



TELEFÓNICA O2 UK LIMITED RESPONSE: OFCOM CONSULTATION - DIGITAL DIVIDEND REVIEW: 550-630MHz and 790-854 MHz

INTRODUCTION

1. Telefónica O2 (UK) Limited (O2) welcomes the opportunity to respond to Ofcom's consultation on its proposals for the Digital Dividend cleared award¹ (the Consultation).

EXECUTIVE SUMMARY

The most likely uses of the spectrum

2. O2 generally shares Ofcom's assessment as to the most likely uses for the cleared spectrum (§1.11) and we are supportive of Ofcom's stated objectives for the DDR (§1.5 & §1.6).

Timing of the award

3. We note that whilst Ofcom proposes to award the cleared spectrum as soon as possible (and Ofcom's proposals mean that an auction could begin in summer 2009), Ofcom also makes clear that it must "...continue to take into account developments at EU Level in taking decisions on the timing and other aspects of the award." (§1.16). O2 shares Ofcom's sentiment in seeking to progress the award as swiftly as possible – but we believe that Ofcom must align its approach with European developments (see below).

Spectrum Packaging

4. O2 supports Ofcom's proposal to include both 8MHz and 5 MHz lots. However, in relation to the proposals in respect of channels 61, 62 and 69, O2 believes that further analysis is required. Accordingly we do not agree that the current range of proposed lot definitions for FDD is necessarily complete.

Alignment with European developments

5. O2 believes that Ofcom must align its approach with European developments. We don't believe a harmonised approach will cause significant delay in the award – but it is likely, in our view, to lead to a more efficient and productive assignment of spectrum (for example, the benefits for both customers and the economy of harmonised approaches to both GSM and UMTS bands are widely recognised). In particular, we believe that the UK approach must guarantee lot options compatible with the CEPT band plan for the 790-862MHz band, which is currently being developed in response to the Commission's second Mandate to CEPT on harmonisation options for the digital dividend and which we are expecting to be finalised by June 2009.

¹ "Digital Dividend Review: 550-630 MHz and 790-854 MHz – Consultation on detailed award design", Ofcom, June 2008



Technical licence terms – managing interference

6. We believe that Ofcom needs to undertake further assessment of its proposed “protection clause” approach and the practical implementation issues arising.

Non-Technical licence terms – licence duration

7. Ofcom argues powerfully for an indefinite duration to the awarded licences. Ofcom must recognise that it thus has no choice but to resolve the future life of the 2100MHz licences in its coterminous decisions on this award and mobile liberalisation and we look forward to Ofcom’s proposals in due course.

Competition and efficient use of spectrum

8. Ofcom’s more detailed discussion of a spectrum cap points to a proposal which places a “soft” access condition on licensees, one that is contingent on the volume of sub-1GHz spectrum held by a particular party.
9. Ofcom’s proposals are triggered by the aggregate holdings of operators with spectrum <1 GHz. Therefore in order to properly value the impact / determine demand for the cleared spectrum, operators will need to know their 900MHz holdings / availability of further released 900MHz ahead of the award. If 900MHz is to be released this would create unacceptable aggregation risk for operators if any 900MHz auction took place after the DDR award (and separately, Ofcom discusses aggregation risk in detail in respect of the form of the DDR award).
10. The consequence of such a proposal would be to tie any Decision to award this spectrum with a Decision with regard to 2G liberalisation. To do otherwise would be to discriminate against O2 and Vodafone, in that O2 / Vodafone would not know at what point any spectrum purchased in the award would mean that any proposed access condition became “active”.

AVAILABILITY AND USES OF THE CLEARED SPECTRUM

Clarity of Ofcom Objectives

11. O2 is supportive of Ofcom’s stated objectives (§1.5 & §1.6) for the DDR, namely:
 - Maximising the total value to society that using the digital dividend may generate over time, and
 - Taking a strategic approach which puts the market at the centre of decision making rather than the regulator.
12. We believe that it is important that Ofcom is clear about its objectives – and that, having set out these objectives, Ofcom ensures that its proposals are aligned to meeting those objectives.



Likely uses of the cleared spectrum/ amount of spectrum required for these services

13. O2 broadly agrees with Ofcom's assessment of the most likely uses of the cleared spectrum and the amount of spectrum required for these services (although, note our comments above in relation to channels 61, 62 and 69).

