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BRIEFING FOR ANALYSTS
TELECOMS

Monday, 18 November 2013
Ed Richards (Chief Executive, Ofcom): Good afternoon, everybody. Just a short introduction from me. [Housekeeping points] This afternoon, we shall give you an overview of some of the very important areas on which we are currently working. Let me say straight away that the one area we are not going to talk about and on which we are not going to indulge in any speculation as concerns the Competition Act investigations of which you will all be aware. By all means, have another go at asking in due course but you will be met with quite a blank response, and it is always best to manage people’s expectations, so that is those expectations being managed!

Agenda

We shall do Spectrum to start with and then we shall do some fixed telecoms. We shall start with Steve Unger, who is our CTO, who will talk about our over-arching Spectrum Management Strategy. We shall then hear from Graham Louth, who will talk about a very important part of that which is the mobile data element of that over-arching strategy, so he will drill down a little more on one particular area. Charles Jenne, who has been leading our work on mobile annual licence fees, will set out our thinking in that area, and we shall then move to Stuart McIntosh who runs our competition group. He will talk about the fixed market and, in particular, the fixed access market review. We shall then open it out for whatever questions you have. With that, I shall hand straight over to Steve.

SPECTRUM MANAGEMENT STRATEGY
Steve Unger
Chief Technology Officer, Ofcom

To start with, it is useful to provide a bit of context for the work we do in managing spectrum.

Radio Spectrum is vital to UK economy

I hope these figures are familiar to all of you. During the 4G auction, we produced an estimate of the value to consumers of 4G spectrum at £20 billion. Before that, Analysys Mason produced an estimate for the total economic value of UK spectrum, which they estimated to be £52 billion per annum, and we note that estimate has increased by about
25% in real terms over five years. That says something about the importance of radio spectrum as an input to the communications sector and to the wider UK economy.

**Several major initiatives completed since 2005**

How have we done since 2005? Since 2005, we have completed several major initiatives. In particular, we have pioneered a market-led approach to the management of spectrum via mechanisms such as liberalisation, trading and auctions. We managed the switchover of digital TV and released the 4G spectrum. On the more operational end, we had a very successful 2012 Olympics in terms of spectrum management.

**Where we are today: key metrics**

Where we are today as far as some overall metrics for the way we manage spectrum: we have summarised here some metrics which do not relate to particular applications but to the overall management function. Over this period, the amount of spectrum which is tradable has increased from 15% to 84%, a very large improvement in the amount of spectrum which companies can trade among themselves to decide what the optimal use is.

The amount of spectrum that has been awarded to companies has increased from 4% to 12%, which is a three-fold increase in the amount of spectrum which companies can manage directly, rather than being dependent on us for the management of spectrum. The amount of spectrum which is either liberalised or licence-exempted has also increased very substantially.

On the right-hand side of the slide, we try to illustrate the relative importance of the civil spectrum which we manage and the public sector spectrum which the Government manage. What is clear is that there is still a significant amount of spectrum which sits in the public sector and is managed by the Crown, and that is something I shall come back to.

**Tomorrow’s challenges**

Now is a good time to look forward, having completed the 4G auction and having started to try to work out what 5G is. We need to start thinking about the challenges over the next 10 years or so, and those are set out here. Fairly straightforwardly, there is a growing intensity of spectrum use as competing requirements for spectrum. That is driven by a much wider range of applications than there have been in the past, so smartphones, tablets, machine2machine and so on: a proliferation of different types of application. Alongside that, there are fewer obvious opportunities for the easy release of the most valuable low frequency spectrum.
On the other hand, there are a couple of ways in which technology can help us in the next few years. First, there is a growing ability to exploit higher frequency spectrum, which is intrinsically less scarce, and there is a new set of capabilities around spectrum sharing.

**Spectrum management strategy consultation**

A month or two ago, we published a consultation on our strategy for managing radio spectrum over the next 10 years. We looked at the main challenges over that period in light of which we asked ourselves what our priorities should be.

**Future changes in spectrum demand**

We tried to look at every significant sector, and we asked for each of those sectors what is the significance of potential changes over the next decade or so and what is the urgency: how rapidly do we need to move to address those changes.

Unsurprisingly, mobile and wireless data is the most obvious challenge for us to meet but it is important to note that it is not the only challenge. There is a tendency when we talk about spectrum management to focus on mobile data and the mobile capacity crunch but that is not the only sector we need to think about.

For example, we also flagged the PMSE use: the use of spectrum by wireless microphones and wireless cameras is also an area that requires close and urgent attention.

**This led us to identify seven priority areas**

I shall not go through all of these but let me go to the areas which we identified as priorities for our work in the near to medium term. We identified seven priority areas. Several of them relate to mobile data and I shall not talk about those in any detail because Graham Louth will talk about those in a minute.

Let me call out two or three of these that do not relate directly to mobile data. I have noted already the importance of PMSE use of spectrum, the need to find a more strategic approach to managing PMSE use, and I have identified that as one priority.

We have also noted that the Government is currently also looking at the use of spectrum for emergency services, and we need to support Government in that process.

We have identified the band at 450-470 MHz as being a specific band that is of interest. That is currently very heavily used by services such as business radio. It is potentially of great interest going forward for other applications, not least because there is a version of LTE 4G that operates in that band, and which could provide high levels of coverage. However, we need to think about whether it is possible to restructure that band to free up more spectrum to provide that coverage.
At the bottom, we have noted some generic priorities. We need to do some more work on the technical implementation of sharing across a number of different bands. We also want to do some more work on equipment, standards and performance. We quite often find that the way in which radio receivers perform is a really important part of thinking about how spectrum can be used more efficiently. Traditionally, we have tended to focus on the radio transmitters but, increasingly, we need to think about radio systems as systems so that we can optimise the efficiency. The point there is that relatively small improvements in received performance could deliver very big benefits for spectrum efficiency.

**Mobile wireless and spectrum sharing opportunities**

Finally, something here on timescales. I have listed here some of those projects which have a reasonably well-defined end date. Ninety-eight percent indoor coverage for 4G: the target set out in the licence that Telefonica holds is for 2017 but all of the mobile operators have committed to deliver that level of coverage well before that, by around 2015.

