CMA
Competition & Markets Authority

ANTICIPATED ACQUISITION BY BT GROUP PLC OF EE LIMITED

Summary of hearing with Ofcom on 5 August 2015

Overview/preliminary remarks

1. Ofcom highlighted three broad ways in which it regulated fixed, mobile and broadcast networks and the contents delivered over those networks. First, it carried out a regular series of market reviews under a harmonised European framework, which allowed it to assess markets such as the market for mobile backhaul and consider whether particular remedies might be needed to address any concerns. Second, it had concurrent powers with the Competition and Markets Authority (CMA) in relation to ex-post Competition Act 1998 investigations. Third, it had concurrent powers to carry out market investigations under the Enterprise Act 2002.

2. Ofcom said that in early 2015 it had begun a strategic review of digital communications. It said that this was the second such review in its history. The first review had resulted in the creation of BT Openreach, the functionally separate entity from the rest of BT.

3. Ofcom said that the current review was slightly broader in scope and that it expected to reach initial conclusions around the end of 2015.

4. Ofcom made two points on the interaction between the strategic review and the merger review process: first, any submissions it made to the CMA would be informed by its analysis for the strategic review; and, second, the extent that the BT/EE and H3G/O2 mergers resulted in changes in the market structure, would have to be taken into account by Ofcom in reaching its final conclusions.

5. Ofcom said that the merger brought together the largest fixed operator and the largest mobile operator in the UK. As well as having to look at each of the issues individually, Ofcom said that, given the scale of it, it was important to step back and look at the effects cumulatively on the sector.

6. Ofcom said that the effects of the BT/EE merger could be compounded if the H3G/O2 merger went ahead with certain remedies, given that the two processes were linked in some way.

Strategic review of digital communications

7. Ofcom told us that the deadline for responses was 8 October 2015.

8. Ofcom considered that its analysis was not necessarily bound by the current statutory framework. Therefore, it was possible that recommendations Ofcom arrived at might require changes at European level or in the UK to the statutory framework. In conjunction, a review of the European framework had started. The European Commission had identified the digital single market as its number one priority.

9. By October matters regarding the BT/EE merger and the H3G/O2 merger would have advanced to a limited extent. Ofcom said that should the merger process complete before it had reached its conclusions, that outcome would then form part of its factual matrix.

10. Ofcom said that the key decisions that it would take in response to its consultation centred on four groups of issues. First, issues around investment in infrastructure: delivering the availability of infrastructure, fixed and mobile, and the quality of service. Second, issues around competition. In respect of fixed, it had put out questions for comment around the evolution of its model for regulating BT: keeping the status quo, enhanced functional separation, structural separation or a high degree of deregulation. In respect of mobile, it told us that the mergers, in particular H3G/O2, were key. It believed competition had delivered benefits to the UK. In content, given the importance of retail bundling, bundles should be treated in a way that did not distort retail competition. The third set of issues concerned consumer information and switching and finally, the fourth, understanding where there was scope for deregulating certain services.

Cumulative effect of the various theories of harm

11. Ofcom agreed that the theories of harm identified by the CMA captured the set of issues Ofcom itself came up with. Additionally, there was a need to think cumulatively as well as individually: to step back and look at each of the theories of harm in the round.

12. The convergence of fixed and mobile telecommunications was relevant, particularly in relation to consumers buying bundles. Ofcom said that what would be important was whether or not converged services were integrated or the services were packaged together.

13. Ofcom said that the UK had not seen the same levels of bundling of fixed and mobile products as in other European markets: more players now

offered bundles but there was not the evidence as to significant levels of take up, and therefore it was too speculative to say how important bundles would be in the UK.

14. Ofcom considered that there had been more evidence of convergence on the supply side. In particular, because mobile operators had to deploy fibre deeper into their networks to handle large volumes of data.

15. In terms of cross-selling, Ofcom said that there was evidence to suggest this would become important in the future, but so far it did not have the evidence to judge this as it was only relatively recently that players in the UK market had started selling the full range of products.

16. Ofcom said that as regards synchronisation, BT had made synchronisation available as a standard option to its regulated Ethernet services, which were available to all communications providers. The ability of providers to replicate BT's backhaul was more to do with reach of the network than that particular capability.

Functional separation efficacy

17. Ofcom said that a core question it was consulting on in its strategic review was the current efficacy of the functional separation between Openreach and BT. [✂]

18. The functional separation of BT was essentially a behavioural remedy with some structural aspects.

19. Functional separation had not taken away the incentive to discriminate. Ofcom said that it reduced BT's ability to act on that incentive because of the importance of the equivalence of inputs. In creating Openreach, Ofcom had hoped to create an organisation with a culture which focused on all downstream players. [✂]

20. Ofcom said that it was currently seeking views on the effectiveness of functional separation. Ofcom [✂] observed that over the years it had delivered some pretty good outcomes for the UK market. For example, the UK broadband market was one of the most competitive broadband markets in Europe at retail level.

