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Geographic numbers – safeguarding the future of geographic numbers

We would welcome any comments on the contents of this document which is also available electronically at <http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Consultativeresponses/>

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EXECUTIVE SUMMARY

Synopsis

- **Administrative measures** – we support Ofcom pursuing further the measures it proposes, with the proviso that there will be particular areas where we would be unable technically to support blocks of 100 numbers;
- **Supply measures** – we think Ofcom has identified the two most promising supply measures for most areas (closing local dialling and overlay codes), though we think Ofcom needs more information urgently from range-holders and other stakeholders to be able to choose between them. We urge Ofcom to audit all geographic number range-holders straightaway to find out the extent to which blocks are being used and use the results of this to inform its decision;
- **Demand measures** – we think that the administrative measures proposed will make a lot of difference. Given this and the mild reaction customers seem to have to the proposed supply measures, we feel that Ofcom can meet its objectives better without introducing number charges. We note that charging would have no effect if fees were set too low. If they were high enough to have an effect, many of the resulting changes of CPs' behaviour would negatively impact customers in a whole host of ways. We therefore think that the case for the proposed number charging pilot needs revisiting.

Introduction

1. Here at BT, geographic numbers are our history and our lifeblood. We know that they feel local and familiar. People recognise, understand and trust them and find them easy to remember. We want them to be there for whoever wants them and plays by the rules. We agree that in some areas they appear to be running out and that Ofcom needs to plan now how to make the existing supplies last longer and create more of them.

Administrative measures

2. We welcome Ofcom's proposals to improve its own procedures. Introducing a reservation stage to the process sounds sensible as does a more robust application stage. As long as the detailed proposals don't delay Communications Providers' (CPs') ability to get products and services to market, they should be a good thing.
3. Ofcom's audit proposals are particularly important. We believe Ofcom should kick off a thorough audit of all CPs that have been allocated geographic numbering straightaway so it knows which number blocks are in use at a 1k level

and in some places at the 100 number level, with a view to recovering or protecting unused blocks.

4. We're also prepared to do our bit. We have already helped by voluntarily relinquishing over 250,000 numbers in eleven areas where blocks weren't in use. We'd be happy to repeat the exercise in other areas.
5. Ofcom allocating numbering in blocks of 100 numbers would make a lot of sense in a lot of code areas, especially in less densely populated areas. However, telephone exchanges were designed to route numbers in blocks of 10,000. We've already moved considerably towards 1k routing, but we would struggle to route in blocks of 100 numbers on some switches. Even where we can route in 100 number blocks, we don't think 100 numbers would be enough in many of the big cities and towns even for the least ambitious of new entrants. Nonetheless, we'd be prepared to move to 100 number routing where we can if the benefits of doing so justified it.
6. In particular, we think 100 number blocks could make all the difference in five digit code areas.

Supply measures – four digit code areas

7. We think Ofcom's proposals to rely on closing local dialling locally and/or introducing overlay codes are the right ones. We think national measures would be disruptive and unpopular.
8. Closing local dialling in four digit code areas creates up to 200k numbers. Overlay codes provide 790k numbers.
9. We think that closing local dialling is unlikely to be enough on its own and a second change would have to follow in a number of areas. Generally, we think that if customers have to be disrupted at all, they should be disrupted once rather than twice. On that basis, we would suggest moving straight to an overlay code without closing local dialling first.
10. Our current view is that the cost of either closing local dialling or introducing overlay codes would be about the same (but see next paragraph). Ofcom's market research shows customers to have a slight preference for closing local dialling over overlay codes; however customers' responses to either were mild, using Ofcom's own word, and the use of a code similar to the current one would appear to be more palatable than a more random digit string.
11. That said, introducing overlay codes could be very expensive to CPs and potentially disrupt service to customers. Line cards can only support a single dialling code so existing lines would need to be moved within the exchange (known as "grooming") to free up equipment. Furthermore, it would be necessary to disconnect and resupply broadband services using the Shared Metallic Path

Facility (SMPF) on new equipment. This would require cross industry co-ordination, would be very time consuming and expensive, prone to error (accidentally disconnecting customers) and should be avoided. However, where the overlay code has the same first two digits excluding the leading zero (01X) as the existing code, these difficulties would not arise.

12. This restriction therefore reduces considerably the number of overlay codes that could be entertained across the country unless the first two digits of the area codes running out happened to match the first digits of the spare codes available. For this reason, it is imperative that Ofcom conducts the audit we suggest above so that the areas where Ofcom needs to act can be more accurately gauged. If too many overlay codes with the same leading digits are envisaged, we would strongly advise that local dialling be closed in impacted areas to defer or avoid a move to overlay codes.
13. We recognise that new entrants could be at a disadvantage if other CPs could continue to allocate numbers with the current code whilst they had to offer the new code. We would suggest that this could be addressed by requiring all CPs to offer numbering with the new code only whilst it beds down (subject to very strictly enforced limited exceptions). We think that other concerns about overlay codes have either been over-stated or could be addressed whereas some of the concerns about closing local dialling have been under-stated, in particular regarding the likely impact on vulnerable customers.
14. Assuming that supply measures will only be required in relatively few areas, we have a slight preference for overlay codes. If Ofcom concludes that local dialling should be closed in some areas, and sufficient acceptable overlay codes exist, we believe that communities (whole of the code area) should be able to opt out of closing local dialling in their areas and elect to move straight to an overlay code.

Supply measures – five digit code areas

15. We think overlay codes would be far less disruptive to customers and industry in the eleven five digit code areas than merging codes and what this could mean in terms of changing local dialling, eroding local geographic significance and impairing tariff transparency or changing call prices. We believe that allocating numbers in blocks of 100 is likely to be sufficient. However, if it weren't, we would again suggest moving to overlay codes, especially as closing local dialling would only create twenty more 1k blocks.

Demand measures – charging for numbers

16. It would be difficult to argue that introducing a charge for telephone numbers would have no impact on demand and as such we do not oppose a market based approach in principle. CPs might think twice before applying for numbers, depending on the level of the charge and would be incentivised to return unused

numbering. It could also encourage range-holders to sub-allocate their numbers to other CPs. At first sight, this would suggest that such measures should be introduced.