We have a programme to release the MoD spectrum at 2.3 and 3.4 GHz, and we expect that to conclude in the second half of 2015.

2015 is also a very important date internationally, because that is when the next World Radio Conference meets: this is the conference which decides globally which bands should be harmonised for various uses but particularly mobile data. We expect a number of important decisions to come out of that meeting in 2015, which will determine which bands we then make available in the UK beyond that date.

There is the prospect of the 700 MHz release which Graham will talk about in a little more detail, and we expect that at some point beyond 2018.

TV white spaces from now until 2015.

The extension of the 5 GHz Wi-Fi band: the point here is that we all make a great deal of use of Wi-Fi, particularly for indoor use. There may not be enough spectrum at the moment for Wi-Fi to continue to meet the needs, particularly as superfast broadband is deployed to more homes. Therefore, we need to consider making more spectrum available for Wi-Fi, and we expect that to be an important part of the discussions at the World Radio Conference in 2015.

Finally, slightly longer term, we need to look at the range of candidate bands for what we refer to as dynamic spectrum access, spectrum sharing some of which might currently be in MoD hands.
Good afternoon everybody. As Steve said, we shall be publishing a Mobile Data Strategy Consultation very shortly but I shall now take you through some of the work we are already doing to address the key challenges that we face in mobile data.

Recap 4G auction outcome

Let me give a quick recap of the 4G auction. I am sure you have all seen this plenty of times but, just to remind you, we had, in our view, a very successful 4G auction at the beginning of this year. We had five winning bidders: the four existing mobile network operators plus BT, and BT secured a material amount of 2.6 GHz spectrum. We look forward to them offering competing mobile services in the UK market.

The other key outcome from our point of view is that Hutchison managed to secure sufficient spectrum in our view for them to be credible national wholesalers going forward. Therefore, we envisage there to be a consistently competitive market in the future as there has been in the past.

4G developments

As far as 4G developments are concerned since the auction, obviously EE launched its 4G service before the auction using its 1800 MHz spectrum. They have now achieved over one million customers on that network, and they have publicly announced the objective of achieving 98% coverage by the end of 2014 – not too far away, I am pleased to say.

Since the auction, Telefonica O2 and Vodafone have launched their 4G services, using the 800 MHz spectrum that they acquired in the auction. Likewise, they aim to achieve 98% coverage relatively soon: 2015 is one date that has been mentioned. The key point for us is that Telefonica has to achieve that level of coverage by 2017 at the absolute latest, because that is the obligation in their licence.

Hutchison has also announced plans to launch 4G services before the end of this year, and we anticipate that will be using the 1800 MHz spectrum that they bought from EE under the spectrum trading regulations that Steve talked about earlier.
Finally, a very interesting development, at least from my point of view, is that EE recently announced the deployment of LTE-Advanced, so not even basic LTE but the next generation of LTE technology. What is particularly interesting about that is that it uses a technology called Carrier Aggregation to combine spectrum from the 1800 MHz and the 2.6 GHz bands in order to offer speeds of up to 300 Mbit/s. Therefore, by combining frequencies from the two bands, they can create very high speed services. They will launch this service in Tech City here in London but I believe they have plans to roll that out more generally across the UK, so that is a very interesting development. That is 4G but the world does not stand still, as we all know.

**Beyond smartphones and tablets …**

There are a number of challenges that we face and one is the enormous growth that we expect to see in the number of devices that are connected to the internet: moving away from a world in which most internet-connected mobile devices are personal devices that we use, whether they be BlackBerries, iPhones, iPads or whatever, to a world in which many other devices are connected to the internet, machines connected to the internet; a world in which cars, coffee machines and possibly even cows are connected to the internet wirelessly in order to provide monitoring of the performance and communications with those devices.

**Machine to Machine: the “Internet of Things”**

That machine2machine communication, or “Internet of Things” as it is sometimes called, has the potential to enormously increase the number of devices that are connected to the internet wirelessly. Supporting a whole range of different applications, whether those may be smart energy grids, or personal healthcare monitoring, or improved traffic management: all are very powerful applications of wireless technology.

**The next generation of mobile**

The challenge for us is ensuring that there is adequate spectrum available for all of that technology to develop, evolve and flourish over the coming decade and beyond. What might that mean in practice? It might mean a growth in the volume of data being carried over mobile networks of perhaps 80X over the next decade or more. That is not necessarily the highest estimate. We have seen estimates in the 100s but that is certainly not an unreasonable estimate of the volume of data growth that we might expect to see over the next 10 to 15 years, and that represents a real challenge for us and for the industry at large.

**Three routes to meeting demand: more sites, more spectrum and better efficiency**

We commissioned Real Wireless, a wireless technology specialist company, to help us understand how that challenge might be met. They identified three routes by which the
capacity of wireless data services could grow over the coming years: first, spectrum; secondly, more efficiency in the use of spectrum by technology and, thirdly, an increase in the number of sites from which mobile services are delivered. So growth in the number of base stations essentially.

They gave us some estimates of how much growth might be possible in each of those areas. It is through a combination of all three of those that we believe it is likely to be possible to meet the growth forecasts of 50, 80 or 100X growth that we expect to see over the coming years. No one of those routes will be enough on its own; it will need all three of them to meet the sorts of growth rates that we are expecting to see.

From a spectrum perspective, we have three priorities …

What about spectrum? From the spectrum perspective, we also identified that it is not just one type of spectrum of which we shall need more in the future; it is a range of different spectrum requirements.

The first thing we are going to need is more low frequency spectrum: the spectrum that allows wireless services to be provided over wide areas, in particular in rural areas but also in the harder-to-reach parts of urban areas such as deep inside buildings.

Secondly, we are going to need more high frequency spectrum. As Steve alluded to earlier, with high frequency spectrum is generally easier to find large bandwidths. Therefore, given that we are going to need lots of bandwidth in order to meet the very rapid growth in mobile data that we are expecting to see, we shall need to find more high frequency spectrum in order to meet that growth.

Finally, as Steve again noted, it is very difficult to find virgin spectrum. In fact, there is no virgin spectrum. All the spectrum is, to some extent, being used. What we, therefore, need to do is find better ways of sharing spectrum and, in particular, sharing spectrum with those users who perhaps only need it in a particularly localised geographic area, or on a particularly limited timescale. Therefore, we need to find more dynamic ways of sharing spectrum in order to allow us to get best value out of the limited spectrum that we have available. We are taking forward work in all of these areas and I shall touch on each of them.