21. Ofcom observed that the CMA would need to look at the particular concerns that came out of the merger inquiry and asked whether it was comfortable with the way in which the model for functional separation dealt with those specific concerns. The CMA might therefore need to take a view on the

extent to which regulation would address the concerns that might otherwise arise from the merger.

22. In respect of whether BT Wholesale treated Openreach as an arm's length supplier or it thought about Openreach's incremental costs for a service, rather than the notional price between them, Ofcom said that at a group level BT was free to make decisions which could favour BT in some way: for instance, BT Group may consider the interests of the Group as a whole when making decisions.

23. With the undertakings Ofcom was focused in making sure Openreach was required to deliver on an equivalent basis to everybody, particularly through the equivalence of inputs. If Openreach delivered something bad to everybody else, Ofcom said that BT would have to consume that itself.

24. Ofcom agreed that in the context of the merger, a concrete example as regards purchasing decisions would be EE's backhaul and the fact it was currently buying it from BT Wholesale. However, after the merger EE would naturally consider the Openreach price and also consider the Openreach incremental cost, and would be free to do so. Ofcom said that there were mechanisms in place to address the underlying incentives in the regulatory accounts.

25. Ofcom noted that its decision in relation to the virtual unbundled local access (VULA) margin was being appealed. Some of the arguments in that appeal related to the effects of the BT undertakings and the extent to which they addressed any concerns about BT's incentives.

Backhaul

26. Ofcom said, in respect of its submission, that the quality of service could be degraded when an MNO sourced from a different supplier using Openreach inputs, it meant degradation in how the additional links were provided. A degraded quality could be how long it took to fit a new link to an aerial site. Alternatively, degradation might mean it took longer to fix faults where they arose.

27. Ofcom envisaged a scenario where BT Wholesale might have an incentive to degrade the quality to downstream mobile competitors, compared to EE, in which case the other MNOs could respond to that by switching to an alternative supplier. Ofcom recognised that MNOs could not switch alternative suppliers immediately and in the process of switching, the MNO might be exposed to a reduced quality of service.

28. Ofcom said that a propensity for faults and their likely effect at the retail level would not be material.

29. Ofcom said that the issue as regards switching was when the old supplier had no incentive to cooperate with the new supplier.

30. Ofcom recognised that even with equivalence, on occasions everyone had received equally poor service downstream: that was a poor outcome for consumers. Therefore it had to step in and start directly regulating the quality of service.

31. The experience in the market over the last few years was that Openreach delivered substandard quality to all its customers in providing Ethernet leased lines (the underlying components of mobile backhaul). The problems had been specifically to do with provision: how long it took Openreach to provide a new link. Ofcom had looked at this in its Business Connectivity Market Review (BCMR) and proposed a minimum quality standard that Openreach must reach in providing those services. Those proposals were being consulted on.

32. Ofcom said that non-discrimination requirements would apply in addition to the minimum performance standards.

33. Ofcom said that it had found that the non-discrimination requirements did not seem to have been sufficient to drive an acceptable performance upstream. It was not happy to be in this position as it had hoped that if BT was not able to discriminate, it would deliver good quality service to everybody. Ofcom was now directly regulating quality of service, which raised difficulties in determining what quality should be delivered.

34. Ofcom said that it had not seen evidence of discrimination in quality of service, rather the issue was the overall level of service. BT was already supplying downstream to itself and to competing providers in business markets and in fixed broadband. If discrimination was already there, Ofcom said it had seen no evidence of it.

35. Ofcom said that equivalence did not mean that the same product had to be delivered to everybody regardless of their needs. It recognised that different customers would want different products. It had the view that as long as each of Openreach's products were available to all downstream providers that was not of concern. What it did not want to do was suggest every provider had to take the same product.

36. Ofcom found no evidence of discrimination in the use of Openreach's Project Services. Enhanced products existed, but Ofcom said it would only have an

issue if the base product was so poor that people had to take the enhanced product to get an acceptable service.

37. Ofcom explained that the products that were regulated were connectivity, the connection of that circuit and the ongoing rental for that circuit across a wide range of different products.

38. Ofcom said that two sets of regulations applied contemporaneously: one was the Significant Market Power (SMP) regulations and the other was the undertakings given by BT. Under the undertakings anything Openreach provided had to be provided on an equivalence of inputs basis (non-discrimination), unless exempted. In addition to that, under separate SMP regulations, Ofcom imposed equivalence of inputs requirements on the same products where Ofcom found BT to have had SMP.