Interleaved spectrum in channels 61 and 62 in the cleared award

14. The proposal to include channels 61 and 62 in this consultation is a positive one. For cellular mobile services, such as mobile broadband, the upper sub-band is likely to be more attractive, given the expected availability of standardised equipment, than the lower sub-band, as acknowledged by Ofcom in §4.36. This is especially relevant to us in the light of Telefónica's global rather than UK-specific perspective, and the potential adoption of the 790-862MHz (channels 61 to 69 inclusive) band as the de-facto European standard band for mobile broadband in Digital Dividend spectrum.
15. In principle, we are therefore interested and supportive of the inclusion of interleaved channels 61 and 62 in the planned award. However, in practice O2 believes that DTT's heavy use of these channels, as illustrated in Figure 4.2, may significantly affect the potential utility of this spectrum for the provision of mobile broadband services. This would not only affect the amount of spectrum available for such services, but may also affect the standardisation options and imply a requirement for UK specific equipment variants.
16. Accordingly, O2 believes that Ofcom, in conjunction with the incumbent broadcast licensees and other stakeholders, should investigate the costs and implications of relocating the broadcast transmitters that use these channels into other appropriate frequencies, prior to the finalisation of the award proposals. O2 believes that the potential costs and complexity of such change should not pose a barrier to the relocation. Elsewhere², Ofcom has stated that transition costs up to £800m are bearable by private companies in the regulator's pursuit of the efficient use of spectrum. Whilst we do not agree with Ofcom's stated position on this, if Ofcom wished to ensure consistency in the application of its duties, cost should not necessarily act as a barrier to changing the use of channels 61 and 62.

Channel 69

17. Similarly, although O2 acknowledges that channel 69 appears to be, at present, an unrealistic option for inclusion in the award, due to the relatively heavy use of the spectrum by PMSE users, we note that Ofcom intends to discuss future use of channel 69 with stakeholders (§4.34). Again, therefore, O2 believes that Ofcom, in conjunction with the incumbent PMSE licensees and other stakeholders, should investigate the costs and implications of relocating the PMSE users that use these channels into other appropriate frequencies, prior to the finalisation of the award proposals.

Cognitive devices

18. O2 agrees with the Ofcom proposal not to allow licence-exempt use of channels 61 and 62 by cognitive devices, given our comments above.

² See §A5.18 of "Application of spectrum liberalisation and trading in the mobile sector", Ofcom Consultation Document, 20 September 2007



Proposed notice period for temporary PMSE access to channels 63-68

19. O2 believes that it would be inappropriate to allow extended temporary access to PMSE once the spectrum has been auctioned, beyond the 6-month notice period that has already been notified. It is though, in our view, appropriate to both retain a 6-month notice period (as there is uncertainty over both the auction timing and new use) and to extend this allowance to channels 31 to 40. If extended temporary access to “cleared” spectrum is required, then the PMSE users should enter into commercial negotiations with the new licensees, who would under Ofcom’s proposals be allowed to lease temporary use of the spectrum if they so chose.

London 2012 Olympic Games and Paralympic Games

20. O2 agrees that, given the relatively short period of time between the planned switchover of the London region and the London Games, it would be appropriate to defer the start date for rights to use cleared spectrum in London to help meet the needs of the 2012 Olympic Games and Paralympic Games. This proposal is, in our view, complementary to the decision on temporary PMSE access to channels 63 to 68 stated above. Given our belief that national access to spectrum would be needed by mobile network operators to deploy mobile broadband services, O2 notes that this is yet another reason why Ofcom should not aim to finalise their proposals, at least for the upper sub-band, as early as Spring 2009. We also suggest that Ofcom ought to consider scheduling payment terms accordingly, for example, down payment at award with full payment for the spectrum once the right to use the cleared spectrum starts (i.e. after the Olympics).

TIMING OF THE AWARD

21. Ofcom explains (§1.15) that it judges the market better placed than the regulator to decide the use of the spectrum and that, accordingly, Ofcom proposes (§1.13 – §1.15) that to afford the market the maximum opportunity to make use of the spectrum as soon as possible, then the auction could begin in summer 2009.
22. O2 does not disagree with the sentiment – we too consider that the market is, as a matter of principle, better placed than the regulator to decide the use of spectrum. However, as we noted in our response to the December 2006 Consultation on the Digital Dividend Review³, O2 believes that it is imperative that NRAs do not try and pre-empt Commission Decisions⁴ or try to create a *force majeure* position whereby the EC finds it hard to adopt a Decision in light of pre-emptive action by an NRA. At that time, Ofcom noted that it was possible that, in time, “*proposals may be made for specific action at European level on the digital dividend, including the possibility of action by the RSC that would be binding on the UK.*”
23. We acknowledge the progress that has been made by both the European Council of Ministers and the European Parliament on this issue, as foreseen by Ofcom in §4.69 and §4.70, but would highlight that the recently launched Commission Study, on “*Exploiting the Digital Dividend*” a European approach⁵, might yet lead to a binding legislative proposal in the second half of 2009.