UHF strategy – 700 MHz band

First of all, as far as the low frequency spectrum is concerned, our most immediate priority is looking at the 700 MHz band. This spectrum is currently being used to deliver digital terrestrial television services but there is an agenda item at the World Radio Conference in 2015 looking at co-allocating this spectrum to mobile services.
That decision of itself does not put any obligation on us to move the DTT services out of those frequencies and allow it to be used for mobile data. But, we are certainly looking at that possibility, and there is a growing momentum in Europe towards that sort of change.

What we are doing is working very intensively with the broadcasting sector to understand what that change would entail, how much it might cost and how consumers might be impacted, in order to understand what sort of process we might need to go through in order to make that change.

At the same time, we are trying to understand more carefully and more clearly what the benefits from mobile data that might flow from such a change. We shall summarise all of that analysis in a consultation on the costs and benefits of that change in the first half of next year prior to making a definitive decision some time later. So that is low frequency spectrum.

2.3 and 3.4 GHz spectrum award

What about capacity at higher frequencies? We are fortunate in that the Government has a clear policy of trying to release a substantial amount of spectrum from the public sector into private civil use. The MoD has identified 190 MHz of spectrum in the bands 2.3 and 3.4 GHz that it can release from public use into private civil use. That spectrum is, very fortunately from our point of view, already internationally identified for wireless broadband use and, indeed, technology already exists and is being deployed in some parts of the world to use exactly those frequencies. That includes TD-LTE technology, so 4G technology.

Where we have a bit more of a challenge is that those frequencies are not widely available across the rest of Europe, so we are working hard with our European colleagues to see whether we can build some more momentum behind using these frequencies for mobile broadband or mobile data more generally across a wider part of the European market.

Nevertheless, we shall be moving ahead with the award of these frequencies in the UK. The MoD has given back to us the task of awarding those frequencies and we plan to do that towards the back end of 2015.

We have a consultation out at the moment on some technical issues to do with the 3.4 GHz band but, more importantly, we are inviting those who are interested in acquiring frequencies in these bands to indicate to us what their level of interest is, and what sort of arrangements they would like to see for the award of these bands, so that we can prepare our proposals accordingly.

Dynamic spectrum access – white spaces
Finally, what about spectrum sharing? The key piece of work we have ongoing on this area at the moment is our work on TV white spaces. This is a project aiming to promote the development of the technology that will allow services to be offered in the gaps between the existing digital terrestrial television broadcasts. As this graphic attempts to illustrate, in between the TV signals there are gaps and other wireless services can be deployed in those gaps, in the so-called “white spaces”.

**Ofcom working with trial and database applicants**

We are working with a large range of organisations, public and private, both wireless technology and more generally ICT technology companies, to trial the technologies that we believe will be used in future to provide these sorts of services. As you can see, there is quite a good range of companies up there. Those trials are planned for the beginning of next year with the objective of making this technology available on a full commercial basis some time towards the back end of next year.

**The future …**

Looking beyond the existing TV white spaces work, we are looking to see whether there are additional frequencies outside the TV bands where this same sort of technology might be used and, in particular, we are looking at some of the bands that are currently used by the MoD and will continue to need to be used by the MoD but not across the entirety of the UK. Therefore, we are looking at whether we could use white space like technology in order to deploy new services in those bands.

We are also looking at the potential development of more intelligent databases, so that the database not only ensures that the white space devices do not interfere with the incumbent users, but actually coordinate the white space devices as well so that we can get a better guarantee of quality of service in the white space device scenario.

Finally, and perhaps slightly longer term, we are looking at technology where the devices themselves can sense their environment and feed information about the wireless environment back to the databases in order to improve still further the efficiency with which that spectrum is used. With that, I shall hand over to Charles to talk about annual licence fees.
One of Graham’s earlier slides showed the holdings of spectrum that each of the different companies has. There is a mixture there between those that were acquired at auction, such as the 800 MHz, the 2.1 and 2.6 GHz, which have an upfront payment to acquire at auction but they have no annual licence fee. In contrast, the other two spectrum holdings at 900 MHz and at 1800 MHz were awarded back in the 1990s, and those have annual licence fees attached to them.

**Ofcom’s proposals**

You will be aware that Ofcom has put out proposals on a revision to the annual licence fees for these licences. To cut straight to the chase, the numbers are put up here on the graphic and I am sure you are all familiar with them. For example, for Vodafone and Telefonica, their current fee payments are around £15.6 million per year, which under the proposals would change to £83.1 million per year.

As far as the existing fees are concerned, it is worth noting that those were set towards the end of the 1990s and they have remained unchanged since then. They were set in a different environment where the world was totally GSM.

**Context**

The background to the proposals we put forward lies in the Government direction to us that was given at the end of 2010, which requires us to set the fees for these licences at full market value, so they reflect full market value. In doing that, it requires us to have particular regard to the sums bid in the 4G auction that we held at the beginning of this year.

When we look around for evidence of market value, in fact most of that evidence comes through auctions that are held in other countries. So we do not particularly see annual licence fees, what we are seeing are upfront payments for these blocks of spectrum in other countries. Therefore, what we have done in our methodology is break it into two parts, the first of which is looking at the market value of these spectrum holdings as far as their upfront, what we call, their lump sum value, which then will cover them for the period of their licence life. In the second step, we take that upfront amount and convert it into an annual payment.

**Approach**

The sources of evidence we have used to guide us on lump sum values come from the 4G auction we held at the beginning of this year, where the 800 MHz band went for
something that is equivalent to broadly £30 million per MHz. The paired 2.6 GHz spectrum went for £5 million per MHz.

We have also looked at international benchmarks from a range of countries around the world, but we decided to focus on countries in Europe from the period 2010 onwards, i.e. the more recent auctions. We have looked at the values there, both in absolute terms, i.e. what did the spectrum go for, and we have looked at relative values, in other words how much did people pay, for example, for the 900 spectrum as against the 800 spectrum for example. Then we have taken that ratio and applied it to the value of the 800 in the UK, so that we have derived a second measure in that way. We have also looked at what the technical evidence can tell us.