17. However, this is not sufficient to justify introducing a charge and we think that the current problems could be fixed by using the other measures above that Ofcom has proposed which either don't impact customers or only in ways Ofcom describes as mild. Introducing charging now would be a premature and disproportionate response to the problem.
18. The intention behind introducing a charge is to change CPs' behaviour. We think that changes resulting from charging could have an extremely negative impact on customers. They would see location significance degrading more quickly, reduced availability of the right code for their area, fewer companies to whom they might take their number once they had been allocated the "wrong" code and higher charges. Customers might also be forced to change number so CPs could return an underutilised block.
19. It looks to us as if Ofcom's charging proposals could be expensive to administer, and the measures around porting and sub-allocation look complicated, inefficient, open to gaming/arbitrage and likely to lead to disputes between CPs that Ofcom might be required to resolve. We are not convinced that the introduction of number charges at the sort of levels proposed would incentivise sub-allocation such that a secondary market would emerge.
20. In the event that charging for numbers were to be piloted, we would ask Ofcom to re-consider the level of the charge and the case for applying charges to all numbers. We believe is the case in other countries where numbers are charged for. Scarcity is if anything, for example, greater in the 07 range than in 01 and 02 and the proposals do not conform to the principle of a level playing field. Ofcom might also consider more fully the case for any money raised being used to address industry issues, for example to more equitably contribute to Ofcom's costs, the Universal Service Obligation (USO) etc.
21. Our conclusion on charging for numbers is that as yet the case has not been made, and that whilst Ofcom retains the right to charge for numbers, perhaps "hanging over" industry, the tool should remain in the box for the foreseeable future.

DETAILED RESPONSE

Introduction

22. Here at BT, geographic numbers are our history and our lifeblood. We know that they feel local and familiar. People recognise, trust them and find them easy to remember. Most of our customers use them. They are an important national resource that should be managed effectively. In many ways, it was for these reasons that Ofcom decided in the 2000s that these numbers should be available for location independent VoIP services. This decision led to a bow wave of fresh demand from a host of new providers. It is this demand which has led to the shortages being addressed now. We moved from nine conservation areas (where numbers are allocated in blocks of 1k rather than 10k of numbers) at the time of the decision to the situation today where every 01XXX(X) area is a conservation area – 590 areas.
23. We also share Ofcom's view, supported by the market research it commissioned, that customers continue to value a connection between geographic numbers and a location, that this should be maintained as far as possible and that Ofcom should not hasten its dilution.
24. We agree that in relation to some areas Ofcom appears to be running out of geographic numbers and that Ofcom needs to plan now how to make the existing supplies last longer and create more of them. We want numbers to be there for whoever wants them and plays by the rules.

Administrative measures

25. We welcome Ofcom's proposals to improve its own procedures. Both the introduction of a reservation stage and a more robust application stage merit further consideration. We would be concerned if any detailed proposals arising materially delayed any CP's ability to get products and services to market. The devil will be in the detail but we think something workable could be achieved.
26. In principle, we want to support number allocations in blocks of 100 as this measure would not impact customers and in some areas could materially extend the supply of numbers. The limiting factor is that the measure would need to be supported on switches by what is known as decode resource. The resource is finite and is closer to exhaustion on some switches than others. The switches were designed to work with number blocks of 10k rather than 1k which they now do extensively. Furthermore, the data resource supporting the switches has been used to provide functionality that wasn't conceived when the switches were originally commissioned.
27. That said, in practice, we believe that there are many areas in the country where we could accommodate 100 number blocks and where this could materially

extend the availability of the area code. But there are others where we would struggle to do so or it would barely extend the use of the code. Even where we can route in 100 number blocks, is difficult to believe that even the least ambitious new entrants would want fewer than 100 numbers in some of the major towns and cities identified within this consultation.

28. Rather than oppose the introduction of 100 number blocks because **some** switches would not be able to cope with them, we would rather ask Ofcom to work with industry to introduce them where it can. We need Ofcom and other stakeholders to accept that it won't be possible to do so everywhere. Constructive collaboration and engagement between Ofcom and industry would seem to be the key.
29. Our internal review suggests that 100 number blocks could be the solution of choice to obviate other measures in five digit code areas in particular as well as in many other areas where the population is low.
30. We strongly support Ofcom's proposal to audit CPs' use of geographic numbers more frequently and against the information supplied in their original number application. We think these audits could be made more focused and robust. For example, Ofcom could require proof of use from CPs to increase its confidence in the submissions it received, and for them to demonstrate efficient use (for example numbers were being used progressively within a block rather than being cherry-picked in a way that would make it difficult for numbering blocks to be subsequently recovered if shortages arose).
31. Ofcom indicates at paragraph 3.54 that it audited 54 CPs with allocations in 21 code areas and recovered over 1,000 blocks. - We had already voluntarily relinquished over 250,000 numbers in eleven areas where the blocks weren't in use. We'd be happy to repeat the exercise in other areas. We believe incidentally that this helps demonstrate how more effective number management by Ofcom might obviate the need for number charging. We think Ofcom should audit all CPs straightaway concentrating on the most critical areas first, so it knows which number blocks are in use at a 1k level and in some places at the 100 number level, with a view to recovering or protecting unused 1k (and in some cases 100 number) blocks. Ofcom could then finalise with a high degree of confidence the list where supply measures might be needed, as we think regardless of the introduction of charging, many CPs including ourselves have unused capacity that they would be happy to make available to Ofcom and that this would remove possibly dozens of codes from the list. This is a crucial step which would also help determine **which** supply measure or measures should be introduced as the number of areas and the specific codes concerned are critical to making the best decision.
32. To be clear, we fully accept that supplies will need to be increased in some areas.

Supply measures – four digit code areas

33. We share Ofcom's view that both closing local dialling and following that up with the introduction of an overlay code when necessary or introducing an overlay code without closing local dialling first are likely to be the best alternatives to address shortages. On the basis of the information available, we cannot tell which would be preferable – that is why we have strongly recommended that Ofcom audit all of the code areas identified in this consultation and recover or protect unused blocks.
34. Ofcom describes customers' responses to both approaches in the market research as mild. As such, this would militate against other local measures such as lengthening or changing numbers, which experience tells us would be highly unpopular and costly to customers and industry alike.
35. Broadly speaking, if supply measures cannot be avoided, we think that if customers have to be disrupted at all, it should be once rather than twice and to the minimum extent possible. Closing local dialling in four digit code areas appears to create up to 200k numbers. In fact, we think rather fewer than 200k numbers will be available for a couple of reasons. Firstly, as Ofcom states, some of the numbers have already been allocated as national dialling only numbers. Secondly, many of the blocks starting with a 1 should not be allocated as the clashes with access codes would cause problems for customers who forget to include the code when they dial. For example, the block starting 1800 could clash with Text Relay Service numbers. Other examples would include customers inadvertently calling (and in some cases paying for) calls to:-
- directory enquiry "118" numbers;
 - vital services behind the ;
 - 101 single non-emergency number;
 - 111 non-emergency health number;
 - 112 emergency services;
 - "116" numbers;
 - 100 operator;
 - 150 customer services;
 - 151 fault repair services.
36. We would also expect customers to encounter confusing scenarios which might then impact CPs' Customer Services operations arising from the reaching and potentially activating services they hadn't intended, such as indirect access providers' gateways. Furthermore, they could potentially activate the "choose to refuse" service and inadvertently block incoming calls from particular numbers, which could cut off vital lifeline services. We think such problems might suggest ruling out about a third or more of the space behind local numbers starting with a one.

