



Final statements on the
Strategic Review of
Telecommunications, and
undertakings in lieu of a reference
under the Enterprise Act 2002
Statement

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Section 1

Executive Summary

- 1.1 In April 2004, Ofcom published the Phase 1 consultation of its Strategic Review of Telecommunications (the 'Telecoms Review'). The review was designed to set out a strategic direction for Ofcom's activities in relation to telecoms, and to create a new settlement between the regulator, the companies we regulate, and citizens and consumers. In that Phase 1 consultation document we posed five fundamental questions for the review:
- In relation to the interests of citizen-consumers, what are the key attributes of a well-functioning telecoms market?
 - Where can effective and sustainable competition be achieved in the UK telecoms market?
 - Is there scope for a significant reduction in regulation, or is the market power of incumbents too entrenched?
 - How can Ofcom incentivise timely and efficient investment in next generation networks?
 - At varying times since 1984, the case has been made for the structural or operational separation of BT, or the delivery of full functional equivalence. Are these still relevant questions?
- 1.2 In this final statement, we provide our answers to these questions, and set out our strategic approach to the regulation of the sector.
- 1.3 **Attributes of a well-functioning telecoms market.** Our market research and consultation suggested that businesses and consumers want much more than basic, reliable telecoms services at low prices: they also want choice, and rapid innovation and introduction of new services. Our assessment was that the most effective way of delivering this is through competition at the deepest level of infrastructure where competition will be effective and sustainable. We also showed that the competition that had delivered benefits to consumers to date might not be sustainable going forwards, so maintaining the status quo in terms of our regulation was not an option.
- 1.4 Though competition may be a means to delivering the kinds of outcomes that consumers want, it cannot be effective unless customers are able to make well-informed choices, and to switch easily between suppliers. Our research showed that some groups of consumers had various difficulties in making these choices. Although the same could be said of most markets, there may be features of some telecoms markets that exacerbate these problems. Though we do not consider it appropriate to leave this problem entirely to the market, it is important that we target any activity to the particular groups of consumers who are having problems. We are making changes in a number of areas and will be looking at this issue further in the wider review of consumer policy that we are now undertaking.
- 1.5 **Where effective and sustainable competition can be achieved.** Whereas competition between rival end-to-end infrastructures has proved to be effective and sustainable in the mobile market, this has not been the case in fixed telecoms. In fixed telecoms, we concluded that there were enduring

economic bottlenecks – parts of the network where effective and sustainable competition was unlikely in the short to medium term. Therefore we adopted the principle that regulation should promote competition between competing infrastructures as deep in the network as such competition was likely to be effective and sustainable. However, we noted that companies who wished to compete on this basis had to rely on BT for access to parts of the network where competition was not sustainable. We concluded that in order for competition in fixed telecoms to be effective, BT needed to make such access available on the same terms as it made it available to itself: an approach we called equality of access.

- 1.6 **Scope for a reduction in regulation.** If equality of access is introduced to bottleneck parts of the network, we expect to be able to deregulate elsewhere (for example, in some retail markets). Such deregulation could take two forms: either a lessening of Significant Market Power (SMP) conditions where equality access is applied in upstream markets or a finding that there is no longer SMP in downstream markets. We have set out our approach to deregulation, as well as our immediate forward programme of work, in this statement.
- 1.7 **Incentivising timely and efficient investment.** As technology progresses and existing copper switched telecoms networks become due for replacement, it is particularly important that regulation does not disincentivise efficient investment. We described our approach to regulation of risky investments in our August 2005 statement on assessing the cost of capital. That statement set out a number of principles, and led us to disaggregate the equity beta that we use in calculating BT's allowable cost of capital between BT's lowest risk activities, and the rest of BT. However, There may be a particular challenge in incentivising efficient investment in access networks and we are starting a review of next generation access to look specifically at this issue.
- 1.8 **Achieving equality of access in fixed telecoms.** The final fundamental question for the review was whether questions about the structural or operational separation of BT remained relevant. Our preferred approach of equality of access involves both equivalence at the product level, and organisational changes by BT. In June 2005, BT offered Ofcom a set of undertakings in lieu of Ofcom making a reference to the Competition Commission under the Enterprise Act 2002. In the statement in part 2 of this document, we are accepting such undertakings from BT. We expect these undertakings to have the effect of delivering equality of access.
- 1.9 In our June 2005 consultation on these undertakings, many respondents emphasised how important it would be that Ofcom remains fully involved with the implementation of the undertakings, and sets out how it would measure the success of its regulatory approach. We agree, and we have set out our proposed approach in the final chapter of this statement. In particular, we consider it important to measure not only whether the undertakings are being complied with, but also more broadly whether our overall regulatory approach is delivering the kinds of outcomes for businesses and consumers that are intended of it.