³ <http://www.ofcom.org.uk/consult/condocs/ddr/responses/nr/O2.pdf>

⁴ In relation to this or any other spectrum bands.

⁵ http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=4248 SMART 2008/0016.



24. Furthermore, when this is coupled with a number of other factors (see below), O2 concludes that Ofcom should not aim to finalise its proposals, at least for the upper sub-band, as early as Spring 2009:
- i) the ongoing work in the CEPT in response to the second Commission Mandate (noted by Ofcom in §4.72 as completing in June 2009);
 - ii) the likely preference for use of the upper sub-band for the provision of cellular mobile services;
 - iii) the expectation, confirmed by Ofcom in §7.10, that national access to spectrum would be needed by mobile network operators to deploy mobile broadband services (i.e. post-switchover); and
 - iv) the belief that Ofcom should investigate the costs and implications of relocating both the broadcast transmitters that use channels 61 and 62 and the PMSE users that use channel 69 into other appropriate frequencies, prior to the finalisation of the award proposals.
25. We do not anticipate that the additional time needed to complete the new Commission Study, ongoing work in the CEPT, and additional investigation by Ofcom regarding the relocation of existing users in channels 61, 62 and 69 would cause a significant delay in the award – but it may yet result in a more efficient and productive assignment of spectrum.

TECHNICAL LICENCE CONDITIONS

SURs and masks – managing interference

26. In the specific context of the DDR cleared spectrum award (and without prejudice to our previous submissions on SURs), O2 agrees that it may be better to use SURs in the technical licence conditions, principally because the prevailing international coordination agreement has already established similar transmission rights and interference protection levels through the GE-06 Plan. In the meantime, we note the proposed SUR parameters listed in Tables 5.1 to 5.5 and Ofcom's proposed transmit mask limits.

Protection clause approach - managing interference

27. We believe that Ofcom needs to undertake further assessment of its proposed "protection clause" approach.
28. Whilst we agree that the most effective means of preventing interference to the existing DTT service may be by the addition of a protection clause to licences in the cleared spectrum, we note that this may not be the most efficient, in terms of Ofcom's statutory duties. Such a proposal may have a significant effect on the utility (efficient use) of the spectrum, competition through the use of the spectrum, and economic benefits arising from the cleared spectrum. In addition, the exact formulation of such a clause may set precedents in terms of interference protection that Ofcom should consider further before concluding on this important policy point.
29. For example, what is the particular characteristic of the current broadcast transmission licences that requires Ofcom to impose such an unquantifiable condition on new, neighbouring licensees? Is it their public service nature? Apparently not, since the proposal is to impose the same condition to protect the commercial DTT services. Is it their coverage



obligation? If so, this approach will need to be adopted for other licences also burdened with coverage obligations, and any protection afforded to the commercial DTT services would need to be aligned with the statutory requirement rather than any arbitrary commitment. Is it the DTT receivers used? This cannot be the case, as receiver performance is not specified, we understand, in these licences, but in the D Book specifications.

30. The over riding requirement to protect DTT reception in all retained frequencies exposes the potential purchasers of the spectrum to an unbounded risk, with potential limitless investigation costs where new services are alleged to be the cause of someone's unsatisfactory TV picture. As Ofcom will appreciate, the prospect of new licensees having to account for, investigate, and pay for poor (cheap), unspecified receiving equipment, and compensate the users for loss of service⁶, is something that will make all prospective licensees think very carefully about the valuations put on the cleared spectrum.
31. In terms of developing the protection clause approach, O2 believes that Ofcom needs to undertake further analysis of this proposal, as it affects all stakeholders including other users of the radio spectrum not directly interested in the DDR. We consider that a stand alone piece of work, including an impact assessment on this specific point, would be appropriate - including the implications for protecting indoor/ set top antennas.
32. In the meantime, we note Ofcom's proposed propagation models and databases to be used for compliance assessment.

NON-TECHNICAL LICENCE CONDITIONS

33. O2 has a number of comments in respect of the non-technical licence conditions Ofcom proposes.

Licence Duration

34. At §§6.38-6.40 Ofcom argues powerfully for an indefinite duration to the awarded licences:

"...the award of licences with an indefinite duration reduces the need for regulatory intervention to reassign spectrum at the end of the licence term. One disadvantage of fixed term licences is that at the end of the licence term the licence expires and so the rights to use it must be returned to the regulator, unless any other action has been taken. This may result in a period during which the spectrum remains unused as the regulator must go through a process to reassign those rights. Furthermore, incentives to invest closer to the end of a licence term are significantly reduced given that communications networks generally require continual investment. This lack of investment could result in detriment to consumers and citizens. The alternative of licences with an indefinite duration removes the requirement for return to the regulator, removes the risk of discouraging investment and creates additional opportunities for the market to secure the efficient use of the spectrum, particularly in the presence of spectrum trading."