**Slide**

In the document, you will see a number of pictures that show the evidence which we have drawn on. This is a diagram taken from the document, and I am afraid that you have to turn your head to the side to read this! What we have running across the page is the value of spectrum measured in millions of pounds per MHz. Then in the first row that goes across the chart which represents the 900 MHz band, you have a number of evidence points that we have looked at. Some of these are our estimate of the value that this spectrum went for in other countries in absolute terms; some of them represent the relative values. For example, you see the relative value taken from Ireland of 900 versus 800 is the lower indicator on that chart, and the top one is the absolute value of the payment for the 900 spectrum – our estimate of it. There is a similar diagram at the bottom where you see the evidence points we have used for 1800 MHz.

If I put on there the values of the 800 and 2.6 spectrum from our 4G auction, you will see that is the £30 million per MHz number, and the £5 million per MHz number. If I also add on where our proposals are, so that for the 900 spectrum we are coming out at £25 million per MHz, which is roughly 20% or so below where the 800 value is. In the case of 1800 MHz, the proposal is to set the prices at £15 million per MHz. Broadly speaking, if you take the 800 and the 2.6 number and you average it, you get something which comes out a little bit less than that for the £15 million.

**Next steps**

The last point I should make is that these are proposals that are out for consultation. So we are open to arguments and evidence that people may want to put forward to us to suggest that these numbers should be different from the proposals we have put out here. I now hand over to Stuart.
I am afraid that I cannot resist the terrible pun of saying I am going to bring you back to Earth by talking about fixed telecoms – you are supposed to laugh at that point!

**Overview: FAMR**

I would like to remind you of some work that we have been doing in respect of the Fixed Access Market Review. This is a very major programme of work which we started last year and which we are due to complete in the early part of next year.

As we have set out here, the review covers the wholesale local access market, so that is the copper lines provided by BT, Virgin Media and others. In the context of BT, it includes the NGA services also provided over those lines. Secondly, it covers analogue and digital lines, so that is wholesale line rental and ISDN services. It covers all of the related charge controls about which I shall say a little more in the context of LLU and WLR, which is often a focus of interest. For the first time in the context of these reviews, we have explicitly incorporated the regulation of Openreach’s quality of service, and that is something on which I shall say more later on.

We issued a call for input in respect of these market reviews towards the end of 2012, and in July of this year we issued the first full consultation. Those of you who follow fixed telecoms will have seen that we have had a large number of responses and quite a number of those are very weighty, so we are currently in the throes of considering and digesting the various inputs we have had from stakeholders, looking to understand what they may mean for our proposals.

**Summary of our provisional findings**

If we look at how we now see these markets, and how we now see competitive conditions in these markets and the main remedies. In large measure there is a great deal of continuity compared with where we came out in 2010, which is when we last reviewed most of these markets, where we think those markets are now and how they will evolve over the next two to three years. That means, for example, in the context of the wholesale local access market, we continue to believe that BT has SMP and that it is appropriate to continue to have remedies such as local-loop unbundling. We are also proposing to maintain the obligation to provide sub-loop unbundling and access to BT’s infrastructure to provide NGA
services, and also access to BT’s fibre-based network. I shall say more about that in a little while.

In the context of the wholesale analogue market, again we continue to believe that BT and KCOM in Hull have significant market power, and that it is appropriate for them to continue to provide wholesale line rental and for there to be a charge control. In the ISDN markets, again at the wholesale level we believe that BT continues to have SMP. In that case, however, we are not looking to set new charge controls, but rather to put in place safeguard provisions whereby prices will remain at the current nominal levels.

**LLU/WLR charge control proposals**

In the past, the regulation of the core LLU/WLR services and related ancillary services has been a big area of focus. This chart sets out the proposals as we described them in July of this year. We and others build quite large models in order to analyse and understand what is going on in respect of the costs and so potentially what might happen to the regulated prices. However, at one level the dynamics here are relatively straightforward. We have a market in overall terms as far as lines which is relatively flat in our expectation over the next few years, and where there are likely to be efficiency savings which themselves will be quite significant.

Historically, Openreach has delivered quite significant improvements in efficiency year on year. If we project those forward, and in the base case we have assumed something of the order of 5%, that means there is a downward pressure in real terms on prices. Therefore, the expectation at the moment is that these prices in aggregate will come down in real terms over the period of the next market review. However, we do also anticipate changes in the relativities, in particular changes in the relativity between MPF, on the one hand, and WLR and SMPF, on the other hand.

There are a couple of factors driving that. One is, for example, that the WLR price today includes a contribution to the cost of providing directory services. Having looked at this quite closely, the cost of providing a line is not really that much related to the cost of providing a directory service, so we no longer believe it is appropriate for that cost to be recovered in WLR.

Equally, there are some other costs and other regulatory adjustments to do for example with the line length adjustment, for those of you who follow these things very closely, which we believe is no longer relevant; also to do with how the costs of certain test equipment are recovered, particularly between SMPF and MPF. Once you make those adjustments, it gives rise to this change in the relativity between MPF, on the one hand, and WLR and SMPF, on the other.
One point I would flag, however, is that these are the numbers we put out in July/August of this year. We will be issuing a further consultation in the next few weeks which is largely focused on issues to do with quality of service, but we will also pick up a number of issues that have arisen as a result of the previous consultation. Based on that, we will be updating the base case numbers, so you should look for that.

**Major areas of focus**

If we look at the responses we have had to the consultation, while they are very wide-ranging and there are many issues which people have considered and on which they have given us their views, it is probably fair to say that there are three particular areas which have been a priority for many of the respondents. These relate to Openreach’s quality of service, secondly to the regulation of the LLU/WLR charge controls and, finally, to regulation of superfast broadband generally but, specifically, issues to do with the regulation of the margin between the wholesale price and the retail price.

**Quality of service**

If we look at quality of service, those of you who looked at the document which we published in July will have seen that has tracked both some deterioration and quite probably a significant degree of variability in the quality of service provided by Openreach to its customers, both downstream BT customers and external customers. This has been most marked in relation to copper services: the provision of a copper line where there is a need for an engineer either to go out to the home, to go out to do something to the external line plant, or repairing lines where there are faults.