Section 2

Introduction

- 2.1 This final statement marks the completion of Ofcom's Strategic Review of Telecommunications (the 'Telecoms Review').
- 2.2 We did not have a statutory obligation to carry out a strategic review of telecoms in the way that we had an obligation to carry out a review of public service broadcasting. Nevertheless, almost everyone who responded to the review agreed that there was much need for such a review¹. We believed that the time was right for this review because:
- regulators had always considered that there was not enough competition in telecoms to allow sector-specific regulation to be withdrawn. We believed that the starting point for the review should be to ask whether the costs of on-going, sector-specific regulation continued to be justified;
 - fundamental changes in technology and consumer behaviour were underway, which might render existing regulatory approaches obsolete; and
 - other countries and markets were adopting different approaches in similar circumstances, and we needed to consider international and sectoral best practice.
- 2.3 Telecoms regulation in the UK takes place under the European Regulatory Framework, incorporated into UK law through the Communications Act 2003. The objective of Ofcom's review was not to question that framework, nor to re-open any of the market reviews that Ofcom had completed in accordance with it. Rather, our objective was to establish a strategic approach to the way in which we implemented the framework in the UK. The framework will continue to form the basis of telecoms regulation in the UK, and the undertakings that we are accepting from BT under UK competition law are fully complementary to the framework going forwards.
- 2.4 The scope of the review has been very wide-ranging: it has considered competition issues as well as consumer protection issues and it has looked at mobile as well as fixed telecoms networks. However, though the review has considered some specific issues relating to mobile networks, its main focus has been on fixed telecoms networks. This was because we identified quite early in the review that most existing regulation related to fixed networks, and that it was in fixed networks that the most complex competition problems were evident.
- 2.5 The review has taken considerably longer than we expected. This is because telecoms regulation is notorious for 'the devil being in the detail' and therefore a strategic approach that did not also address the detailed implementation issues would have been of limited value. The interim findings of the review led us to analyse the markets with a view to making a reference to the Competition Commission under the Enterprise Act and subsequently to accept undertakings offered by BT in lieu of making such a reference.

¹ The terms of reference to the Telecoms Review are available at www.ofcom.org.uk/static/telecoms_review/tor.htm

- 2.6 We have followed a rigorous process of consultation and analysis throughout the review, which has also taken time. The Telecoms Review has involved a significant level of public and industry consultation. Our Phase 1 and Phase 2 consultation documents both elicited around 100 responses, from a broad range of stakeholders including industry, business and consumer groups, government and public sector organisations, equipment manufacturers and trades unions. We have held a programme of meetings with a broad range of stakeholders since the start of the review. We have also held a number of seminars on particular issues relating to the review, including seminars in each of the nations and in a number of the English regions.
- 2.7 The approach we have followed in the review has closely followed the best practice process for impact assessment that Ofcom has subsequently adopted. We regard such an impact assessment as having being integral to our approach from start to finish. Specifically, our approach has involved:
- defining the issue, and identifying the consumer and citizen impacts;
 - defining the policy objective;
 - identifying the options;
 - identifying the impacts on different types of stakeholders;
 - identifying the impacts on competition; and
 - assessing impacts and choosing the best option.
- 2.8 In Phase 1 of the review, we defined the issues we needed to consider in the form of five fundamental questions. Accordingly, we have structured this final statement to provide our view of the answers to these fundamental questions. The questions were:
- In relation to the interests of citizen-consumers, what are the key attributes of a well-functioning telecoms market?
 - Where can effective and sustainable competition be achieved in the UK telecoms market?
 - Is there scope for a significant reduction in regulation, or is the market power of incumbents too entrenched?
 - How can Ofcom incentivise timely and efficient investment in next generation networks?
 - At varying times since 1984, the case has been made for the structural or operational separation of BT, or the delivery of full functional equivalence. Are these still relevant questions?
- 2.9 The remainder of this statement addresses each of these questions in turn.