37. Overlay codes on the other hand would provide 790k numbers – over four times as many numbers in practice as would the closure of local dialling. As such, closing local dialling should primarily be considered only if Ofcom has a high degree of confidence that fewer than say 150,000 extra numbers would be sufficient to meet foreseeable demand. We believe it wouldn't and Ofcom seems to accept this (we might also venture to suggest that Ofcom and in the past OfTel have under-estimated likely demand, as indicated by the creeping increase in the number of conservation areas over the past five or six years).
38. At paragraph A3.8, Ofcom notes six areas where an overlay would be needed within 6-10 years of local dialling being closed. However, we would suspect that the first overlay code following the closure of local dialling would be needed sooner. From time to time, we, and we suspect other firms that provide services to major businesses, need thousands and tens of thousands of numbers at a time in an area, for example to support new call centres. There may not be many such orders, but if Ofcom sets its threshold too low, it may struggle to meet such demand. We think the trigger level for a supply change should be set at about 70 spare 1k blocks – Ofcom has proposed 20. We are also opposed for reasons explained later in this response to what Ofcom describes as “critical measures” which Ofcom seems to intend using to eke out supplies – see paragraphs 65-66.
39. We would in principle prefer a single move to an overlay code. We agree with Ofcom that if an overlay code were introduced, symmetric rather than asymmetric local dialling would be more sensible, i.e. less confusing for customers.
40. Whilst advocates of overlay codes, we are concerned that introducing them could be very expensive to CPs and potentially disrupt service to customers in some circumstances. Line cards can only support a single dialling code so existing lines would need to be moved within the exchange (known as “grooming”) to free up equipment. Furthermore, it would be necessary to disconnect and re-supply broadband services using the Shared Metallic Path Facility (SMPF) on new equipment. This would require cross industry co-ordination, be prone to error (accidentally disconnecting customers), very time consuming and expensive. These activities would also divert resource from other priority areas such as broadband provision so should be avoided. [§<].
41. However, where the overlay code has the same first two digits excluding the leading zero (01X) as the existing code, we believe that this difficulty would not arise as the data could be rebuilt so that the number appeared on switches in a 2+8 format rather than as 4+6. NB – this would not change local dialling by customers and would be almost invisible to them. Almost invisible, because there would have to be a brief interruption of service whilst the change was implemented. This interruption would be about ten minutes, but could be scheduled overnight to limit the impact on customers.
42. Only introducing overlay codes that have the same first two digits as the existing codes would limit the number of overlay codes that could be entertained across the country unless the first digits of the area codes running out happened to

match the first digits of the spare codes available. Therefore, it is imperative that Ofcom conducts the audit we mentioned earlier so that the number of areas where Ofcom needs to act can be more accurately gauged. If too many overlay codes are envisaged, we would strongly advise that the local dialling facility be closed in at least some of the areas impacted to defer or avoid a move to overlay codes.

43. We accept that to some extent the above analysis over-simplifies the position and other factors also come into play:

- customers generally appear to value a single local code more than the local dialling facility;
- many customers are used to full number dialling because they already do it from their mobile phones;
- the relative costs of facilitating the closure of local dialling and introducing overlay codes ;
- how **misdialled calls** could be minimised and when they arise, handled professionally and effectively through **network announcements**;
- how **competitive advantage** to existing providers with stocks of numbers with the familiar code could be avoided;
- why business customers might feel that they would be at a disadvantage if they had a number with the new rather than the familiar existing code.

The following paragraphs provide further details on some of the factors listed above.

44. The relative costs to us of facilitating the closure of local dialling including allocating local numbers starting with a zero or a one and introducing overlay codes (leaving aside grooming) – our current view is that there is little to choose between the cost of implementing either. [X].

45. Network announcements for misdials – we believe that if local dialling were closed, it would be relatively straightforward to put a single simple generic announcement on locally dialled numbers starting with digits 2-9.

46. What would not be so easy would follow the introduction of new local numbers starting with a zero or a one. Specifically, it is not clear how best to treat calls when customers leave off the national dialling code when dialling the new numbers. In particular, we would worry about the implications for some vulnerable customers. In order to generate an announcement for numbers starting with a zero, (if we assume that announcements to deal with this situation would be needed), a time delay could be introduced following the dialling of the sixth digit. If there was no seventh digit, after a certain number of seconds, the call could route to an announcement or number unobtainable (NU) tone.

47. In the case of numbers starting with a one, the complexity of the way access codes are built in the network almost precludes the use of announcements based on number lengths. In some cases, the local number would match a valid access

code sequence. Because we have used number length to help distinguish valid 111 and 112 calls from noise on the line, were Ofcom to issue local numbers starting with these digits in particular, it would be difficult to see how the solutions would interact. Whilst for most customers this delay would be a nuisance and a bad experience, for some vulnerable customers, for example with dexterity issues, they may not be able to dial quickly enough to avoid the announcement kicking in.

48. The issues around announcements for misdialled calls following the introduction of overlay codes are slightly different. The problem we would be looking to avoid in the first instance would be someone trying to reach a customer with the new code but locally dialling it from the existing code and vice versa. This could be achieved if local customer numbers from the new code were used in the first instance where the equivalent had not been allocated from the current code whilst customers were getting used to there being two codes. For example, Ofcom hasn't currently allocated local numbers in Bournemouth starting 97 or 98. If Ofcom introduced 01201 to sit alongside 01202 as the second code for Bournemouth, we would suggest that the first local customer numbers Ofcom allocated with the new code started 97 or 98. Calls to misdialled numbers could therefore be differentiated and routed off to an announcement. This relies on Ofcom being able to introduce the new code whilst there is sufficient unused numbering in the current code.
49. Avoiding competitive advantage – we recognise that many customers and therefore CPs are likely to value more highly the existing code over the new code at first. If an overlay code were introduced, we would suggest that Ofcom required all CPs to allocate numbers with the new code only. This would help the new code become better known and therefore accepted more quickly. We recognise that there will be rare occasions where it would be right for a small number of numbers of the existing code to be used so we think the Code of Practice for Closed ranges should be reviewed, revised for the new circumstances as necessary and applied. From a number husbandry point of view, the old code could be re-opened at some point in the future, when the new code was as familiar as the old code and a premium was no longer associated with the old code.
50. Competitive advantage, business customers – we again accept that closing the existing code might lead to a perceived disadvantage more widely to businesses. New entrants may feel at a disadvantage relative to existing competitors if they had a number with a new code and their rival(s) used the familiar code. Unfortunately, we think either supply measure could have this disadvantage. Customers are savvy, and we think insofar as there would be negative connotations (new kid on the block rather than established player) with the new code, the same would apply (possibly to a lesser degree) to new local numbers with the existing code where they could only have new numbers starting with a 0 or a 1. This factor does not seem to have been picked up by the market research. We do not think there would be enough numbers generated by closing

local dialling to suggest all CPs should use the new numbering.