⁶ For example, Annex 6, §A6.26: "The protection clause will make it clear that the licensee, if it cannot resolve the matter, must pay the viewer an amount of money enabling the viewer to take up an alternative digital service. This can include both cable or satellite services."



We consider that, as a matter of principle, it is preferable to look to market mechanisms to promote the efficient use of resources rather than regulatory intervention, unless the case for such intervention is clear. To date we have not identified a general need for us to recover spectrum at the end of the initial term in relation to any of our spectrum awards.

We consider that there are likely to be a number of other advantages to adopting the general approach proposed above. In particular, reassignment by the regulator typically takes significant time and resource. The spectrum may also lie idle for a period as the regulator prepares for reassignment. While it may be possible to reduce this problem through the use of overlay auctions, the approach of an indefinite term together with spectrum trading seems likely to offer a simpler and less costly way of ensuring the spectrum is used efficiently.” [our emphasis]

35. As a result of this award and 2G liberalisation, Ofcom will now have two types of 3G licence in the market:
- i) 900MHz, 1800MHz and potentially 790-854MHz licences with an indefinite duration; and
 - ii) The 2100MHz licences with a finite duration to 31st December 2021.
36. Furthermore, by 2012/3 – just when 790-854MHz comes on-stream and UMTS900/1800 may be more broadly deployed and supported, the original 2100MHz assets of the five 3G licensees will be at the end of their asset lives. Operators will be presented with a choice, either invest in assets using spectrum with an indefinite life, or invest in assets which have uncertainty over their usage beyond 2021. This is precisely the “*continual investment*” Ofcom refers to above. By 2012/3 there may be operators with 2100MHz and some, all or none of the substitute spectrum. O2 believes that such distorted and asymmetric investment incentives would “*result in detriment to consumers and citizens*”.
37. Ofcom has no choice but to resolve the future life of the 2100MHz licences in its coterminous decisions on this award and mobile liberalisation. We look forward to its proposals in due course.

SPECTRUM PACKAGING

8 MHz and 5 MHz lots

38. O2 agrees that the inclusion of both 8MHz lots for DVB-T and MMS technical licence conditions and 5MHz for mobile licences covers the two main potential types of use.

A mixture of frequency specific and frequency-generic lots

39. We also agree that there are a significant number of frequency specific elements, including those identified by Ofcom in §§7.37-7.38 that would make a wholly generic approach to the award inappropriate. Nevertheless, where efficiency of the spectrum allocation outcome of the auction can be improved by grouping lots generically, Ofcom are correct to preserve those aspects.



The proposed outline definition of lots suitable for MMS, DVB-T, TDD and FDD applications

40. The outline definition of lots suitable for MMS, DVB-T and TDD applications appears to be appropriate.
41. With regard to the lots proposed for FDD applications, and as noted earlier, we are interested and supportive of the inclusion of interleaved channels 61 and 62 in the planned award. However, in practice O2 believes that DTT's heavy use of these channels may significantly affect the potential utility of this spectrum for the provision of mobile broadband services. This would not only affect the amount of spectrum available for such services and imply a requirement for UK specific equipment variants, but it has implications on the definition of lots.
42. Accordingly, O2 believes that Ofcom, in conjunction with the incumbent broadcast licensees and other stakeholders, should investigate the costs and implications of relocating the broadcast transmitters that use these channels into other appropriate frequencies, prior to the finalisation of the award proposals. Similarly, although O2 acknowledges that channel 69 appears to be at present an unrealistic option for inclusion in the award, due to the relatively heavy use of the spectrum by PMSE users, we note again that Ofcom intends to discuss future use of channel 69 with stakeholders (§4.34). O2 therefore believes that Ofcom, in conjunction with the incumbent PMSE licensees and other stakeholders, should investigate the costs and implications of relocating the PMSE users that use channel 69 into other appropriate frequencies, prior to the finalisation of the award proposals.
43. Whilst these investigations remain unaddressed, we remain supportive of the retention of the widest range of lot definitions that would ensure future European standard equipment could be used following the UK award process. This means that we do not agree with the current range of proposed lot definitions for FDD as necessarily being complete. Ofcom appear to accept this potential limitation in §7.101, where the possibility of extending the range of lots to incorporate further outputs from CEPT is envisaged.

The flexibility to bid for lots defined on both fixed and variable frequency rasters

44. Following on from the above, we therefore also support the retention of both fixed and variable frequency rasters for the time being.