Section 3

A well-functioning telecoms market for consumers and businesses

Attributes of a well-functioning telecoms market

- 3.1 At the beginning of the review, we set out to investigate how the telecoms market served consumers, including business consumers, and how their requirements were evolving. We commented that telecoms regulation had historically focused on driving down prices for traditional telephony services. However, whilst competitive prices remained an important factor, we considered that consumers were also concerned about choice, availability, quality, and innovation. We also noted the concerns expressed by consumer groups at various times about consumer confusion in the face of complex telecoms services and tariffs. By gaining a better understanding of consumers' needs, we are in a position to devise our policy in a way that reflected those needs.
- 3.2 We therefore posed four key questions:
- are consumers changing the way that they use telecoms?
 - are consumers satisfied with their telecoms suppliers and the range of supplier choices available?
 - are consumers switching their telecoms suppliers? What are the drivers and barriers to switching?
 - which specific groups of consumers are driving the current market dynamics?
- 3.3 Consultation responses on these questions were supplemented by primary research consisting of interviews with over 6,000 consumers, covering residential consumers, sole traders, small and medium sized enterprises (1-249 employees) and large businesses (250+ employees). Some key findings of the research are set out in Figure 1.

Figure 1: Key findings of Ofcom's consumer research

- Telecommunications usage patterns for residential consumers have fundamentally changed compared with the situation in 1991 (when the last major strategic review of UK telecommunications was conducted). Consumers are spending more money on telecoms services than before, largely as a result of the rise of mobile phone ownership and use, and the advent of the internet.
- However, consumers are spending less time and money on fixed telephony, and the research suggested some substitution between fixed and mobile networks for voice calls, in line with previous findings on this subject.
- The number of broadband internet connections in the UK has risen dramatically over the past five years - from around 100,000 in 2000, to 8 million in June 2005. There are now more broadband than narrowband internet connections to homes and businesses. However, UK broadband penetration still lags behind North America, Scandinavia and Japan.
- 84% of fixed consumers, 80% of mobile consumers, and 79% of internet consumers stated they are either satisfied or very satisfied with their providers' overall service. Although relatively high, and fairly consistent with the gas market, these satisfaction levels were below those found for electricity supply and current bank accounts.
- While significantly higher than for current bank accounts, levels of switching were also below those found for utilities – 38% of fixed consumers claimed to have switched from one provider to another at some point, and 33% of mobile consumers, compared with 49% of gas consumers and 43% of electricity consumers. Particularly in the fixed market consumers said they would only switch for relatively large savings, and were not prepared to spend much time to achieve these. Again, particularly in the fixed market, many consumers were unable to recall alternative suppliers for fixed calls (63%).
- Awareness and exercise of choice varied greatly between groups. Ofcom identified two groups of residential consumers whom we termed the 'leading edge' and 'fully connected' consumers, and which included about 27% of all adults. These groups accounted for nearly 60% of all the money spent on telecommunications, and much of the switching between suppliers that is taking place.
- The same was true of SMEs and sole traders, with 29% of all SMEs accounting for half of total spending and generating much of the switching between suppliers.
- Across all groups of consumers, access to accurate pricing information was recognised to be important in making informed choices. However, the research did not suggest that the absence of such information was a critical problem for consumers although it recognised that significant minorities found it difficult to make cost comparisons using the information currently available.