51. In Ofcom's table at Figure 4.1, Ofcom indicates that an overlay "could hasten the erosion of geographic significance". We do not think Ofcom explains why this would be the case and our view is that it would not. It would be a case that two codes had the same geographic significance. We believe that this would be strengthened if the two codes had some similarity (also minimising the impact on the switch if the two codes started with the same 01X) rather than the overlay being random compared with the current code.
52. Summing up, we believe that most of the issues with overlay codes can be addressed. On balance, we believe that the downside of closing local dialling has been under-estimated, in particular those relating to the difficulties that might be faced by some vulnerable customers, for example having to dial more digits more often. We would suggest that Ofcom pro-actively engages with organisations representing these groups if it is not doing so already. Equally, we feel that many of the problems associated with overlay codes can be mitigated, for example by offering a code very similar to the existing code rather than a random digit string, and by requiring only the new code to be used by ALL providers (other than in strictly limited scenarios).
53. If however, Ofcom concludes that local dialling should be closed in some areas, and sufficient acceptable overlay codes exist, we believe it should be possible for communities to opt out locally, and elect to move straight to an overlay code.
54. We believe that an overlay approach would work equally well in five digit code areas where allocating numbers in blocks of 100 failed to address the shortage, although our view is that it will. We think overlay codes would be far less disruptive to customers and industry than merging codes and what this means in terms of changing local dialling, eroding local geographic significance and impairing tariff transparency or changing call prices.
55. Our final view will hinge on the number of overlay codes that may be needed. Whilst we could cope with about 150 without grooming being needed, it would depend precisely where overlay codes were needed. We would be happy to discuss the details with Ofcom and industry, but at the moment we are concerned that the number of 012XX codes on the list exceeds the number of unused 012XX codes available.
56. Following this consultation, Ofcom will have far more information available to it from CPs and other stakeholders setting out their views on the pros and cons for customers of both supply options and of number charging. It may think like us that it may be worthwhile for it to carry out a short follow-up piece of market research. This could cover off issues around acceptability of overlay codes if they were similar to their existing codes, the need for recorded announcements on misdials, attitude to shortened inter-digit dialling delay, post-dialling delay, the acceptability of experiencing both closing local dialling and the introduction of overlay codes etc.

Supply measures – five digit code areas

57. Whilst we think Ofcom is in the right ball park with four digit code areas, we think Ofcom is wide of the mark with its proposals for five digit code areas. We see both options 1 and 2 as being flawed and that there are less disruptive solutions. In particular, we think Ofcom's preferred solution could lead to three changes for customers. It would mean changing from five digit to six digit local dialling. This could be followed by local dialling being removed, a move from six to eleven digit local dialling. Customers may then see overlay codes being introduced – a third change. The solution would also degrade local geographic significance and it would be difficult if not impossible to limit calls in error by managing misdialled calls by routing them through to network announcements.
58. Whilst we don't think any supply solution is perfect, we think Ofcom's ends could be better met in the eleven five digit code areas by using 100 number allocation followed, if necessary, by moving to a five digit overlay code where the overlay code starts with the same 01X as the existing code (NB The overlay code could not share precisely the same 01XXX sequence as the existing code, as it would lead to number clashes between numbers in nearby areas). The up and downsides of overlays would be much the same as for four digit code areas. We have also considered the merits of four digit overlay codes whilst leaving the five digit code as it is, but think this would make things more confusing for customers and could lead to operational difficulties in some scenarios where business customers with certain products needed more numbers.
59. We largely agree with Ofcom's assessment of its Option 1, treating 5 digit code areas in the same way as 4 digit code areas.
60. In terms of Ofcom's preferred Option 2, customers could experience their number being restructured twice and an overlay code then being introduced as outlined above. We think this would be unnecessarily disruptive and entirely avoidable.
61. The merger would also lead to number clashes. For example, a customer in the five digit code area might have the local number 23456, and a customer in the four digit code area might have the local number 234567. It would be very difficult to manage misdials in this kind of situation as the network would not know how to differentiate or route such calls. Trapping over-dialled (e.g. six digits being dialled when only five were expected) calls or implementing a post-dial delay after the fifth digit would be horribly complicated and lead to a poor customer experience. This could be particularly disruptive to those with limited dexterity who dial more slowly, as we mentioned with some aspects of the solutions discussed for four digit code areas.
62. An impact of merging areas that Ofcom does not appear to have factored in relates to local charging areas – that is, what customers pay for their calls. Each of the five digit code areas has a distinct local call area. Merging them in the way

Ofcom describes would suggest a number of possible outcomes, which have not been discussed. We are assuming that Ofcom did not intend CPs either increasing or decreasing the number of call areas designated as local, customers thereby either gaining or losing from what should simply be a number husbandry change. The alternatives appear to be:-

- The numbering is merged, but charging remains based on the same area. This would mean a customer having to look further into the number to determine whether or not the number they wanted to call was local or not. This would also mean Ofcom continuing to allocate more than one block per merged area, to CPs wanting full geographical coverage. We, and we think Ofcom, want to maintain tariff transparency, so this looks unattractive;
- CPs would have to review the local call area for the merged code area. Assuming that CPs neither benefited nor disbenefited from the changes, a decision would have to be taken which of the areas currently in the local call area of one of the merged codes would remain local and which would become national. There would be winners and losers from such an approach, in terms of customers, based on the numbers they happened to call. We think this too would be unsatisfactory.

63. This charging issue is not straightforward. In two cases, the areas that Ofcom would merge in numbering terms are not next to each other, so wouldn't simply form a single larger area. Lockerbie (01576) and Annan (01461) lie between Dumfries (01387) and Langholm (013873), whilst Carlisle (01228) separates Brampton (01697X) from Wigton (016973) and Raughton Head (016974).

64. In summary, we believe that allocating numbers in blocks of 100 is likely to be sufficient. However, if it weren't, we think moving straight to overlay codes would be far less disruptive to customers and industry in five digit code areas than merging codes, especially as closing local dialling would only create twenty more 1k blocks. We are uncomfortable with merging code areas and what this means in terms of changing local dialling, eroding local geographic significance and impairing tariff transparency or changing call charging rates.

Critical measures

65. Until now, we have not come across Ofcom's concept of what it calls "critical measures" described at A2.46-48. We do not believe that there is any provision for Ofcom to apply this sort of approach, for example in the National Telephone Numbering Plan, and in doing so Ofcom appears to be failing in its duty to ensure a sufficient supply of numbering. There has been no consultation with stakeholders about critical measures, and we believe they run counter to Ofcom's policy of not hastening the erosion of geographic significance. It will also lead to customers being disadvantaged by not being able to have the full range of porting options should they want to switch providers as many providers will not support out of area use, a consequence of "critical measures". It also disadvantages the CP needing numbers as they could find it difficult to compete with existing players

able to offer the “right” code.

66. We would ask Ofcom to stop using “critical measures” immediately and certainly not to view them as a legitimate conservation measure. The only critical measure that we think should be considered is the allocation of numbers in blocks of 100, subject to all CPs’ capabilities in any given area.