The proposed basis for awarding Channel 38 as a distinct lot in the auction

45. We agree that this approach would appear to be appropriate.

The proposed structure of frequency rules for allocating different licence types in the auction

46. As noted above, we do not necessarily consider the range of options for FDD applications in the upper sub-band to be complete. Ofcom should, in our view, wait for the conclusion of the EC study, CEPT work in response to the second Digital Dividend Mandate, and should undertake an investigation into the costs and implications of relocating both the broadcast transmitters that use channels 61 and 62 and the PMSE users that use channel 69 into other appropriate frequencies, prior to the finalisation of the award proposals.



UK-wide lots

47. We agree with Ofcom's proposal to proceed on the basis of UK-wide lots. As confirmed by Ofcom in §7.10, national access to spectrum would be needed by mobile network operators to deploy mobile broadband services.

AUCTION DESIGN

48. We are generally supportive of Ofcom's work to develop the most appropriate auction format for the award – with the aim of establishing an efficient auction outcome whilst at the same time ensuring that the bidding process itself is reasonably simple and that it does not introduce elements/ dynamics which require bidders to make complex strategic judgements when making bids.

COMPETITION AND EFFICIENT USE OF SPECTRUM

Sub-1GHz spectrum for mobile broadband

Uncertainty

49. At §§9.75-9.92 of the Consultation Ofcom discusses issues concerning the provision of mobile broadband services at spectrum below 1GHz; principally the 900MHz spectrum assigned to O2 and Vodafone, plus the band 790-854MHz to be assigned in the proposed award in Summer 2009.
50. Ofcom clearly identifies the spectrum 790-854MHz as a supply side substitute for 900MHz and appears concerned that concentration of ownership of both 790-854MHz and 900MHz may give rise to competition issues.
51. Essentially Ofcom rehearses the arguments put forward in its September 2007 consultation on Mobile Spectrum Liberalisation⁷. That is, in Ofcom's view:
- i) sub 1GHz spectrum has coverage benefits when compared to higher frequency spectrum, in terms of both range and in-building penetration. Cost differences between deployment at sub-1GHz cf. 1800/2100MHz may be significant; and
 - ii) if spectrum holdings are concentrated that such cost benefits may not naturally flow through to consumers; and
 - iii) if coverage is a significant issue cost differences may be large enough to lead to foreclosure within the market.
52. As in the September consultation⁸, at §§9.78-9.80 Ofcom identifies the large degree of uncertainty with regard to the hypothesis it puts forward.

⁷ "Application of spectrum liberalisation and trading in the mobile sector", Ofcom consultation, 20 September 2007.

⁸ Wherein "uncertainty" is expressed in relation to Ofcom proposals on over 70 occasions – see §68 of O2 response to the consultation <http://www.ofcom.org.uk/consult/condocs/liberalisation/responses/o2.pdf>



“9.78 We therefore believe that **there is a plausible, but not certain outcome**, in which any networks which are deployed using the cleared spectrum have a competitive advantage over networks which may be deployed using only other, significantly higher frequencies, and hence as a result the emerging market structure could be less competitive than it would otherwise have been. This is due to the physical properties of spectrum which can mean that high quality coverage for high data rate services is more costly to achieve the higher the frequencies used. **We consider that this could limit the intensity of competition between mobile networks which have access to different frequencies in future.**

1.79 Such an outcome might occur **if**:

- any NGM networks deployed in the cleared spectrum use a large proportion of the available spectrum, and hence the number of networks which **can be** deployed is limited; **and**
- access to low frequency spectrum provides a competitive advantage in the provision of high quality, high data rate services as compared with networks which are deployed using only higher frequencies.

9.80 **If** these two outcomes arise, **and** the provision of high quality, high data rate services matters to consumers, the effect on the resulting market structure and hence on the degree of competition possible in the future mobile sector could be significant.”[Our emphasis]

53. Accordingly, Ofcom attaches a considerable amount of conditionality to its hypothesised position on sub-1GHz spectrum. Lots of possible things have to happen at the same time for competition issues to become a dominant factor in Ofcom’s consideration.

54. The proposal put forward in this consultation, based on identical levels of uncertainty to the September consultation, gives rise to a completely different application of the “precautionary principle” as discussed in the September consultation (for example, §1.42, §8.31 and §14.15). In this case Ofcom does not seek to abuse the principle⁹, rather it seeks to proportionately match the risk of a series of circumstances arising with a remedy that only comes into play should such a set of circumstances arise. O2 finds it very hard to find any consistency in Ofcom’s application of its regulatory principles with regard to:

- i) on the one hand an access condition that would only apply if certain conditions came to pass, and even then subject to robust analysis at the time; and on the other hand
- ii) imposing certain extensive costs on O2 and Vodafone, on the basis of an equally hypothetical outcome – as proposed in September 2007.