3.4 With the Phase 1 consultation responses and the research evidence in mind, in the Phase 2 consultation we suggested that a well-functioning telecoms market would provide:

- choice: including different solutions for increasingly diverse consumers, high levels of innovation, and a diverse set of sustainable suppliers;
- price: quality services at competitive prices;

- information: informed consumers who are able to make well-informed choices; and
 - low switching barriers: ease of switching between suppliers.
- 3.5 The responses to the Phase 2 consultation largely supported these conclusions. However, some respondents urged Ofcom to recognise that a well-functioning market must serve all groups of consumers including the vulnerable.
- 3.6 In both consultations, Ofcom was also urged to consider other attributes of a well-functioning telecoms market. Some respondents called upon Ofcom to consider not just the short-term economic benefits arising to consumers from a well-functioning market, but also the long-term benefits that would accrue to the UK and economy as a whole from the development of a world-class communications infrastructure. Proponents of this view were often particularly concerned that the UK should develop a genuine ‘next generation’ broadband access infrastructure. We agree that these issues are of critical importance, and Ofcom’s role is to ensure that market failure or regulation does not result in sub-optimal levels of investment. As we discuss in Chapter 6, we will be looking at these issues in our forthcoming review of next generation access.
- 3.7 We were also reminded that telecoms are a ‘critical infrastructure’ for the UK which must be sufficiently durable and secure to ensure no prolonged interruption of service in the event of a national emergency, and to provide capabilities necessary to ensure our national security. Some doubts were raised as to whether these concerns were being fully addressed in the transition from traditional telecoms infrastructure to a new all-IP infrastructure. Whilst such issues are clearly of considerable importance, they fall outside of the remit of this review. However, Ofcom is confident that a process is underway to ensure that the relevant parties, operators, Ofcom, and the Government work together to address these concerns.
- 3.8 Finally, some respondents urged Ofcom to consider the environmental impact of telecoms. In particular, we were asked to consider whether stricter rules on development should be introduced in the telecoms sector, some of which would mirror rules introduced by other economic regulators in some utility markets. However, it is important to note that unlike the statutes governing other sector regulators, Ofcom does not have powers to review the overall environmental impact of telecommunications development.

Role of competition in delivering a well-functioning telecoms market

- 3.9 Given the attributes of a well-functioning market identified above, in Phase 2 of the review Ofcom sought to identify the governing principles for regulation which would deliver a market that would have such attributes.
- 3.10 We noted that the focus of much telecoms regulation to date had been to reduce prices. In the early 1990s, regulation focused on competition in access infrastructure, and this led to the roll-out of cable networks to around 50% of households. But much regulation since BT’s privatisation has been a combination of direct regulation of BT’s retail prices, and the encouragement of forms of competition which exploited arbitrage opportunities created by above-cost prices in certain service areas, such as international calls and specially-priced services. This was an appropriate response in the period

after privatisation of BT, when consumers were purchasing a simple set of services, prices for some services were undoubtedly above cost, and there was considerable scope for improving BT's efficiency. This model of regulation and competition had delivered significant benefits in terms of sharp reductions in prices for traditional telecoms services.

- 3.11 However, whilst downward pressure on pricing can be achieved by a combination of regulation and arbitrage-based services competition, we concluded that the choice, diversity, and innovation required by consumers in today's much more diverse and fast-moving market could not be achieved in this way. Innovation in particular cannot be imposed on a market as a regulatory requirement. Services-based competition does encourage innovation in relation to branding, billing, and packaging of services, but much of the innovation that consumers value in telecoms stems from the ability to combine both network and service capabilities.
- 3.12 We argued that this deficiency was evident in the sluggish way that the UK market had responded initially to consumer demand for new broadband services. The rate of deployment of ADSL and the functionality of the ADSL products available had effectively been in the hands of one operator: BT. It was the cable companies who had led the early development of broadband in the UK, with their networks extending to around 50% of UK households. We noted the correlation between countries which had strong competition between infrastructures capable of delivering broadband (in many cases, countries with strong cable penetration), and early broadband uptake.
- 3.13 Therefore, our conclusion was that the full range of benefits that consumers wish to see can be effectively supported only in a market which features strong competition between infrastructure-based providers, under-pinning competition between service providers. Such a market would lead to downward pressure on prices and would also support a range of service provider activities. Service providers would no longer be dependent on regulatory intervention, as they would be able to purchase services from a range of wholesale infrastructure providers.
- 3.14 As we discuss in Chapter 4, we concluded that the competing end-to-end infrastructures that would be likely to be sustainable in the UK in the medium term would be insufficient to deliver effective competition. We therefore adopted the principle that regulation should promote competition at the deepest level of infrastructure where it is likely to be effective and sustainable.
- 3.15 For the reasons set out above, we concluded that this kind of competition was the most effective means to deliver the kinds of outcomes that our research and consultation told us that consumers and businesses required. We also concluded that the existing regulation was not being effective in delivering this kind of competition. Resolving this, which involved a very detailed examination of the way in which wholesale telecoms products were developed and sold, has therefore been a critical focus for our review.
- 3.16 Nevertheless, it is important to note that this kind of competition is only a means to delivering the kinds of outcomes that consumers and businesses require. We also considered the need to balance 'supply side' intervention with an effective 'demand side'. Creating greater scope for competition amongst suppliers would be of little benefit if consumers, through lack of