Demand measures – charging for numbers

67. The intention behind introducing a charge for number blocks is to change CPs’ behaviour. It would be difficult to argue that introducing a charge for telephone numbers would have no impact on demand – the higher the charge, the greater the effect - and as such we do not oppose charging in principle. CPs might think twice before applying to Ofcom for numbers, depending on the level of the charge and would be incentivised to return unused numbering. Existing range-holders might also be incentivised to make their numbers available to other CPs to help defray the cost of the unused numbers in their blocks. At first sight, this would suggest that such measures should be introduced. But this is little more than to say that the demand curve of CPs for numbers is likely to slope downwards. This fact alone does not make the case for charging, certainly not for a regulator operating with a bias against intervention. We consider that, in the case of numbers, it would be premature and disproportionate to bring in a market based approach because the supply of numbers can be increased at relatively low cost and with relatively little disruption for customers using the supply measures Ofcom prefers. All legitimate demand is capable of being met without charging which would not only add to suppliers’ costs in terms of the payments themselves but also require expenditure on administrative activities and systems.

68. Our view is that the administrative and supply measures that Ofcom could take would alleviate any shortages for the foreseeable future.

69. Ofcom states:-

- *‘Our estimations suggest that overlay codes would create enough numbers for at least 30 years in areas with high demand. On average we expect an overlay code to extend number availability by more than 70 years.’¹*
- *‘[By] Combining overlay codes with closed dialling plan .[w]e estimate that four-digit areas would have enough numbers for more than 100 years, on average, while the areas that currently face the larger demand would have numbers for at least another 40 years.’²*

70. Most importantly, Ofcom notes the following conclusion from its market research:

¹ A2.70

² A2.71

*'...as noted in the research, overall attitudes to change would appear to be more accepting than in 2005 and this, combined with relatively mild reactions to all the options, suggests that either of the two options [local dialling and overlay codes] could be supported. Many of the consumers taking part in the research also seemed to recognise the changes in technology over the past few years and accepted that things could look very different in ten years' time anyway.'*³

71. We are concerned that charges should they be introduced at a level that changed CPs' behaviour could have an extremely negative impact on customers:-

- location integrity for all would be diluted as suppliers sought to avoid chargeable number blocks and selected them from areas where they were free;
- there would be less opportunity to get the right code for their area;
- there would be fewer companies to whom they might take their number once they had been allocated the "wrong" code;
- customers might be forced to change number so CPs could return under-utilised blocks;
- CPs may re-circulate previously used numbers after a shorter sterilisation period, leading to increased calls in error, in order to avoid applying for new blocks;
- there would be higher bills to off-set the number charges.

72. We think Ofcom's charging proposals could be expensive to administer, and the measures around porting and sub-allocation look complicated, open to gaming/arbitrage, appear likely to lead to inefficient routing and disputes between CPs that Ofcom would find itself having to resolve.

73. We are also not convinced that the introduction of number charges at the sort of levels proposed would incentivise sub-allocation such that a secondary market would emerge. However, if we assume for a moment that new CPs decided to approach existing range-holders for numbers rather than Ofcom, it is difficult to see how all 300 or so range-holders would have an equal opportunity to partially off-set their number charges through sub-allocation. This is because calls to the numbers concerned would be routed to the new CP via the range-holder. CPs are likely to prefer sub-allocations from providers they perceive to be more established in the market and stable because they would be concerned about what would happen to their customers' incoming calls if the range-holder were to go out of business and its switch(es) had to be turned off. We think larger more established CPs would be better placed to benefit than newer entrants, whose utilisation was probably at the lower end of industry norms, meaning their average cost per number would be higher.

74. In the event that charging for numbers were nevertheless to be introduced, we question the 10p per number proposed. We think that as a pilot, the charge

³ A3.35

should be that which Ofcom would introduce after a pilot were it to be extended and broadened. A price at or below the European average would appear to be a better starting point.

75. We would also ask Ofcom to consider the case for applying charges to all or most number types as we understand is the case in most other countries where charges are applied (though in truth we have found it very difficult getting hold of this information). This would ensure that there is no discrimination between the regulation of fixed suppliers and providers of mobile services. Such differential treatment of platforms is not justified, especially when there are eight 07X levels available for mobile services but there are 19 levels of 01X and 02X for geographic numbers. We note that almost exactly the same number of mobile and geographic numbers have been allocated by Ofcom. This would suggest that mobile numbers are at least twice as scarce as geographic numbers.
76. The income raised from number charging could be used to address industry issues, for example to contribute to Ofcom's own costs and for social interventions like the Universal Service Obligation.
77. Our conclusion on charging for numbers is that as yet the case has not been made, and that whilst Ofcom retains the right to charge for numbers, the tool should remain in the box for the foreseeable future.

ANNEX A – THE ANSWERS TO OFCOM’S SPECIFIC QUESTIONS

We are answering Ofcom’s questions in a different sequence to the order Ofcom listed them as doing so assists the flow.

Section 2: Introduction

Question 1 Do you have any comments on the objectives and approach to this review of geographic number management? Do you agree with the policy principles that we consider should inform the review?

We agree that geographic numbers need to be available to all CPs for eligible services and that location significance continues to be of significant importance to consumers (paragraph 2.20). We also feel that eligibility criteria for geographic numbers should remain broadly as they are today.

With a standard telephone number length of 11 digits, by definition the number of numbers available is finite. However, this does not mean that there is a shortage of geographic numbers. There are 19 levels of 01X and 02X geographic numbers (0110 etc – 0299 etc) – nearly 2 billion numbers, much of which is lightly used or yet to be used. This compares for example with the 8 levels 07X mobile numbers available (about 800 million numbers – less than half the quantity of geographic numbers). And of course neither 04 nor 06 have been opened and either or both in theory could be designated to augment the supply of geographic (or mobile for that matter) numbers if needed – a further 2 billion numbers.

We share Ofcom’s policy principles, including that Ofcom’s approach should not hasten the erosion of location significance (paragraph 2.22) and any decision is consistent with Ofcom’s general regulatory principles, including proportionality (paragraph 2.31).

Section 5: Reducing the need for new supplies of geographic numbers

Question 17 What are your views on the concept, practicalities and implications of introducing a reservation system for geographic numbers?

We agree that the concept of a number reservation step in the process that can be invoked in particular circumstances is worth further consideration. For example, if more than one CP was competing for a very large order and each needed numbers to fulfil that order, the numbers could be held pending the outcome of the tender

rather than Ofcom allocating numbers to each of the CPs. We would be concerned if a reservation stage in the process led to delays in getting products to market, and wonder whether the same ends might be more simply met through improved audit practices alone, the subject of the next question.

Question 18 Do you have any comments on our proposed scope of additional audits?

We fully support Ofcom asking CPs the right questions when they apply for numbers, and auditing them subsequently both on whether and how their numbers are being used. We believe that this would help Ofcom identify unused numbering and recover or protect it where there are shortages.

CPs will often have more numbering than they need for legacy reasons. These could be due to service provision practices based on prevailing technology over past decades, or because Ofcom were allocating 10k number blocks to CPs who might only have needed 1k (or smaller) blocks had they been available at the time.