39. Ofcom said that essentially all of the components of mobile backhaul that were provided by Openreach were regulated.

40. Ofcom said that Vodafone owned a substantial fixed network unlike O2 and Hutchison. In addition, other operators, including Virgin Media and Level3, for example, had trunk connectivity.

41. Ofcom had said in the BCMR that the supply of MEAS was likely to be constrained by the prospect of alternative supply. It noted that most of the volumes were in downstream managed products. As such this supported the idea that there was some form of constraint. One issue was the ability of operators to exit the long-term contracts with BT Wholesale for MEAS. It said that the constraint imposed by the equality of access to the regulated upstream products could be reduced by those long-term contracts.

Mobile backhaul customer foreclosure

42. Ofcom said that in respect of CityFibre, the underlying components it provided, physical fibre, could be used for a number of applications such as business communications to offices and backhaul for fixed broadband. CityFibre had collaboration agreements with Sky and TalkTalk to provide fibre to the home in the city of York.

43. Ofcom considered that the York project illustrated that CityFibre could in future develop into a potential alternative to BT in the supply of superfast broadband and even ultrafast broadband to homes and small businesses: not just backhaul.

44. [✂]

45. Ofcom said that Virgin had announced a new injection of funds from Liberty Global and a new round of funding to take them up to 66% coverage of the UK, which was the largest investment in cable for at least a decade.

46. Ofcom said that the next stage of investment in fixed broadband was ultrafast broadband. There were three models for deployment. BT had proposed a solution using the existing copper network. The second used cable, such as Virgin, and was extending its footprint. CityFibre presented a third model for which it was experimenting with taking fibre all the way into the home.

47. Ofcom said that it was important to note the broadband market was an order of magnitude bigger than the mobile backhaul market, which was why Ofcom saw the benefit of CityFibre in that market, rather than through the backhaul.

Wholesale broadband

48. In respect of how well the price regulation of wholesale broadband inputs was working Ofcom said that it was pretty satisfied due to the fact the UK was one of the most competitive retail markets for broadband in the EU.

49. Ofcom said that, stepping back, when superfast broadband first came along it did not want to set a cost based charge control given the risky investment BT had made in the product. Since then, Ofcom had specified in more detail the 'retail minus' pricing rule that it applied. In March 2015 Ofcom introduced the current VULA margin squeeze condition, supplemented by guidance, to give certainty as to how Ofcom interpreted it.

50. Ofcom said that the retail minus rule was complicated by the introduction of sport at the retail level, which now formed part of the retail cost base. If mobile was added in as well, whether through BT's pre-merger plans or through the acquisition of EE, that would complicate things further. However, it said that this did not make it an intractable problem.

51. [✂] Ofcom said that it would be reviewing the situation in its next Fixed Access Market Review (FAMR), which looked at the period from April 2017. It had not formed any judgment as to whether it should subsequently change its approach.

52. Ofcom felt that the decision it took in the last FAMR in 2014 in terms of not imposing a cost-based charge control on the level of the VULA price and imposing a minimum margin rule, was the right level of regulation for the circumstances at the time.

53. In response to whether the regulation was working effectively given the difficulties of allocating the cost to one service rather than another, Ofcom was comfortable about it. If BT wanted to change the basis of allocation of costs post-merger, BT would need to get Ofcom to approve it first.

54. Ofcom said that there were two issues in respect of its view that the merger would not make VULA more difficult to administer or less effective. One was the treatment of regulated costs in the regulated financial statement, the other was the VULA margin.

55. In respect of regulated costs, Ofcom believed quite strongly that it had adequate protections. [✂] Ofcom said that if BT wanted any changes in allocation of costs within the regulated financial statements, it would need to get its approval.

56. The VULA margin test did not use much of the regulated financial statements, because it was largely dealing with the unregulated part of the business. Ofcom said that the VULA margin regulation looked at whether the margin was sufficient at retail level to cover the costs of BT retail superfast broadband bundles. Those were different types of cost to the ones that would be looked at if Ofcom were setting a cost-based wholesale level charge control (this would focus on the upstream costs).

57. Ofcom said that the current VULA margin guidance reflected the circumstances prevailing when it issued its final statement earlier in the year. It said that the advantage of guidance was that it was not set in stone but provided a good balance between providing certainty and flexibility. So if BT changed its business, Ofcom could alter how a particular cost was treated. It gave the example of BT's recent launch that repositioned its sports channels following the inclusion of the UEFA Champions' League content, which resulted in Ofcom consulting on whether to make changes to the guidance.