information or inability to switch suppliers, were unable or unwilling to take advantage of such competition. We discuss this issue in more detail below.

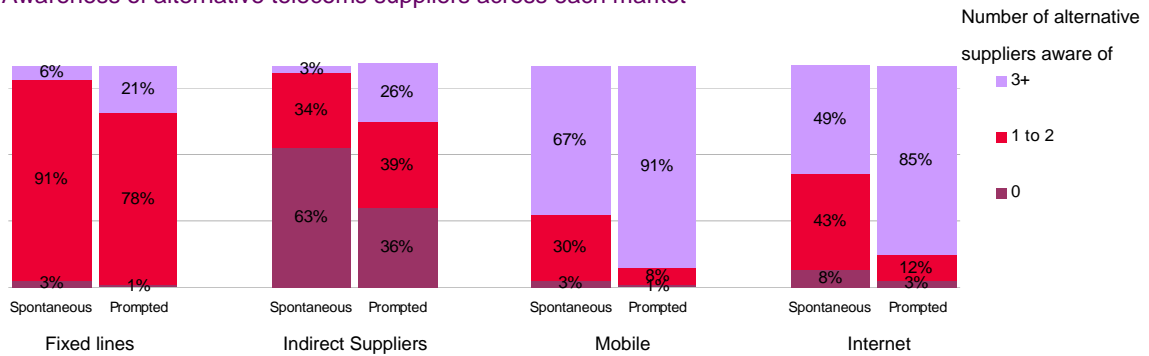
Consumer information and switching in telecoms

The nature of the problem

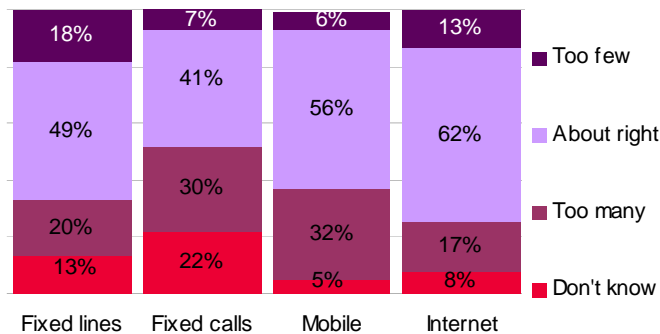
3.17 As we discussed above, in Phase 2 we carried out detailed research of consumers' and businesses' purchasing behaviour. This gave us some a useful insight into how customers interacted with the competitive process, for example whether they were aware of the choice of suppliers; whether they found it easy to compare suppliers and to switch between them. Some key findings of the research are set out in Figure 2 below.

Figure 2: Key research findings on consumer searching and switching

Awareness of alternative telecoms suppliers across each market²



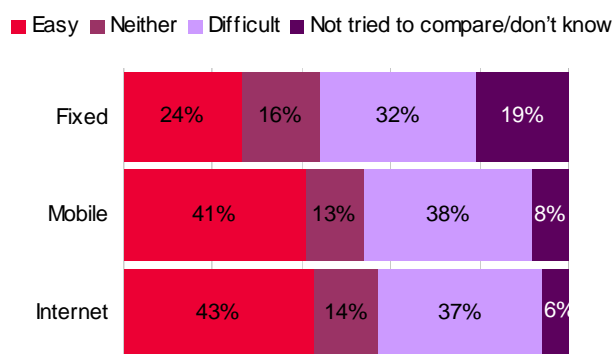
Consumers' opinion on the current level of choice across telecoms markets³