Cost differences and competition issues

55. At question 42, Ofcom asks: “Do you agree with our assessment that the limitations on the amount of cleared spectrum available for mobile broadband applications, and the particular advantages of sub 1GHz spectrum, could result in an outcome where there are limits on the level of competition possible in the provision of these services?”

⁹ See Vodafone’s response: <http://www.ofcom.org.uk/consult/condocs/liberalisation/responses/Vodafone.pdf>



56. It is difficult to see how any party could answer question 42 (i.e. how Ofcom can consider that it has adequately consulted on this issue) until the results of its revised analysis following the September consultation are made public. The analysis and any proposed remedy with respect to 2G liberalisation cuts to the heart of the proposals put forward at §§9.75-9.92. In order to have an informed view respondents need to know:
- i) Whether Ofcom does now believe that 900MHz spectrum provides a competitive advantage to O2/Vodafone for mobile broadband services; and as a consequence whether
 - ii) Ofcom intends to redistribute some or all of the 900MHz spectrum holdings of O2 and Vodafone ahead of, or in conjunction with, the award of 790-854MHz.
57. In fact, only five parties could even attempt to answer this question, given that the MNOs have been provided with privileged access to Ofcom's revised analysis.
58. [X]
59. [X]
60. We are left, therefore, to assume that Ofcom will bring forward some compelling analysis regarding cost differences of UMTS900 and UMTS1800/2100 networks in rural areas, such that it can support its continuing assertions regarding large cost differences between networks and competition issues, based on frequency assignment. If Ofcom cannot bring forward such an analysis it should end, forthwith, the regulatory uncertainty its flawed September 2007 consultation engendered.
61. It would be entirely appropriate for O2 to await the results of these analyses before commenting further on any proposed access condition. Ofcom itself accepts that spectrum caps only become relevant if "[we] were concerned about the scale of the potential competition effect" (our emphasis). Without visibility of this analysis it is difficult to comment on its scale and in any event, as we outline above, any such analysis is likely to be highly speculative. Notwithstanding these reservations, O2 feels that it would be timely and expedient for it to comment on Ofcom's initial thoughts on this subject, rather than wait an inevitable re-consultation on the matter.
62. These comments are therefore without prejudice to the position that O2 may adopt in light of Ofcom's analyses and should in no way be construed as an acceptance, implicit or explicit, that such an access condition is required.

Spectrum caps

63. At §9.86 two types of cap are proposed, a non-contingent cap and a contingent cap. However, the use of a non-contingent cap would appear illogical if the primary concern were concentration of holdings across 790-854MHz and 900MHz.



64. Ofcom's more detailed discussion of a spectrum cap points to a proposal which places a "soft" access condition on licensees, one that is contingent on the volume of sub-1GHz spectrum held by a particular party.
65. The consequence of such a proposal would be to tie any Decision to award this spectrum with a Decision with regard to 2G liberalisation. To do otherwise would be to discriminate against O2 and Vodafone, in that O2 / Vodafone would not know at what point any spectrum purchased in the award would mean that any proposed access condition became "active". This is not a common value problem, it is a private value problem. Only O2 and Vodafone would know their demand for the awarded spectrum, it would necessarily influence their valuations if they had to take into account the downside risk of the activation of any access condition.
66. For the avoidance of doubt, O2 considers that the future of its holdings at 900MHz have a significant bearing on its valuation of spectrum at 790-854MHz. The presence of uncertainty over 2G liberalisation would likely induce unnecessary delay in the award process, potentially lasting "several years"¹⁰.

Technology neutrality

67. At §9.87 Ofcom suggests that any contingent cap would be set in relation to the amount of spectrum required to rollout an NGM network efficiently. O2 has three observations:
- i) The award of 790-854MHz is a technology neutral award and it would discriminate against O2 if Ofcom automatically considered any acquisition of spectrum in the award to be for mobile broadband. [X]
 - ii) As Ofcom itself notes at §9.83, there is limited 900MHz spectrum and all of it is "already being used to provide 2G mobile services". The cap would need to take account of the continuing need to service these customers.
 - iii) The amount of spectrum required to operate an NGM network varies depending on technology deployed; UMTS, LTE or WiMAX. Ofcom has to date inconsistently interpreted the amount of spectrum required to deploy a WiMAX network (see 2600MHz Decision, cf. the Consultation), WiMAX either requires 30MHz contiguous or it doesn't, Ofcom cannot have it both ways.
68. In any event, Ofcom's primary concern is one regarding concentration of holdings, not a requirement for the sub-1GHz band to be fragmented to the maximum extent possible. That has not formed the basis of any of Ofcom's purported justifications for intervention, at least to date. At §9.88 Ofcom states that any licence condition attached to the cap should be "aimed at addressing the perceived competition concern." If the concern (we note only a perceived one at this stage) relates to concentration, then the minimum necessary intervention would be to secure access for one further player. That is all that is strictly necessary for Ofcom's assertions regarding the inefficiency of duopoly ownership to fall away. [X]