58. Ofcom said that there were regular checks by it to ensure BT was complying with the VULA margin regulation. That regulation imposed a continuous ongoing obligation on BT. When Ofcom carried out a high level assessment of BT's compliance data, it checked whether the information provided by BT was sensible and would use that data to check the margin using the approach in its guidance. Therefore, Ofcom would be able to see post-merger what BT had done and question it if it had concerns about the reliability of BT's cost data.

59. Ofcom said that it had to satisfy itself that the costs had been correctly allocated and noted that it did this more generally in relation to other price controls. However, in relation to the decision to not impose a cost based

charge control in 2014, it recognised that in the case of superfast broadband it had to respect that it had been a risky investment for BT and therefore it had not been the same as regulating a traditional copper network where the costs and demand were established.

60. Ofcom said that the inclusion of mobile, whether as a result of BT's pre-merger plans or through the acquisition of EE, would certainly add some more complexity to the VULA margin test. Though it would be difficult to be specific about that complexity because it did not know what BT's accounts would look like post-merger or absent the merger. Ofcom agreed it was likely that, absent the merger, there would have been a growing MVNO business within BT.

61. Ofcom said that the point was how much more complicated would the VULA test be in the counterfactual: there was already plenty of complications in the counterfactual because of the potential for BT to use its fixed infrastructure and its own spectrum to support its supply of mobile services.

62. Ofcom had asked, as part of its strategic review, for comments on how it should regulate bottlenecks that arose following risky investments such as access to BT's superfast broadband network.

63. In relation to how the VULA margin test defined a bundle from the point of view of a consumer buying a bundle: whether the VULA test included only strict bundles (on a single contract) or also included loose bundles (eg with a discount given if a customer took both SFBB and a mobile product), Ofcom said that a useful analogy would be Ofcom guidance on BT Sport. BT Sport was part of the bundle and Ofcom took into account the costs and revenues associated with it. Should it become the case that mobile could be received from BT as part of a broadband bundle or at discount, then it would make sense to take into account those mobile costs and revenue. This would ensure the test was not circumvented (if the extra service was offered at a very low incremental price).

64. Ofcom said that it might treat differently products where the price was independent of other products taken (ie a 'bundle' that would be indistinguishable from taking the products separately). Ofcom had not fully explored such issues nor tried to give guidance on every circumstance, but would review what actually happened in the market and then make a judgment.

65. Ofcom noted that in relation to the VULA margin regulation the merger raised the issue of cost allocation: it apportioned a proportion of the costs and revenues to the superfast broadband component (for those customers

who did not take SFBB). Whether BT might put the VULA price up or down post-merger depended on whether the mobile service was profitable. On the assumption that revenues did exceed the costs, Ofcom agreed BT would have scope to raise the VULA price. However, Ofcom said that its regulation was designed to ensure there was an adequate retail margin. Ofcom allowed BT flexibility over the level of the wholesale VULA price. Ofcom said that based on its 2014 FAMR decision it was not currently appropriate to cap the absolute level of the VULA price. Instead it used the retail minus approach to ensure there was an adequate retail margin.

66. In response to whether other SFBB providers could compete effectively with BT post merger, because such providers did not have lots of mobile customers earning margins on those bundles, Ofcom said that this alluded to whether its VULA margin regulation was adequate in those circumstances.

67. Ofcom said that it had designed the regulatory regime for VULA back in 2014 and 2015 and would revisit it in the next FAMR, which was scheduled to complete in March 2017. If its VULA margin regulation was no longer adequate it would have an opportunity to revisit it then, or earlier if it felt there were a material change in circumstances. The threat of regulation would also have an impact on the incentives. [✂]

68. Ofcom said that in terms of the merged entity, it would have discretion to agree or disagree whether EE's costs would be accounted for in the regulated financial statements. BT would be obliged to tell Ofcom if it wanted to change its methodology and Ofcom had the power to decide whether or not it was appropriate.

69. Ofcom had found in the past that BT had made some inappropriate calculations and required it to change them. Generally, Ofcom was cautious about retrospectively changing prices as it was not always clear what the consumer benefit of doing that was.

70. In respect of the VULA margin squeeze test, Ofcom agreed there was a lag between BT setting its prices, Ofcom receiving evidence on whether BT was complying and the decision as to whether or not BT was complying. If Ofcom found that BT had breached its obligation (ie if BT had set a wholesale VULA price that was too high relative to its retail price), Ofcom would be likely to require BT to deal with any overcharging by making a repayment.