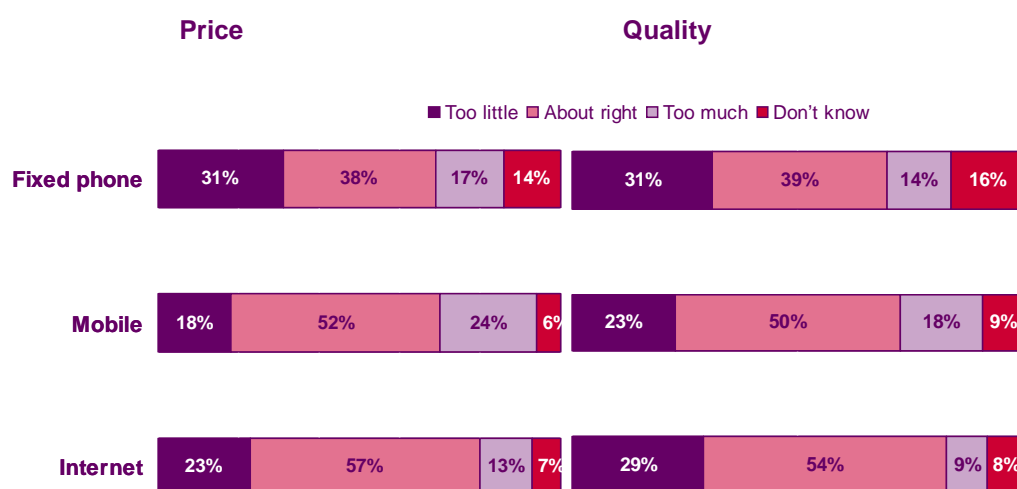
² 1586 UK fixed decision makers, 1303 UK mobile decision makers, 715 UK internet decision makers, May-June '04, MORI survey NOTE: not all decision makers in the fixed market use an additional supplier for fixed calls

³ 1586 UK fixed decision makers, 1303 UK mobile decision makers, 715 UK internet decision makers, May-June '04 NOTE: not all decision makers in the fixed market use an additional supplier for fixed calls. Note also that these opinions are based on consumers' perceptions of the level of choice of suppliers in each market, rather than the actual choices that are available to them.

Perceptions of ease of making price comparisons⁴



Perceptions on amount of reliable information currently available, residential consumers⁵



3.18 The most striking conclusion was that consumers are, in general, significantly uninformed about the level of choice available to them particularly in relation to fixed line telecoms services. However, there is no evidence that this lack of awareness is a cause of severe dissatisfaction.

3.19 More generally, a significant proportion of consumers found it difficult to make price comparisons across all markets. This appears not so much to be because of a lack of reliable information, but more because of the ease of making comparisons using this information. Responses on the specific questions in relation to comparative price information also elicited mixed responses.

3.20 We concluded that the competitive process was currently working well for some consumers, but not all. The picture varied not just between different types of consumers, but also across the different telecoms markets. However, it was evident that there were some groups of consumers, in some telecoms

⁴ 1586 UK fixed decision makers, 1303 UK mobile decision makers, 715 UK internet decision makers, May-June '04, MORI survey

⁵ Base: 1) All those with fixed line phone at home and decision-maker (1,586); 2) All those who personally use a mobile and decision-maker (1,303); 3) All with access to the internet at home and decision-maker (715)

markets, who were having difficulty interacting with the competitive process. Such a conclusion is not unique to telecoms: the same could be said of almost any consumer market. Nonetheless, telecoms markets may have certain particular features that exacerbate the problem, and we set out our approach to this issue below.