We have done a number of things over the past few years to address some of these issues. For example, a few years ago we put in place a very specific regime establishing service level agreements and associated payments in the event that those targets were not met for the repair of faults on copper lines. In 2012, we brokered a similar agreement with industry and Openreach for a framework to cover the provision of copper lines where that requires an engineering visit. That, over this past year, has seen quite a significant improvement in quality of service. However, having looked at the historic experience, we are of the view that the regulation of quality of service, and the expectations with regard to provisioning times, repair times and so forth in key markets needs to be brought more explicitly into the regulatory regime, and there needs to be a much stronger and clearer connection between those targets and how we set some of the charge controls.

Therefore, the proposals on which we are consulting at the moment include requiring Openreach to provide further information as far as KPIs, so that it is clearer to their customers and, indeed, to consumers what the expectation is, and how well Openreach is
doing relative to that expectation. It is about setting out more clearly where we expect service level agreements and service level guarantees to apply. It is also about setting out how we would expect industry with Openreach, with the OTA, to look at these issues where there is a need to look at changes in the contracts which arise from time to time and do not neatly fit into a regular three-year cycle.

Importantly, we anticipate setting some minimum standards that we would expect to apply in respect of both LLU and WLR. In setting those targets, we are very mindful of what consumers expect but we also need to chase that through as far as the implications in relation to Openreach’s costs and regulated charges.

**LLU/WLR charge controls**

On the regulated charges, there is a great deal which has been raised, not surprisingly: it is always a very lively and contested area. It is unusual for our decisions in this area not to be scrutinised very closely and, indeed, they are almost invariably challenged and appealed.

Among the issues we are currently looking at are how we take account of the most recent regulatory accounts published by BT. You may be aware that when we calibrated the charge controls in the first instance, we used BT’s regulatory accounts for 2012, that being the most recent information that was available to us. We fully expected that BT would issue a new set of regulatory accounts, and that we would have to look at those and take account of those as we updated our analysis, which is what we are doing at the moment.

One thing that I would flag, and some of you may have already noted this, is that in the 2013 regulatory accounts, BT has implemented some quite material changes in the methodologies it uses to allocate costs. We require BT to publish a further document, which they did in October of this year, to allow stakeholders and ourselves to understand what that meant in relation to the allocation basis that had been used previously. With that information, we are considering at the moment how we should take account of the updated accounts.

With regard to the charge controls themselves, there is a load of stuff that we are looking at with which you are very familiar, such as efficiency, basket design and cost of capital.

Finally, on quality of service, we have been doing a great deal of work over the course of this past year to understand both what minimum service targets might be appropriate, and to understand how one would think about that and analyse those in the context of the cost of meeting those targets.
Fibre-based services and SFFB margin

Finally, in respect of fibre-based services, this framework has worked well in our view. We implemented the current framework for the provision of wholesale superfast broadband services in 2010. It has helped to support a rapid roll-out and investment in the availability of these services, and we are seeing growing competitive intensity at the retail level in the delivery of those services. Therefore, we believe that framework is working today, and we believe that the competitive conditions are unlikely to change much during the course of the next three years.

We have made some changes to the framework. For example, we propose to reduce the migration charge where a consumer decides to move away from, say, BT to another provider of superfast broadband services. We are also reducing the minimum contract period from 12 months to one month – at least, that is our current proposal. Both of those measures are about making sure that competition in this market is promoted as we move forward.

Importantly, we are continuing with our position that BT should retain flexibility to set its prices in this part of the market. We continue to believe that the pricing at the wholesale level of these services remains constrained by the pricing of current generation broadband services.

In the main, stakeholders have been supportive of our position with regard to our view of the market as it works today, and the incentives for both investment and competition. The big area, however, that has been called out by a number of them is a suggestion that we need to be more explicit about the guidance that should apply in respect of margin squeeze in this market, with the appropriate margin that should be maintained by BT in setting its retail prices for superfast broadband services, and setting the wholesale prices for those services. We provided some guidance in respect of that in 2010, we have looked at that issue much more closely, and the European Commission has provided advice and input into this in the form of its recommendation on non-discrimination and costing methodologies. Therefore, we anticipate that, as part of this market review, we shall provide more explicit guidance on that issue.

Next steps …

With regard to next steps, you should look out for a further consultation towards the end of this month or in early December. As I mentioned, that will focus very largely on issues to do with quality of service but we shall pick up a number of specific issues which have been raised by stakeholders in response to the July consultation. We shall also update our base case estimates in respect of the charge controls for LLU/WLR. Our objective is to
notify the Commission once we have responses to this further consultation towards the end of March next year. With that, I’ll hand you back to Ed.

**Question & Answer Session**

**Ed Richards:** I would just remind you to wait for the microphone and let us know who you are, and we are now happy to take any questions we can.

**Matthew Howett (Ovum):** I have a question relating to the annual licence fees. It is fair to say that there has been a lot of public criticism given the size of the increase we are seeing on some of that, and I noticed this morning that there has been a slight extension to that consultation as well, suggesting that there are some deep issues here.

One of the things I picked up and read was that one operator said, we could do something like roll out to 80 or more rural parts of Britain with the additional money we are being asked for from licence fees. Given that and I believe you have agreed that most of the operators will comfortably meet the coverage obligation you have put in place for the 800 MHz and 2.6 GHz, I wonder whether or not Ofcom are missing something regarding more rural coverage, and whether that is being fully addressed by both the ALF and the licence fee condition that you have?

**Ed Richards:** Thank you very much. The first tip for everybody else, if questions could be a little shorter than that, that would be great. Otherwise let us address the issue. There is no deep issue – I can’t remember what expression you used – deep concern or issue about the extension. The extension arises because one of the participants asked for an extension, we looked at it and decided to grant it because there is a lot of complicated analysis. I am afraid it is no more complicated than that.

As far as the extension and roll-out issue, the licence obligation is crystal clear. The public statements of the companies that have already been made I believe are crystal clear. What you have to remember about the ALFs is that they are a one-off payment, so you don’t get a reduction by only rolling out to 95% as opposed to 98%. The decision at the margin is exactly the same one. Is a further 1% roll-out profitable or not? I do not believe that we are overly concerned about that.
The more general issue about whether we have set them at the right level, and the overall position of the sector and the companies is something that we of course wonder about and of course we are very alert to. That is why Charles said in his presentation that these are proposals and we want to hear from the companies and possibly others, no doubt, about what evidence, what arguments they have to persuade us that the numbers should be different. We are very open to those arguments and to that evidence, and that is exactly what we expect to happen. That is the source of the extension. Charles, do you want to add anything?