71. Ofcom could also decide to impose a fine for any breach. Therefore it was able to address past behaviour. It said that the appeals process was a long one. BT's wholesale customers also had the option of bringing a dispute, which Ofcom usually determined within the four-month statutory deadline,

which would ensure a quicker decision. If Ofcom adjusted the price and it got appealed, that price would continue to apply in the interim.

72. Following the 2014 Regulatory Financial Reporting statement, Ofcom had increased the transparency it required on BT's accounts, which had changed the burden on BT as it had to come to Ofcom with changes in its methodology which Ofcom then decided whether or not to approve.

73. Ofcom had also carried out a Cost Allocation Review which contributed to the greater degree of transparency.

74. If Ofcom found that BT had overcharged its customers, Ofcom said that it would be required to pay it back and might be subject to an additional penalty.

75. In respect of how effective the Statement of Requirements (SoR) process was in allowing BT's competitors to get innovations they were keen to introduce, Ofcom said that it had found BT Openreach could sometimes be slow in what it provided, but found no evidence of any discrimination between the way it treated its own downstream businesses and external providers. Ofcom said that communication providers could also (and did) bring disputes to Ofcom where a product was requested and Openreach rejected it.

76. Ofcom said that the SoR process was clearly not as good as a competitive market, so Openreach might not have the same incentive to supply others and meet their requirements, but the SoR process allowed providers to put in their requests and get a response. If not satisfied with that response, providers could put in a complaint to Ofcom.

77. Ofcom said that it would find the statistics for the number of disputes in respect of the SoR process. [✂]

78. Ofcom also set up the Office of the Telecoms Adjudicator (OTA) as a forum for rapid resolution where there was a dispute of a technical nature over a new product. The idea was the OTA scheme would provide a mechanism for a more rapid response than seeking resolution for these issues by going through the statutory dispute resolution process. Therefore the OTA had also resolved some of these disputes. Ofcom said that it would find the statistics in relation to SoRs.

79. Ofcom said that the OTA was also able to engage with BT's product developments at an appropriate level of detail to ensure that minor technical issues, which cumulatively were material, were addressed.

80. In relation to Ofcom's decision to extend its monitoring review of the SoR, it said that it always had to be aware of what was happening in the SoR process because of the potential concern about discrimination. It wanted to keep an eye on the extent to which SoRs from other providers were met and, if they were not met with the same frequency as BT's, to understand the reasons for this. However, Ofcom said that extending the review period was not to be taken as implying a more significant problem, rather that Ofcom always considered that this was an area it should keep any eye on.

Retail broadband

81. Ofcom said that BT had a high share of retail sales in Market A because of its national pricing policy. Ofcom had regulatory wholesale price caps in those areas which reflected the cost of serving those areas, which were more expensive to serve than the rest of the country. Therefore, a firm that priced at a level which reflected the price of serving those areas would be less attractive than a firm that had a national pricing policy.

82. Ofcom said that BT's national pricing policy meant that retail customers in Market A still got a good deal, because they got a lower price than they might have otherwise received. Though such policy did potentially supress sales of other competitors with geographic pricing policies in those areas, which was why BT had such a high market share. BT's national pricing policy was, however, a commercial policy, not a regulatory one.

83. Ofcom said that the merger would slightly enhance BT's market share, but from a very high base at the outset.

84. Ofcom said that in very rural areas it needed to consider whether wholesale price controls were effective. Particularly, as the regulated area was becoming smaller and smaller and the costs of serving them were getting higher, it became increasingly difficult to compete with BT's national price in those areas. Therefore, Ofcom said that in its next review it would look at how effective its wholesale remedies were in this area.

Retail mobile

85. In terms of BT's entrance into mobile, absent the merger, Ofcom said that it did not see BT as a national fifth player. BT had never suggested it would be a national player, particularly with the spectrum it had. Ofcom said that its entrance into mobile was welcome and BT had a range of positive attributes (such as ability to cross sell, sites, spectrum), which could have put it in a good position to compete against the four national players.

86. Ofcom saw competition between the four national players at the wholesale level feeding into the retail level, therefore BT's contribution to competition would have been an upside rather than it being a big concern on the downside should it be taken away as a fifth player.

87. Ofcom said that in respect of capacity constraints, it still planned to go ahead with the Public Sector Spectrum Release (PSSR) auction and get that spectrum into use. It had consulted on whether it should go ahead and auction most of the spectrum, but hold some back to address competition issues following the various mergers. The responses received by Ofcom did not support that position, so it was now deciding what to do.

88. As regards strategic spectrum bidding where providers bought up spectrum to prevent it being acquired by others, Ofcom said that it called such behaviour 'strategic investment'. That was, a provider invested in additional spectrum beyond its immediate commercial needs so as to deny spectrum to its competitors. Ofcom considered that operators had two different categories of value. First, intrinsic value, which was the value they would obtain from using additional spectrum (in the absence of strategic considerations to reduce mobile competition). Then there was the strategic investment value on top of that.