We know that Ofcom and industry working together on numbering matters can be effective. Even without an audit, when Ofcom shared its concerns about some area codes where supply had become critical, we worked with Ofcom and relinquished about 250,000 numbers across eleven area codes. We understand that other providers responded in a similar fashion following an audit by Ofcom. We would be happy to undertake such an exercise progressively across the remainder of the 70 or so areas Ofcom identifies as potentially needing supply or demand measures, regardless of whether Ofcom introduces charges. We are confident that with returns from all CPs, many of the areas concerned would have more than 100 1k blocks available once again and would therefore come off the list of area codes where measures should be considered.

We believe an audit of all CPs' allocations should be Ofcom's next step.

Question 13 Do you think that we should reserve a limited amount of numbers for allocation in blocks of 100 numbers in area codes where it is feasible to do so?

We believe that making some blocks available at the 100 number level would often make sense where it is feasible to do so, but the emphasis has to be on the "*where it is feasible to do so*". There are switches in our estate where it would be nigh on impossible to cater for 100 number blocks whilst maintaining the capability to deliver other supply measures. Allocating numbers at the 100 level would clearly be preferable in principle to other measures as they would not impact customers and are potentially low cost to industry. Therefore, they should be the measure of choice *where feasible*.

Broadly speaking, we would expect Ofcom and industry to work together moving forward to identify where this might work. In our view, positive indicators would be

areas of low population and low utilisation of existing blocks. However, where the range is hosted on switches serving areas of high population or with high utilisation or support multiple codes, the approach may still not be feasible. We believe that up to 50-70% of conservation areas would fit the bill, but with areas like Langholm more suitable than Luton, and Bellingham more probable than Blackpool, Brighton or Bradford.

It would need re-checking, but we think that 100 number blocks should be the solution of choice for all of the five digit code areas.

After identifying areas of shortage following the results of the audit referred to in our answer to question 18, **identifying which of the areas remaining critical after audit would be suitable for some new blocks to be allocated at the 100 number level should be the next step.**

Question 14 What criteria, if any, in addition to a 'first-come first-served' basis should be used for allocating such blocks of 100 numbers to providers?

We have suggested in answer to the question above some criteria that would influence whether a particular code should be available in 100 number blocks. We believe that 100 number blocks should only be issued where a CP would expect a block of that size to last for say over three years on a first come first served basis. Otherwise, 1k blocks should be provided and need to remain available. Only one 1k block at a time should be opened to 100 number allocations.

Question 15 Should the geographic extent of such allocations be limited to the seven areas likely to run out of numbers for allocation before 2015? (i.e. Blackpool (01253); Bournemouth (01202); Bradford (01274); Brighton (01273); Derby (01332); Langholm (013873) and Middlesbrough (01642))

See the answer to Q13 above. Areas of low population are likely to be most suitable for allocating numbers in blocks of 100; however all should be assessed for suitability. We know that some of the areas listed here would be unsuitable for technical reasons for allocation at the 100 number level and 100 numbers should generally only be used in areas of low population where 100 numbers may be enough to meet the needs of the range-holder concerned for over three years.

Question 16 Do you consider that there are any technical obstacles currently to the effective sharing of number blocks by CPs and to sub-allocation? How could we usefully address those obstacles?

We believe that sub-allocation of number blocks by CPs may have some merit and to some extent this already happens today. By sub-allocation, we mean making numbers available to third parties without any other service being taken. However, there are limitations to the extent to which this is do-able or desirable with

existing/legacy technology. The main factor is that the telephone number is not simply a string of digits, like an account number, for example. It contains specific digits that determine the routing of a call to it. In terms of sub-allocations, this would mean every call being interrogated by, for example, an industry wide central database. A robust case for a central database has not been made (the closest examination by Ofcom recently was in the context of a database of ported numbers to achieve direct routing) so calls to all numbers in the block sub-allocated would in most cases have to be routed to the range-holder who would then have to onward route the call to the sub-allocatee. This would be more inefficient, as additional transit costs would be incurred (and need to be recovered by the range-holder from the customer's CP) and can be avoided by direct allocations to a range-holder.

We accept that the availability of sub-allocations could be broadened, for example by what is known (though not available) today as pre-allocation portability, but the internal and industry-wide processes needed to achieve it do not currently exist and have not been considered within this response. We think sub-allocation would have limited appeal, whether or not number charges were introduced.

Section 4: Providing new supplies of geographic numbers

Question 2 Do you agree that we should not consider further at this stage options that would change existing numbers?

Ofcom concluded in 2006 that it should not pursue lengthening or changing customers' numbers and we believe that this remains correct. History tells us that these are difficult and costly to implement and customers react badly to them. Ofcom's market research shows "relatively mild reactions to all the [closing local dialling and overlay] options" (paragraph A3.35). We think these would also be less costly to implement (except were grooming to be required – see paragraph 40 of this response). As such, we believe other measures should be pursued in areas where recovery of numbers and allocating numbers in blocks of 100 in areas where appropriate to do so prove insufficient.

Because Ofcom is not recommending these solutions, we have not reviewed them in any depth. If Ofcom changes its mind, we would like to look at them fully, and ask Ofcom to take on board such input after this consultation closes.

Question 3 Do you agree that local solutions are appropriate based on our current forecasts of anticipated requirement of more numbers?

Yes, we think local solutions would be the most appropriate.

Question 4 Do you agree with our assessment of the options for providing new supplies of numbers in four-digit code areas, as presented in Section 4 and in Annex 3?

We share Ofcom's conclusion that the two most attractive supply options are

- closing local dialling and introducing an overlay code where necessary;
- introducing an overlay code without closing local dialling.

We think the two approaches have different advantages and disadvantages. However, since we think and Ofcom seems to agree that closing local dialling will prove insufficient in all areas, there is a strong argument that local dialling should remain open and overlays should be the measure of choice, depending on the number of overlay codes likely to be needed and where they would be needed. This approach would avoid disrupting customers more than once.

Question 5 Do you agree that closing local dialling followed, if necessary, by the introduction of an overlay code should be the preferred option for providing new supplies of numbers in four-digit areas that may need them? Please give reasons for your answers, and provide evidence where possible.

We would worry about closing local dialling because the measure would be unlikely to avoid overlay codes being required. Our current view is that Ofcom's analysis currently overstates the benefits of closing local dialling and understates the benefits of overlay codes. It also appears to over-estimate the number of useable numbers that closing local dialling would create.

We would ask Ofcom to pro-actively engage with organisations representing vulnerable customers to ensure it understands the challenges that such customers might experience with each measure.

It is worth noting that Ofcom's market research suggests that an overlay code similar to the existing code might be attractive whereas a random code might not be. Equally, the research shows businesses as being wary about a number with a new code versus the old code. We would suggest that perceptive customers would be likely to draw similar conclusions, whatever they are (albeit probably to a lesser extent), when they see local numbers starting with 1s or 0s following any closure of local dialling.