**Charles Jenne:** You made the point I was going to make.

**Steve Malcolm (Arete Research):** I’ll go for a couple on fixed line, if I may, following on from Stuart’s presentation. First of all, as you consider fibre regulation, are you comfortable that you have the right tools at your disposal for the next two or three years, as BT bundles more unregulated products into its fibre bundle? I am thinking about the sports content, the Champions League stuff as just one. Then allied to that, I want to pick up some comments that Mr Richards made at a recent presentation I was add talking about triple play switching, and your concerns in that area in the context of the DCMS White Paper. I know the rules around save rates, broadband and pay-TV are different, and I wonder whether you are thinking of any explicit things you can do to make life easier for triple play customers as they think about switching in relation to the general regulation around fibre?

**Ed Richards:** I shall take the second one first, Stuart, and then hand over to you. It is worth bearing in mind the broader context of all of this. We have had a very healthy, dynamic, competitive communications sector for a number of years. Anyone who reads the papers knows that is not the case in some other sectors. One of our ongoing concerns is to make sure that that dynamism is retained, and that consumers as well as companies continue to benefit from innovation, competition and choice.

One of the things that we identified a little while ago as a potential risk to that, particularly as you move to a converged triple or even quad play environment, is the extent to which it is easy and convenient for consumers to exercise their choice and, therefore, underpin the dynamism of the sector. That is what lies behind our work in that area.

The Government clearly now agrees with us and has given a very strong proposed endorsement of the general approach we have been taking, as does and has the European Commission. We are not going to be definitive about exactly what should happen and when, because you need to look at the individual cases but, generally speaking, what you can take from what we have said and where we are going on this is that we want to ensure that
consumers have that ease and convenience to make sure we have a dynamic and competitive sector. We shall look at the ways in which we can make sure that is the case, so that is the over-arching position. As far as precisely what we do and what the Government say on it is, in a sense, something we can come back to. Stuart, do you want to pick up the first half of the question?

**Stuart McIntosh:** To say we have enough in the way of tools, I am not sure the answer is unambiguously always yes but, in this context, the answer probably is yes. It is important to bear in mind that, in addition to doing the sort of market reviews we are doing at the moment, we have Competition Act powers which are quite powerful and which we are now quite well used to using. Also as part of the ex-ante framework, we have the ability to resolve disputes between operators, and very often competition issues are referred to us by companies in that context, rather than as Competition Act cases because we are able to deal with those issues and, indeed, we are required to deal with those issues very quickly.

In addition to that, we have powers under section 316 of the Communications Act in relation to broadcasting, so I do not believe that there is any shortage of tools, although that is not to say that the issues are simple and straightforward; but the tools are largely there.

**Barry Zeitoune (Berenberg):** How practical do you think the single market proposals are when it comes to spectrum policy, and how likely do you see it that those proposals will be passed in their current form? In the past, Ofcom has talked about the importance of there being four operators in UK mobile. In light of the potential consolidation in Germany, do you still stand by that view?

**Ed Richards:** Again, let’s take them in reverse. I don’t think we are going to speculate on consolidation questions. I have not studied the German case in detail and we are not the responsible authority, so I do not think that it is wise for us to speculate on that kind of thing in the UK or in the German market. We designed the auction in a way to ensure that there were four effective competitors, and Graham touched upon that in his presentation. We are pleased with the auction outcome in that respect and I do not see anything yet that would change our view on that. Equally, I do not believe it is helpful to speculate beyond that.

As far as the European proposals, specifically on spectrum, our view is that there is always more that could be done to improve coordination and cooperation in the spectrum field, and that there is an opportunity to improve that. That is obvious to anyone who has followed it for the last decade. Having said that, whether these proposals go forward or not is, in some ways, beyond us, because I suspect the main concerns will lie with national
governments and member states, so you probably should direct those questions towards them.

We would like to see more effective coordination but there are many different ways of doing that. You do not have to do that through the proposals that the Commission have set out. There are already mechanisms for coordination through the RSPG and we believe that there is more that could be done on that front. Graham or Steve, do you want to add anything?

**Steve Unger:** On the RSPG point, we already have mechanisms within Europe to coordinate and our immediate focus is on seeing whether we can use those mechanisms more effectively.

**Ed Richards:** We shall do that, frankly, whatever happens to the Commission’s proposals. The main issues around the Commission’s proposals in that area will probably be more to do with member states and national governments than they will be to do with NRAs but let’s see.

**James Ratzer (New Street Research):** I have two questions please, both on the fixed access review. First, regarding the comments you made about BT’s quality of service in Openreach. How should we read what you are trying to say there? You said that the quality of service has been declining, does that mean BT Openreach needs higher wholesale fees to be able to fund the quality of service you want, or is it more the case that they should be lowered as a penalty to try to incentivise them to improve in future?

My second question, which perhaps should be more one for government, is around the whole cost of living debate in the UK that has become quite topical in the last few months. I was reading that Maria Miller seems to have called most of the telecoms operators into her office over the last few days. Presumably, the Government here might be lobbying to try to lower wholesale fees in the hope that could be pushed onto lower retail fees, so I am interested to hear your views on that debate at the moment?

**Ed Richards:** Shall we do the same thing, Stuart: I’ll deal with the second and you can take the first point? On the general debate, you would have to be living in a cave somewhere in order not to notice that cost of living and affordability issues are a very big deal now. Therefore, anything in that area is relevant. You have seen in one or two obvious areas where the Government’s patience has worn thin and we are conscious of that. Going back to what I said earlier. Overall, so far, in the last decade the story for communications consumers has been overwhelmingly positive. If you look at the price of
any number of services, with the possible exception of TV, you will see, certainly on the
telecoms side, depending on what you are looking at and how you measure it, either
significant or very dramatic decreases in prices for a given product; or people spending the
same amount of money but receiving a dramatic increase in the quantity of product or the
range of services they receive. Overall, we have a very good story to tell on this but we want
to make sure that continues, and the kind of thing we have been talking about this afternoon
is all part of that.