89. Ofcom said that for operators that had much less spectrum than EE, such as H3G and O2, it was likely that the intrinsic value to them of acquiring some of the spectrum would be higher than it was to EE. If everyone bid from an intrinsic value point of view, then suppliers with a higher intrinsic value would acquire spectrum, including those with less spectrum.

90. This did not rule out the potential for someone to bid above their own intrinsic value. In the case of BT/EE, Ofcom said that disparity in intrinsic value would raise the cost to EE of engaging in such a strategic investment. Though the payoff for such behaviour would be reducing competition and would benefit the purchaser who would acquire more customers. However, to get the payoff, Ofcom said that the other providers that also needed more spectrum would have to be significantly weakened. Given the significant amount of spectrum up for auction, for BT/EE to stop H3G or O2 acquiring the spectrum, it would have to buy up all the spectrum. The strategic investment was therefore significantly more expensive.

91. Ofcom had been concerned about tacit coordination to buy up spectrum thereby denying it to other MNOs in the 4G auction.

92. In the forthcoming PSSR auction, Ofcom said that there was a less clear-cut focal point and therefore it thought it unlikely that BT/EE would engage in

unilateral behaviour given the large amount of spectrum on offer and the difficulty in excluding the other MNOs.

93. Ofcom therefore was alive to the risk, but in the consultation documents on the PSSR award it did not think it was of sufficient concern to warrant it intervening by putting reservations etc in place.

94. Ofcom said it did not equate the level of spectrum holdings with market share. This was because there was a range of ways of providing capacity. Purchasing more spectrum was one way, another was adding cell sectors, macro sites and small cells.

95. Ofcom said that this was why it did not expect operators to have equal spectrum holdings and recognised there could be quite significant asymmetry without it causing a competition concern. Indeed, there could be upside benefits to providers holding different spectrum amounts, because it might stimulate them to adopt different approaches to delivering their services, which could be beneficial.

96. Ofcom agreed that not all the spectrum would be immediately useable, but the timeframe for developing an ecosystem for the 3.4 GHz band would take about two to three years. It was considering the evidence from operators that argued there were capacity constraints. Its understanding was that operators did not necessarily consider they were capacity constrained right now, rather they would become constrained in about three years' time. Within that timeframe, Ofcom said that was consistent with the ability to acquire new spectrum and deploy it. As such any transitional capacity constraints would be addressed soon and did not pose a significant threat.

97. Ofcom said that capacity was not a static thing, rather it was changing all the time and that operators were always increasing capacity and could do so in a number of ways.

98. Ofcom told us that there was a continuous need to release new spectrum based on capacity forecasts. At the end of 2015 the World Radio Conference would work out which bands it might be possible to release, particularly for mobile data use. The demands for new spectrum and capacity would continue to grow, which was why there would always be a transitional issue, which operators had to manage.

99. Ofcom said that capacity concerned both volume and speed. In terms of speed, it was important to distinguish between peak and average speeds. The average speed was effectively the measure of what the consumers, on average, received and that was the nature of the customer experience. The peak speed was the highest speed that could be delivered if, under optimal

technical conditions, a single cell user was located next to the aerial. Ofcom was doubtful about the competitive importance or significance of peak speeds as the conditions so described were rare.

100. In terms of a fixed network example, Ofcom had looked at the speed of every line in the country as well as its usage to see if they were related. It found that in the case of residential homes, that up to a broadband speed of about 10 megabits per second, it was clear monthly usage did vary with the line speed. Hence, usage was constrained by the line speed. After about 10 megabits per second, the usage was almost independent of line speed and therefore gave providers bragging rights, but did not make any real difference to the user experience. Ofcom therefore noted that below 10 megabits per second, speed really mattered, but above that figure other factors came into play that affected the consumer experience.

101. In respect of mobile, Ofcom expected the threshold to be lower than 10 megabits per second.

102. Ofcom said that what mattered to consumers more was the ability for providers to deliver sufficient speed, not the headline speed.

103. Whether the MNOs were earning returns above their cost of capital, Ofcom said that in terms of how the MNOs treated the value of 3G licences (and associated depreciation), which were acquired in 2000 at prices an order of magnitude higher than what would be considered a reasonable price today. Therefore Ofcom did not consider it appropriate for such an asset to be included in any forward-looking profitability as to replace that asset in a 3G auction today, the provider would pay a fraction of what it stated the asset was worth in its accounts. Ofcom had to adjust the value of spectrum down to a level it considered represented its current value.