¹⁰ See Statement <http://www.ofcom.org.uk/consult/condocs/2ghzrules/statementim/statement/statement.pdf> §3.43, §3.108



The setting of a cap

69. The competition concern raised by Ofcom appears to relate to concentration. At §§9.69-9.70 Ofcom makes the following helpful observations:

“Our assessment was forward looking and necessarily to some extent speculative. All three downstream markets are rapidly developing and subject to a considerable degree of uncertainty. Any intervention or remedy posited in order to promote more competitive market structures will carry its own risks and/or costs. This means that we need to be careful when identifying market structures which could in principle be more competitive and, when we do identify such outcomes, in proposing any remedies for them.

For this reason, our analysis has sought to focus on outcomes where the potential market structure could be more competitive, and where, if this were the case, consumer benefits could be significantly higher. For these outcomes we have gone on to consider whether there are available remedies which can promote more competitive market structures without imposing unreasonable costs. However, we note that we might be prepared to accept a higher cost or risk from the remedy if this is likely to promote a significantly more competitive market structure. We have also considered the extent to which competition considerations attached to certain spectrum award outcomes might better be addressed in ways other than intervening in the spectrum award itself.”

70. O2 believes that a cap (if introduced) should be set at a point which is no more than strictly necessary to ensure that concentration of spectrum holdings does not take place. This would be the proportionate response that minimises the risk of regulatory failure.

To which spectrum does the licence condition apply?

71. Throughout this section Ofcom talks about sub-1GHz spectrum, but at §9.88 refer to the licence conditions applying to the 790-854MHz¹¹ spectrum. O2 notes that Ofcom is not proposing to place licence conditions on O2 / Vodafone, notwithstanding that the hypothesised future competition problem, level of speculation and nature of the spectrum are identical to the proposition put forward in the September consultation.

Commercial negotiations

72. Ofcom accepts that functioning markets and appropriate commercial incentives produce more optimal economic outcomes than regulatory intervention. Regulatory failure predominates over market failure, especially where:

- There is an asymmetry of information between the regulator and the market; and
- The market is immature and developing rapidly.

73. Both these attributes apply to mobile broadband. Therefore, in O2’s view, any access condition would need to be one that acted as a back-stop to commercial negotiations and which did not distort the incentives of any party within such commercial negotiations.

¹¹ See: “reserve the right to take back any spectrum in excess of the cap throughout the licence term, even during the initial period...”. As there is no “initial period” within the terms of the 900MHz licences O2 infers that Ofcom does not consider that the licence conditions should pertain to 900MHz spectrum licences.



Dispute resolution

74. Consistent with the use of an access condition as a back-stop, the condition would need to clearly identify the appropriate dispute resolution procedure and what Ofcom would consider as a dispute within this context.

Objective justification

75. In its discussion about whether targeted intervention in the DDR cleared award may be warranted to seek to address the potential issues identified in relation to mobile broadband, Ofcom makes no apparent assessment as to whether the issues identified could be addressed through existing rules on ensuring competition in spectrum markets.

76. This approach contrasts starkly with Ofcom's Statement "*Ensuring effective competition following the introduction of spectrum trading*", Ofcom, September 2004, wherein Ofcom states (§3.49) that, in relation to the issue of excessive concentration in spectrum markets:

"...if Ofcom does have concerns that a particular market is not functioning effectively, for example because it has become excessively concentrated, then we can make a market investigation reference under the Enterprise Act."

77. Furthermore, in relation to spectrum caps, Ofcom explained in the Statement that "*we did not favour the use of spectrum caps as we felt that they could inhibit market growth. There was also concern that they could prove controversial to apply, at least insofar as deciding to which markets the caps should be applied and at what level they should be set, and that they could deter trading.*" (§ 3.46)
78. Accordingly, we believe Ofcom must revisit its proposed approach in relation to spectrum caps. Such significant and intrusive intervention must be objectively justified.