Question 6 Are there any other number supply measures that we should consider for four-digit areas?

No.

Question 7 Do you agree that we should merge five-digit codes with four-digit codes to create new supplies in five-digit code areas that need them? Do you have any comment on our assessment of the impacts of the options we have considered? If so, please provide relevant evidence where possible.

We would worry that this solution creates the possibility of customers in these areas having up to **three** changes to repeatedly increase supply under Ofcom's proposals;

- five to six digit local dialling, together with the removal of their own distinctive code area;
- six digit local dialling to eleven digit dialling;
- introduction of an overlay code.

In general, we do not think that merging five digit code areas to create four digit code areas would be the best way of dealing with shortages in these areas. In particular, we think they would be unnecessarily disruptive to customers because:-

- they would reduce the level of geographic significance of the numbers – customers would be less able to differentiate between the locations covered by the four digit code;
- local call charging areas would have to be reconsidered. Some adjacent areas would be in the local call area of one of the merged code areas but not another. This would need to be revisited by CPs. A probable unintended consequence of Ofcom's proposals would be call price changes (alternatively, if the charge groups were retained, but blocks proper to one area were used in another, there would be a decrease in call price transparency – equally a disbenefit to customers – and there would be less to be gained in terms of number husbandry);
- a change to local dialling practice would be required, customers having to get used to dialling six rather than five digits, unless local dialling were to be closed at the same time, in which case they would have to get used to dialling all eleven digits;
- a change to six digit local dialling may itself be short lived, if it were to be followed relatively quickly by closure of local dialling.

Question 8 Are there any other numbers supply measures that we should consider for five-digit areas?

We believe that a numbering audit of these areas should be carried out with Ofcom recovering or protecting unused 1k blocks where appropriate. Numbering should then generally be allocated and protected at the 100 number block level.

Where these measures prove insufficient, we believe Ofcom should introduce an overlay code at the 5+5 digit level. In other words, the solution would be as we propose for four digit code areas (unless grooming would be required).

Question 9 Do you agree with our considerations and preliminary conclusions on how new supplies of numbers should be provided where they are required?

We would suggest that the sequence of actions by Ofcom should be as follows: -

- conduct an audit of numbering in conservation areas in phases, the most depleted ranges and five digit code areas first;
- review the other administrative changes proposed here and implement them as appropriate;
- recover and/or protect unused 1k/100 number blocks unless sound reasons for retention by the CPs are provided;
- in geographic locations where ALL networks can handle them and supplies could be significantly and usefully extended, some numbering should be set aside for allocation in blocks of 100 once the number of 1k blocks available falls below a trigger point – we would suggest 100k;
- a view should then be taken on the number of overlay codes likely to be needed in the UK and where. If the number is relatively low, and there are sufficient new overlay codes starting with the same 01X as the code in question, we would prefer a move straight to overlay codes. If this were not the case, we think local dialling should generally be closed first;
- consultation should then take place for local supply measures to be introduced, **noting a need to give at least two years notice to customers and industry.**

Given the increasing prevalence of VoIP services which do not always facilitate local dialling, Ofcom's market research findings and the proposed measures here, whilst we believe that the provision of local dialling should be encouraged, we would question whether the requirement to provide it should be retained in the National Telephone Numbering Plan.

NB – we think Ofcom's proposed trigger point for introducing supply measures is too low. From time to time, we receive orders from major businesses for thousands or tens of thousands of geographic numbers at a time, for example to establish new call centres. As such, we would suggest a trigger level for supply measures closer to 70 spare 1ks rather than 20 spare 1ks [X].

Question 10 Do you have any comments on how the implementation of number supply measures should be planned?

See answer to question 9.

Question 11 How long do you consider that CPs would need to plan the implementation of the preferred options for four- and five-digit areas?

See answer to question 9.

Question 12 If you are a CP, what costs do you consider that your company would incur if the preferred options for four- and five-digit areas were implemented?

[X].

Section 6: Charging for geographic numbers

Question 19 Do you agree with the high level objectives proposed for the charging regime?

We agree with the objectives that Ofcom sets out in paragraph 6.29, but we consider that these can all be met without introducing charges for numbers.

Question 20 Do you envisage that sub-allocation would increase if number charging is introduced? Do you have any comments on our analysis of barriers to successful use of sub-allocation?

It is very difficult to know whether sub-allocation would increase and whether a fertile “secondary market” in numbers would emerge. Indeed, Ofcom has listed potential barriers to sub-allocation at paragraph 6.46 and in many cases it is not clear whether Ofcom considers these to be serious obstacles or not – for example, over concerns about accountability, number portability and control of end-user information (second, fourth and fifth bullets in paragraph 6.46). A further obstacle that might discourage number sub-allocation as a stand-alone activity might for example be the cost of managing a sub-allocation regime to administer individual accounts generating a number charge of say 30-50p per year.

As a potential sub-allocatee, a company might prefer the certainty of a direct allocation from Ofcom than a sub-allocation, as it may be uncertain about how its service could be guaranteed if the range-holder went out of business (in the event that a secondary market evolved, this would seem to favour larger CPs such as ourselves over less established CPs even though they may well have lower levels of utilisation, as the perceived risk of taking a sub-allocation from us might be seen to be lower). Additionally, were number blocks to be charged for, there is little certainty that another CP would want to take on what may be relatively lightly used geographic blocks to provide service continuity.

Question 21 Do you agree with our view on how charges could be set? If not, please propose an alternative approach with supporting evidence.

Ofcom’s rationale for introducing charges is to avoid supply measures to the greatest extent possible. The premise must therefore be that significant costs arise for customers and CPs, or their interests are significantly damaged, as a result of supply measures. Whilst clearly costs would arise, Ofcom does not appear to have sought

to quantify them. Given that customers do not seem to respond strongly against the two preferred supply measures, Ofcom's premise for charging does not appear to be sound. Also, from a CP point of view, the bulk of the cost is associated with preparation for the first instance of a supply measure, so charging might be more justifiable perhaps if it avoided supply measures entirely. Ofcom does not suggest that this is a likely consequence of introducing charges.

Charges would be justified (i) were there to be a genuine shortage that could not readily be addressed by other measures which could be introduced at relatively low "social cost" and (ii) if it was clear that CPs would be able to react to charges without incurring high systems development costs or in a manner that would not be detrimental to customers. However, other measures do exist and the extent to which CPs could respond to what Ofcom describes in paragraph 6.37 as relatively low initial prices is not clear (a new CP could still get complete national coverage for c£5k per annum under Ofcom's proposals (less still if 100 number blocks are introduced), whereas existing range-holders could do little to reduce their use of numbers without forcing customers to change numbers to allow the release of lightly utilised blocks.

Question 22 Do you agree with our preferred option for charging for geographic numbers? (i.e. Option 2 Pilot scheme: Charge a flat rate of 10p per number per annum in area codes with 100 or fewer blocks of 1,000 numbers (no charge for other areas). If not, please state your reasoned preference.