104. Ofcom said that the second category of cost that it considered should be adjusted in analysis of forward-looking profitability was the treatment of goodwill in the MNO balance sheets. A significant asset of EE, which appeared on its balance sheet as a result of merger accounting at the time of the merger between Orange and T-Mobile, was its customer relationships, but customer relationships were not an asset in terms of being a function of the capex investment in the business but were rather, at the time of the Orange/T-Mobile merger, a statement of expected future profits generated by those customers. If adjustments to goodwill and the huge spectrum asset were taken into account, then the returns for EE would go up into the mid to high 20%.

105. Ofcom considered that Vodafone and O2 would have possibly lower returns than EE, but that they were still significantly above their cost of capital. The situation for Three was different and it was not going to get a return on its historic assets. However, going forward, Three was generating more cash (ie EBITDA less capex) each year so Ofcom considered there was no reason why it should not be going forward on that basis as well. Therefore, if one was handed Three as an asset, it would make better sense to run it as a going concern than to run it down for cash as more value would be extracted from it.

106. Ofcom told us that as regards its view that four MNOs were required for effective competition and not three, was not a bright line test. Rather the broad position was that Ofcom believed end-to-end competition had been enormously beneficial for consumers in the UK. If the number of competitors were reduced, it believed those benefits would erode. However, it noted that studies in different European countries showed that it was not just the number of MNOs that was important, but the role of the operators. For example, it was clear that where H3G was active it performed the role of a disruptive competitor, and that role was as important as the number.

107. In respect of MNO numbers in the context of spectrum auctions, Ofcom said that it was concerned about consolidation from four to three as a consequence of the auction outcome. This did not prejudge whether a particular consolidation would be inappropriate, but Ofcom did not want such an outcome to inadvertently occur as a result of a spectrum auction.

108. Ofcom said that contrary to the rhetoric across Europe about the importance of consolidation and how necessary it was to drive investment, it had pushed back hard against that rhetoric. The evidence it had seen demonstrated that competition, particularly with disruptive players, was good for consumers and it had seen no evidence that having fewer players increased investment. Though four MNOs was not a magic number, but even with four players it was a concentrated market. Ideally you would want more MNOs if it were sustainable.

109. Ofcom said that in a couple of cases (such as the four to three merger in Austria), evidence of price increases was starting to come through following mergers that had happened in other countries. Ofcom questioned whether the UK would want to go down that path.

Small cells

110. Ofcom said that it was important to differentiate between outdoor small cells that might be located on street furniture versus small cells located in the home, which were a type of femtocell.

111. In terms of capacity, Ofcom noted that the amount of data being carried by the networks versus the spectrum holdings between the four MNOs was quite different in so far as the amount of data was not entirely proportional to the amount of spectrum held. This was as a consequence of MNOs reusing spectrum in different ways: some are using spectrum more efficiently by making their cell sizes smaller and achieving greater reuse.

112. Ofcom said that small cells were another way to deal with capacity constraints.

113. Ofcom recognised it might take providers time to acquire sites to put small cells on. [✂]

114. Ofcom said that one of the areas where mobile operators faced challenges was in wanting to use the same kind of spectrum indoors as was used outdoors and making sure the two did not interfere with each other. It said that managing the interference risk complicated this and therefore it was important to distinguish between indoor and outdoor cells. It did not however agree with BT, which argued that deploying femtocells was a difficult problem as Ofcom believed the manufacturers would solve the issue and there was already plenty of kit in the market.

115. Ofcom said that it did not characterise BT as a national wholesaler as it did not have a credible portfolio of spectrum for that purpose. BT also faced challenges beyond just spectrum as it also lacked physical sites and would have had to rely on an MVNO agreement, which would have contained usage pricing.

116. Whether other players without mobile networks, such as TalkTalk, could have replicated a small cell solution, Ofcom said that it was not replicable in terms of their spectrum holdings compared to BT. Ofcom also suspected other players did not have the same level of access as BT to outdoor assets.

117. Ofcom said that, regarding the point that BT had huge benefits in terms of its access to outdoor assets, the power going to them and a fibre connection point, there were two points to consider. First, Ofcom acknowledged that BT had an impressive set of assets for locating small cells, but that those assets were managed by Openreach. Therefore those assets had to be made available to others on an equivalent basis, which did not mean it had sole

use of those assets. Second, there were other types of assets that could be used for the same purpose, such as lamp posts or other street furniture.

118. Ofcom said that through the PSSR consultation process, it heard that 3.4 GHz spectrum might be used to provide backhaul which would mean the need for fibre to every small cell might, in the future, not be necessary.