The fundamental for me is all about making sure that the sector remains dynamic,
innovative and competitive. One of the reasons why we have been in a better position than
some other sectors is because we have quite rapid rates of technical innovation and we
combine with relatively good levels of competition. If you put those two things together,
generally what happens is what has happened. You have to keep an eye on one or two
other things like investment, which we try to do, and you see some of those judgments
reflected in the kind of things that we have been talking about. That is the overall position.
We have a very close and appropriate dialogue with the Government where they are
concerned about things, but they are letting us get on with the job of independent economic
regulation. Stuart?

Stuart McIntosh: On the issue of quality of service, I hope I was not
signalling anything particularly in advance of the consultation. At the moment, we are tr ying
to look at market circumstances as they are today and as they will play out over the next few
years, to understand what quality of service targets, or backstop targets, might be
appropriate, and how that should be interpreted in terms of cost.

As far as understanding what the relationship is between quality of service and cost,
one needs to look at the history. One of the things we are doing at the moment is looking
back at quality of service and the manpower involved in providing different levels of quality of
service and so forth, to understand what that tells us about the underlying relationships.
However, it will come as no surprise to you to learn that some stakeholders believe that, if
we set backstop standards, that means that costs will have to be higher in order to fund that
– that would probably be Openreach’s view. Other stakeholders would argue that there is
huge scope for efficiency gains and improvements, so it should be perfectly possible to
deliver a reasonable quality of service without there being any need to increase the
regulated charges. There are views on both sides, we are going to be consulting in a few
weeks’ time, we shall hear back what people say and take a decision on that basis.

Ed Richards: The overall point for us, as Stuart touched upon, is that this is
a dimension of the service delivery, along with price and availability, to which, in this
instance, we have decided we need to pay closer attention to. That obviously arises from some of the concerns of the last few years. It is true that we have had challenging weather conditions and things of that nature, but the evidence is clear that we need to attend to this and make sure that consumers, and indeed downstream competitors, receive the right level of service for what they are paying for.

Stephen Howard (HSBC): I am looking at slide 33 and there is a reference to the regulation of wholesale digital telephone lines (ISDN 2). I have met somebody with an ISDN 2 line but it wasn’t recently. To be blunt, what is stuff like that still doing on these slides, and why are you devoting energy to regulating this sort of thing? Less facetiously, what do you think about the current relevant market review being conducted in Brussels? There is surely scope here to free your hands from doing some of the archaeology, so that you can focus on some of the stuff which is really important and which we have spent a lot of time talking about this afternoon, i.e. key performance indicators, making sure that Openreach is delivering on its quality of service commitments?

Ed Richards: Let’s do it the other way round this time, Stuart. You can explain why we still have to care about – it is not a facetious question, Stephen, it is an interesting one. In some ways, more than one person inside the organisation asked exactly the same question.

Stephen Howard: Sure, but the delivery was facetious, for which I apologise.

Stuart McIntosh: There is a general issue about the approach that one should take to the regulation of what might well be declining services. When we have a situation where there are other services which provide real choice to customers, which in a sense constrain the ability of the providers in the pricing of those services, we are quite relaxed about relieving that regulation. However, what one can find, and we have provisionally concluded it is the case in respect of ISDN 2 and ISDN services, is that we are not yet at the point where those competitive constraints are strong enough to protect those customers who, for whatever reason, have no choice in the short term.

That situation is likely to evolve, and it could well evolve, quite quickly over the next two to three years, so when we have this next conversation, it may well be that the slides will look somewhat different. However, we need to have a mind to the fact that, even though these are legacy services in decline, there may well be significant numbers of consumers who continue to depend on them and do not have an alternative to which they can turn to in the event that the prices of these things are increased.
Ed Richards: The truth is that we were a little surprised too and, when the cycle came round again, we were in the position of saying, surely people have moved away from this and the evidence is that many people have but some have not. Then you are left with the question and you have to deal with it. It is odd but that is the situation.

Stuart McIntosh: It is also one of the reasons why in this case we could use a safeguard cap rather than doing a full-blown charge control. We did not think that was either proportionate or appropriate.

Ed Richards: The simple answer to your broader question is, yes, we are very interested in discussing with anybody at any level what could be done to simplify and ease the quantity of activity in this area and the frequency with which it needs to be done. As you know, the obligation on market reviews was tightened from four to three years, some people were arguing that it should be longer in the first place. In many other sectors, as you may know, they are already longer, so you can have a debate about that. You can also have a debate about the number of required markets and about the degree of what one might call checking at the Brussels level in relation to an NRA.

This is difficult because we feel that we know what we are doing. We try to do a very professional job, we try to do it properly, openly and transparently. If you say all that to the Commission, they say, we know, we understand but … So you then have to go and ask them what the meaning of the “but” is. However, it does mean that we have a lot of additional layers of activity which are tough and they create a significant burden on us and on industry, largely driven by that construct and that is definitely true. We are always looking for ways to simplify that, to make life easier and to create more regulatory predictability. However, you know very well how the structure works and that is what we have to work with while it is in place.

James Barford (Enders Analysis): From a mile high view, the costs that BT reports to its investors are going down at 5% per year in nominal terms, and the MPF price, which is the main price that its competitors pay to BT, looks like it will increase by a certain amount in nominal terms going forward. I know there are a large number of detailed explanations for why this is the case but, from a mile high view, are you comfortable with that?

Stuart McIntosh: We are looking to understand what the costs are of providing those services. When these prices were first regulated, when the MPF price was set in 2004/5, we took a view based on our understanding of the costs at that time. There were quite a lot of common costs which were averaged across the different services, partly
because there was no real understanding about what drove costs and how those should be changed. Over time, some of those adjustments have unwound and they did confer some advantage to MPF in the first instance and, as those adjustments have worked their way through, that has meant that the relativity has been changed.

Are we concerned about the ability of the companies that use these inputs to compete in the market? Had we been of the view that MPF was a key input to the provision of competition in voice services, the answer to that might have been, yes, but we have never been of that view. We have always been of the view to allow companies to provide voice and broadband and to be very competitive in the market. It is also the case that, if you are using MPF, you get other benefits. You control the services, there are additional features that you can provide, you get the call origination prices or revenues and so forth. Therefore, we are not of the view that the changes in the relativities on which we consulted earlier in the year will undermine the strength of that competition.