Timeliness

79. O2 recognises that it is important that all players in the market have confidence in the viability of any access condition, i.e. it is not a "nuclear option" that can never in reality be used by the regulator. Accordingly, the condition:
- i) would need to be proportionate as we state above. For example, complete revocation of the licence for the entire holding of an operator might affect tens of millions of existing customers. The lower the volume of spectrum covered by the cap, the less "nuclear" (i.e. more unusable in practice) the remedy, or the threat of remedy, becomes;
 - ii) needs to act sufficiently quickly to spur on commercial negotiations, but not so quickly that it is invoked by parties on a whim in order to game the regulator and cause loss to the capped parties; and
 - iii) should not act so quickly as to be impracticable, (e.g. take account of the lead-times for likely spectrum loss mitigation techniques).

Proportionality

80. At §9.88 Ofcom posits the potential for a condition to "*reserve the right to take back spectrum in excess of the cap throughout the licence term*". This would appear to defeat the point of



having a condition. Ofcom itself accept, when discussing licence duration, that recovery of licences by the regulator is inefficient (see §6.38). A more economically efficient solution would be forced divestiture into the secondary market. O2's understanding is that the current Spectrum Trading Regulations do not allow spectrum trades for spectrum which is subject to a revocation notice from Ofcom. Therefore, the enactment of the condition would need to allow the ability, in law, for Ofcom to force a divestiture. As we state above, any condition should be consistent with Ofcom's previous regulatory policy with regard to competition law in the spectrum market.

81. In any event, O2 believes that divestiture should be a remedy of last resort, and it may be more proportionate for Ofcom to, in responding to a dispute, outline remedies short of divestiture that would be proportionate to *"the scale of the potential competition effect"* (§9.85). In setting the condition, it would be helpful for Ofcom to set expectations (without fettering its discretion) as to the range of possible proportionate commercial arrangements that it might consider in lieu of forcing divestiture.

Sky on DTT

82. We note Ofcom's conclusion in relation to the potential for Sky to acquire DDR cleared spectrum and whether this could potentially foreclose the development of more competitive market structures – be that in relation to terrestrial broadcasting or leverage into retail markets across platforms. O2 believes Ofcom is right to consider the potential for Sky's market position in relation to premium content to limit the ability of new entrants to compete effectively.
83. Ofcom concludes that the issues in the pay TV market are not at this stage primarily an issue for the cleared award (i.e. access to spectrum) but rather the central issue is of access to premium content and Sky's market position – hence competition concerns are more appropriately pursued through Ofcom's existing initiatives and review of the Pay TV market rather than in the DDR. Ofcom nevertheless recognises that it *"may need to keep this under review"*. We believe that this must be more than a "may".
84. In the Pay TV consultation¹², Ofcom states (at §6.57):

"...we are now at a point in time where new market entry is becoming possible, based on new distribution technologies (IPTV, DTT, Internet, mobile TV). We therefore need to be particularly alert to the risks associated with dynamic foreclosure, i.e. the risk that firms already present in the market might either exploit or benefit from certain dynamic characteristics of the market to foreclose entry by new providers (or – analogously – to drive out firms that have recently entered)."
[our emphasis]

85. Accordingly, it is essential that the outcome of the Pay TV investigation is clear in good time before the final design of the auction is settled to ensure that Ofcom can review the outcome and establish whether its conclusion – that it remains inappropriate to deal with any issues via the award – remains valid.

¹²"Pay TV market investigation", Ofcom, December 2007
http://www.ofcom.org.uk/consult/condocs/market_invest_paytv/pay_tv.pdf



CONCLUDING COMMENTS

86. We welcome the opportunity to respond to the Consultation and we generally share Ofcom's views as to the most likely use for the clear spectrum.
87. Nevertheless, there remain a number of key aspects which we believe Ofcom must address:
- i) Ofcom must align its approach with European developments - but we don't see that this harmonised approach will introduce significant delay, and as we explain above, in our view, it is likely to lead to a more efficient and productive assignment of spectrum;
 - ii) Ofcom must undertake further analysis in respect of the approach to channels 61, 62 and 69;
 - iii) Ofcom must undertake further assessment of its "protection clause" approach and the practical implementation issues arising there from;
 - iv) Ofcom must recognise that it has no choice but to resolve the future life of the 2100MHz licences in its coterminous decisions on this award and mobile liberalisation and we look forward to Ofcom's proposals in due course; and
 - v) The consequence of Ofcom's proposals in relation to spectrum caps on sub 1GHz holdings is to tie any Decision to award this spectrum with a Decision with regard to 2G liberalisation. To do otherwise would be to discriminate against O2 and Vodafone, in that O2 / Vodafone would not know at what point any spectrum purchased in the award would mean that any proposed access condition became "active".

Telefónica O2 UK Limited
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