need for a 'use it or lose it' obligation. This approach will also ensure a valid valuation of the spectrum is obtained which is important as the future charges to be applied to the 900 MHz and 1800 MHz bands will be based on this valuation.

**Question 9.1: Do you agree with our proposals for the auction design and why?:**

We consider that multiple lots will allow the national wholesalers more options in deciding on their spectrum strategy resulting in more competitive markets. Simultaneous rounds means that the bidders are less likely to be influenced by the strategy of other bidders. We also consider that multiple rounds will be important in this context. However with the range of possible options that might develop we are not convinced that

combinatorial bidding is the best approach though it is difficult to justify this view. We have no strong views on generic or specific lots. We consider that using clock prices provides a number of benefits and this approach could be linked with the activity rule and the supplementary bid requirements.

We consider that the second price rule provides various benefits, particularly in obtaining a realistic valuation for the spectrum. In our view the auction design is appropriate and is not overtly complex so reflecting the importance of these spectrum blocks.

**Question 9.2: Do you have any comments on the proposed auction rules as explained in section 9, Annex 9 and Annex 10?:**

Taking into account our responses to other questions we have no specific comments on this point

**Question 9.3: Do you have any comments on how we should approach the payment of deposits and licence fees?:**

Taking into account our responses to other questions we have no specific comments on this point

**Question 10.1: Do you have any comments on our proposal to use 800 MHz price information as derived from the auction to estimate the full market value of 900 MHz spectrum?:**

We are concerned that there could be differences in value for the 800 MHz and 900 MHz spectrum resulting from the fact that in one case there is no existing network but in the other case there is an existing network infrastructure but based on a different technology though technology changes are already occurring in this band. We have no conclusive views on the value of this difference though we consider it may be significant.

**Question 10.2: Do you have any comments on our proposal to use an average of 800 MHz and 2.6 GHz price information as derived from the auction to estimate the full market value of 1800 MHz spectrum?:**

We consider that the average of the 800 MHz and 2.6 GHz spectrum value could produce misleading value for the 1800 MHz spectrum due to the different technologies used within the bands and the existing 1800 MHz network. However we have no conclusive views on a more appropriate means of calculating the value of the 1800 MHz spectrum.

**Question 10.3: Do you have any comments on the proposed approach to convert lump sum amounts into annual payment?:**

We have no comments on the proposed methodology though we consider that some adjustment factor should firstly be applied to the lump sum in accordance with our comments related to questions 10.1 and 10.2. This will ensure that a realistic lump sum is used as a basis for the calculation of the annual payments for these important spectrum bands.