**Ed Richards:** You put the question perfectly reasonably, saying this is a mile high view and that is part of the problem. The mile high view always needs to be taken down to the level of detail we end up getting into with the charge controls.

**Stuart McIntosh:** It is probably also fair to say that, with the appeals processes we have gone through in setting these charge controls, it has increased the pressure to make sure that the prices set for these services, as near as you can accurately set them, properly reflect the detail of the underlying cost structures. Therefore, over time there has been ever more granular scrutiny of those cost structures, which is what you are seeing play out to some extent.

**Mary Pollock (Credit Sights):** I know we didn’t talk about it today but I wonder if you can give us some colour on how Ofcom is thinking about mobile termination rates, in particular at the end of the current guide-path?

**Stuart McIntosh:** We did not focus on that particularly. Brian, you have to remind me: the current regime runs out in March 2015? [Yes] We have a little bit of time. However, we have initiated the next phase of work in respect of mobile termination rates. We have been engaging with industry and just under two months ago, we issued a short deck which has set up a number of the issues, and asked stakeholders who are interested to give us their feedback in relation to that. Therefore, we are beginning to mobilise to do that work and I anticipate that we shall issue a consultation around May/June of next year and then take things from there.
Ed Richards: We are looking forward to it, it is another round! It is a bit like our version of Premier League bidding: we all look forward to it and it is greatly entertaining.

Mary Pollock: I have another quick one if that is okay. Ed, you mentioned that prices have come down in recent years. Looking back over the past four years, I wonder whether you can give us some colour on how you think consolidating from four players to five has impacted the mobile market, and if it was different from what you expected before the merger, the creation of EE?

Ed Richards: I don't think there is anything we have seen since the five to four move which was contrary to what we expected or anticipated. The two key issues were whether there were some efficiency benefits of which consumers would at least enjoy part of those benefits, and that has been the case. The second was whether there would be a significant loss of competition and I do not believe that has been the case. If you look at what is happening in the market at the moment around 4G, it still looks pretty keenly contested, so that has been as we would have hoped.

Going back briefly to prices, the two TV prices you have to watch are obviously pay-TV prices and, secondly, the licence fee, which everyone tends to forget. I forget exactly what has happened to that in recent years but it certainly has not been falling at the rate of some telecoms prices. Therefore, I qualify my remarks in relation to those two points.

However, on the five to four, we have not seen anything that has made us think that was the wrong thing to do but that is a very specific and different question to any others that one might seek to extrapolate from that case.

Parin Shah (Espirito Santo): On fibre-based services, you said that you propose to maintain the current framework. When could Ofcom look again at fibre regulation: would this be after the three-year regime ends in 2017, or potentially before and, if so, under what circumstances?

Ed Richards: We have to do this every three years, so that is the headline answer. However, in certain circumstances, we can bring a market review forward but we would not expect to do that as a matter of routine. We would have to see some quite significant evidence or a dramatic change in the market to do that, otherwise we would look at it again on a three-year cycle. Stuart, is that right? [agreed] So it is fairly straightforward.
Steve Malcolm: I have another question on pricing and wholesale rates. I believe the message you are trying to give us is that, in broad terms, you have been happy with the last 10 years in telecoms pricing, and why not – they have generally come down. Talking about copper access pricing, the WLR price has come down over the last six years, line rental goes up at 50p a pound every year from all the operators pretty much together. Is that something that concerns you at all as you look out over the next two or three years, because the simple construct that lower wholesale prices equals lower retail prices is not working there?

Ed Richards: The overall story in this sector from that perspective is very good and we should not lose sight of that. However, that doesn’t mean that there aren’t specific features or aspects which we don’t feel so brilliant about. Another example of that is the work we have had to do on non-geographic numbers, where it was a real issue for consumers and prices were a real question. Therefore, I do not mean to infer that everything in the garden is rosy as I do not believe that is true. When could that ever be true? There are all sorts of things for us to continue to worry and think about, many of which have been mentioned this afternoon. I do not want to go into detail on any specific question but, overall, the story is unequivocally positive, although you always need to look at specific issues and other concerns into the future.

Steve Malcolm: In general, we are looking at stable rates, with discounting, with general commercial activity, it is something you are reasonably comfortable with, is that the message?

Ed Richards: It is not so much a message as a fact: that is what the data tells you. What it also tells you is that, for example, if you have taken a triple play and have exercised your consumer choice, you are likely to have benefited far more significantly than if you have not exercised your choice and you are only taking fixed voice. Therefore, you need to look at it on a slightly more detailed level but, overall, if you look at price of access to a given speed of broadband, if you look at any of the triple play, discounting and reductions in cost are a feature of all triple play. As far as I can see, they are essentially the driver of quad play in most markets. That aspect of value for money and price has broadly been a positive story. However, it needs vigilance, care and attention for the future as much as it has had in the past.

Alex Wisch (S&P Capital IQ): I have one question on bundling services. Not just in the presentation but you mentioned pay-TV a couple of times and I want to know with BT becoming a more credible competitor in content, how you view operators bundling
services and cross-subsidising consumers? Particularly, in the broadband market, BT was a major winner in the last quarter and, if that continues for ever, will you look to intervene or what is your view on bundling sports, broadband, fixed telephony and possibly mobile?

**Ed Richards:** Bundling, in general, can be very good for consumers for the kind of reasons I have just been talking about. In fact, I would say that the consumers who have benefited the most over the last few years have probably been those who have exploited the bundle opportunity. I am not sure that we should get too much into the depth of that question given the outstanding investigations there.

**Stuart McIntosh:** We are looking at the Competition Act case at the moment, which touches directly the issues you are flagging, so that is probably not something we should be drawn into this afternoon.

**Ed Richards:** As soon as we start to talk about the specifics, which your question infers, we are going to be in the Competition Act investigation we are looking at, so we had probably better not say anything about that. Generally speaking, we are not for or against bundles. Bundles can be a very good thing for consumers and companies, they can promote competition. That is a statement about the general issue: we are not against bundles at any level. The question is whether there are any other issues involved.

That is all we have time for and thank you very much indeed for coming.

- *Ends* -