We do not believe that the pilot for charging for some geographic numbers stacks up, though of the three Options suggested by Ofcom we, like Ofcom, prefer Option 2. We think that mobile numbers in many ways are scarcer than geographic numbers, and whilst we have found it difficult to get international comparison information, we are unaware of any country that charges either for some or all geographic numbers and no other type of number. We also think that many of the behaviours it would drive would be bad for customers. We are additionally uncomfortable with the prospect of fixed numbers being liable to a charge when mobile services could continue to be provided without a similar charge for 07X numbers. We think there should be a level playing field. If there is to be charging, we think Ofcom might consider whether all numbers should be subject to a charge.

Question 23 Do you agree that the threshold for including an area code within the pilot scheme should be 100 or fewer 1,000-number blocks remaining to allocate? If not, please state your preferred threshold and reasons.

Setting aside for a moment our overall view of the need for number charging at this time, we would suggest that if the fundamental purpose of charging is to save on the social costs of supply measures, as it must be, then Ofcom should look to apply charging where it has reason to believe that such supply measures may be saved as a result. Such a principle ought to inform the threshold for including an area code in the scheme. Our view is that the threshold for charging ought to be greater than for

implementation measures, and as we consider that the trigger point for supply measures should be about seventy 1,000 number blocks, we suggest any charging scheme ought to be applied materially above this level. We are not in a position to suggest any specific number, though 100k sounds about right.

Question 24 Do you agree with the proposed level of the charge (i.e. 10p per number per annum)?

Clearly, if the charge is set too low, it would not change CPs' behaviour. The higher the charge, the more powerful the incentive would be for CPs to conserve numbers by not applying for them. However, short of CPs forcing customers to change numbers in a manner that would inevitably be unpopular, CPs with blocks in use would be largely unable to react to the charge no matter whether it was 10p, 20p or 30p per number. And if the blocks aren't in use, they could be recovered by Ofcom without a charging regime, through administrative measures.

Ofcom presents the number charging proposals as an 18 month pilot and looks to justify the 10p per number charge, 3p above the European average of 7p per number, because it proposes only charging for some geographic numbers (paragraph 6.65). If the pilot is to be of value to Ofcom, we would have expected it to trial the charge it wanted to use if the pilot were to be extended, perhaps to all numbers. The fact that only some numbers would be charged for of itself does not support a deviation from say the European average as one of the things that Ofcom might be looking to understand from a pilot is how CPs respond to price.

Higher charges would also increase bills for end-users as the extra costs would inevitably be passed on to consumers. We do not consider there is sufficient evidence at this stage to know what charge is likely to strike the right balance in terms of encouraging efficiency in use, limiting the impact on consumers and unduly penalising CPs with significant legacy supplies of numbers that are in use. Indeed, the very uncertainty about what the level of the charge should be serves to illustrate the speculative nature of the intervention proposed (it may or may not make much difference to number conservation). The European average price per number would appear to be a sensible starting point, though there is an argument that Ofcom should start lower and raise the charge if it were ineffective. The proposed charge of 10p is over 40% higher than the European average and we would say rather more than "slightly higher", as Ofcom describes the 10p (paragraph 6.65).

As will be clear from the above, we believe that other measures should be introduced to alleviate the shortages in various areas before charging is considered.

Question 25 Are there any other incremental administrative costs likely to be incurred by CPs in relation to number charging? Can you estimate the magnitude of any such costs?

We currently have no central repository of telephone number usage data, nor a function to bill for number use. In order to be able to bill for numbers, we would need

to amalgamate data from various systems to understand the level of utilisation achieved in order reconcile number block charges for ourselves and our CP and SP customers. Each CP and SP would need to do something like this to pay other CPs' bills and to be able to substantiate and bill for their own. We don't currently have such an internal accounting function within BT.

At the moment Ofcom is considering an 18 month pilot. There would need to be a feasibility study to consider how to implement the charging processes, but given the uncertainty and narrow scope of the pilot, whatever would be put in place for a narrow pilot may not be suitable for a wider ranging regime, which makes it difficult to gauge the costs. [3<].

Ofcom's proposals understandably lack detail. However, for example, it should note that industry would need to agree how frequently utilisation levels should be reviewed, and how frequently billing should be expected.

Whilst Ofcom recognises the right for range-holders to pass on charges where numbers are sub-allocated or ported, the situation is less straightforward where the range-holder or importing CP only bills for the line but calls or broadband are supplied by other CPs over the line. There would appear to be a potential "free-loader" issue here, for example where CPS providers would not appear to be liable for a proportion of the number charge.

Another area where agreement would have to be reached is how additional conveyance of sub-allocated numbers would be recovered – that is, additional cost of onward routing of inbound calls from the range-holder to the customer's CP, and how this would work in interconnect payment terms.

Ofcom would also need to consider the impact of an introduction of charges on the data management activity of all CPs. This activity is not directly charged for at the moment. We would expect there to be an increase in blocks being built and unbuilt as a result of charges being introduced so the approach of not charging directly may not be sustainable. There would also be implications for the overall resourcing of this activity separate from the cost.

In short, we think that charging for numbers would be far more complex to put into practice than it appears.

Question 26 Do you agree that we should not pursue a policy of charging for golden geographic numbers? If you do not agree, please provide your reasoning.

In order to pursue a policy of charging for golden (geographic) numbers, Ofcom should satisfy itself that there is a problem that needs addressing, for example behaviour by range-holders that is leading to inefficient demand for numbering such as deliberate number hoarding. Ofcom has not suggested that there is such a problem at this time, or that one is likely to emerge in the foreseeable future.

We therefore agree with Ofcom's analysis in the Consultation⁴ that it is far from clear what would constitute a golden geographic number block, or that blocks are being cherry-picked by range-holders in a way that would suggest that demand has been generated by blocks being "golden".

Annex 4: Cost recovery for number charges when the CP using the number is different from the range holder

Question 27 Do you have any views on the principles for cost recovery? Do you have any views on the cost recovery mechanism? Do you agree with the preferred approach?

We agree with Ofcom that Option 2 strikes the most proportionate balance between the various considerations concerning cost recovery. We do not consider that the complication in charging different prices for different areas is likely to be justified, especially as Ofcom is not proposing there to be different charges for numbers in different regions. Charging based on 100% utilisation would not be fair on those CPs which are net exporters/sub-allocators of numbers who would then be providing a subsidy on each number.

We would suggest further that Ofcom considers the case for reciprocity so that CPs would pay and are recompensed at the same level of charge when transferring numbers between each other (this could be based on the average utilisation of the CPs, or based on our utilisation). Indeed, we see practical benefit in there being a single charge for a number moved between providers, this being based on what is deemed to be an average level of number utilisation achieved by the industry.

The utilisation based approach does not seem to take account of the need to recover the cost of administering sub-allocated numbers. The true cost of a number in a number charging regime would have to allow for the recovery of overheads, which could be considerable.

[X]

⁴ In particular, 6.128 to 6.130