119. Ofcom agreed that issues as to how BT could disadvantage non-BT group players (by providing, for example, room for only one piece of kit in the box, or that the space was already taken by another player and configuring the architecture so it did not support multiple players) did exist. However, Ofcom had not looked at this issue closely as street furniture was not currently being deployed on a scale where those issues would arise. It did not believe any constraints on the use of small cells would be just about BT. It said that the way in which local councils made available their street furniture was also an issue, as was the planning law framework.

120. Ofcom would be concerned if BT were to discriminate its provision of backhaul in a way that allowed it to deploy a small cell solution that others could not deploy.

121. Ofcom was more worried about the scenario where the most efficient way of deploying small cells was to have a single piece of kit on a lamp post which combined the backhaul functionality and the base station functionality, so it would integrate in a single piece of electronics. It said that there would be benefits in such a scenario, but it would be difficult to require Openreach to expose the backhaul part of that.

122. Ofcom said that the issue was similar to those it had to deal with in the past, where to make a product available on an equivalence of inputs basis it had to break up pieces of equipment, which was an efficient solution, into two bits of kits.

123. Ofcom said that as far as it was aware no MNOs had made really significant progress in establishing a small cell network. The closest Ofcom had seen was the public Wi-Fi networks operated by several providers (including BT), but that was using shared, licence exempt spectrum so was different. Ofcom also anticipated small cell networks to operate mainly in urban networks.

124. Ofcom said that in addition to street furniture owned by Openreach, providers would be able to contract with councils for access to lamp posts and indeed retailers, which would allow providers to use their shops. However, it recognised negotiating access with lots of different owners could be difficult.

Wholesale mobile

125. Ofcom said that it agreed with the CMA that MVNOs delivered benefits to consumers. It mattered that MVNOs had access to a good wholesale market, especially to the extent that multiplay bundles were important. However, the wholesale mobile market to supply MVNOs was highly concentrated and there were few that were in a position to influence the market. Ofcom said that the challenge it faced was that the multiplay market was nascent and although there was no immediate cause for concern, this might change quite rapidly as the role of bundles became more important.

126. Ofcom did not subscribe to the view that the description of the UK MNO wholesale market having four strong players was inaccurate. Ofcom felt more strongly about the H3G/O2 merger. With four players, the evidence showed that people had been able to do MVNO deals, though it was not always easy (as operators took account of substitution away from their own retail base, meaning that there were not four unfettered competitors).

The overall effect of the merger

127. Ofcom said that in respect of how concerned it was overall about the BT/EE merger and in which areas, it recognised how very big the merger was for the sector. The largest fixed provider was being brought together with the largest mobile provider. However, Ofcom said that it would feel odd about the idea that BT should not re-enter the mobile market. If the future was around the convergence of fixed and mobile, then it was understandable that BT would want to rebuild its mobile business. In some ways it was therefore surprising that BT had taken so long to get to this juncture.

128. Ofcom said that the biggest issue was backhaul: the potential to leverage from fixed to mobile via backhaul. That said, it considered that the extent to which it was a concern, was broadly comfortable as it could be addressed using the regulatory tools available to it. The judgement for the CMA was to decide whether those regulatory tools were sufficient. It said that there was no doubt, absent an established regulatory framework, that backhaul would be a core concern.

129. As regards the concentration of spectrum, Ofcom said that it looked substantial, but it was not obvious that it gave the merged entity an unmatchable advantage, in particular, that it gave it more of an advantage than EE already had.

130. Ofcom said that there was also the issue of wholesale mobile. The combination of the BT/EE merger and the H3G/O2 merger meant the

reduction in the number of mobile players from four to three, accompanied with a change in the incentives of EE was a concern.

131. In respect of backhaul, Ofcom said that the MEAS contracts were a cause for concern and whether or not they would prevent operators getting access to the remedies Ofcom had made available through its 2013 BCMR statement or what was proposed in the latest BCMR consultation. Certainly, Ofcom believed that the remedies it proposed in its BCMR consultation should be able to address the problem over time. However, the dark fibre proposals would not be introduced until April 2017.

132. Ofcom also noted that it was within its remit to change and adapt regulation where needed, for example if that was required in relation to the VULA margin test. The FAMR was on a three yearly cycle, so it could revisit its position if required during the normal course of business and could always intervene sooner if needed.

133. Ofcom said that it was worth emphasising in relation to the BCMR that dark fibre was not the only remedy. The existing remedies and requirements that Openreach had to provide meant that Openreach had to supply its current Ethernet products under strict non-discrimination and charge controls, as well as offer opportunities for the MNOs to procure or build alternative solutions to MEAS.