Summary of our proposed approach

- 3.21 The debate about consumer information in telecoms markets stimulated by our Phase 2 consultation is part of a wider set of considerations relating to Ofcom's strategic approach to consumer issues as a whole. Since the publication of the Phase 2 consultation, Ofcom has commenced an internal project reviewing our consumer policy in general. This work will carry on beyond the Telecoms Review. The aim of this project is to develop an overall strategic approach to all of Ofcom's consumer-facing work, building on the feedback received during the Telecoms Review but also other inputs such as the consumer audit and the forthcoming nations and regions audit. The first output of this review will be a consultation paper which will be published by the end of 2005.
- 3.22 If you would like to discuss this work or contribute to Ofcom's thinking, please contact Claudio Pollack on claudio.pollack@ofcom.org.uk, or 020 7783 4139.
- 3.23 However, given the importance that many stakeholders attach to the consumer information issue, in this statement we are publishing our interim conclusions on this issue. In the Phase 2 consultation, Ofcom set out a number of options for further action in relation to consumer information. These are summarised in Figure 3.

Figure 3: Options to reduce search and switching costs



- 3.24 Since the Phase 2 consultation, Ofcom has considered consultation responses on this question and has held a further seminar with consumer groups and information intermediaries to probe some of the points raised. As a result, we have narrowed down the options to a shorter list that we are now considering in more detail.

Options which Ofcom proposes to reject

- 3.25 We do not consider it appropriate to leave this issue entirely to the market. Efficient markets require informed consumers who are able to discipline service providers by switching between them. For this to happen, consumers need objective and reliable information. Of course, suppliers do have an incentive to provide consumers with information about their products, as in any market. However, there is a strong case that telecoms services present certain particular challenges. The complicated nature of the telecoms market causes various difficulties for some groups of consumers, and this was highlighted in the research findings we published as part of the Phase 2 consultation.
- 3.26 Equally we do not consider that it is appropriate to address the problem of information complexity by restricting choice, for instance through limits on the kinds of products or tariffs which can be made available by service providers. Many consultation respondents pointed out that the cost of such a policy in terms of restricted innovation would be likely to be considerably in excess of any incremental benefit resulting from consumers making better purchasing decisions. There may of course be exceptions to such a policy. For instance, Ofcom may intercede to restrict or prevent the supply of services that cause significant consumer harm, such as premium rate scams.
- 3.27 Some respondents felt that Ofcom itself should play a much greater role in providing comparable consumer information, as opposed to either relying on service providers to do this or encouraging the use of intermediaries. As we explain below, where Ofcom believes there is a shortfall in the provision of information and this is likely to result in harm to consumers, we will consider a number of possible approaches – including, in certain specific circumstances, Ofcom itself providing the information. However, Ofcom is not minded to include the provision of on-line tariff comparisons within the range of things that we will undertake. There is a great deal of detailed, ongoing work involved particularly in providing up-to-date tariff comparisons, which Ofcom does not believe it is best placed to undertake. We continue to take the view that there is scope for a variety of intermediaries to provide the information required by consumers. The Ofcom PASS scheme provides exactly such validation of third party tariff comparison schemes and is now being extended to include broadband comparisons as well as fixed telephony.
- 3.28 In relation to switching between suppliers, it would be wrong in our view to promote switching as an end in itself rather than a means to an end. We do not consider that switching should necessarily be ‘costless’ to consumers. It often costs suppliers to switch customers, and if suppliers do not charge customers to switch, suppliers must recover this cost through higher prices elsewhere. So where switching is free, it could encourage a level of switching which is actually inefficient. We will however monitor whether the switching costs faced by consumers are artificially inflated, for example by the imposition of inefficient or unnecessary processes.
- 3.29 We do not propose to mandate a requirement that service providers should switch customers to the ‘optimal’ tariff – a service, which we noted in Phase 2, was now being provided by some service providers. There is currently no legal basis for making such a requirement mandatory, but even if there were, the fact that this option is being offered in the market already suggests that a

regulatory requirement may not be necessary, and would certainly be premature.

Options which Ofcom is pursuing

- 3.30 In relation to the provision of information, Ofcom will pursue an approach that builds on the consumer information principles set out in the Phase 2 consultation. Where there is evidence of an information problem for consumers, we will consider intervening in one of three ways:
- working with service providers to improve or increase the information they publish themselves;
 - encouraging the role of independent information intermediaries who can help guide consumers' decisions; and
 - publishing information ourselves where there is a benefit to consumers that can only be achieved by Ofcom undertaking publication.
- 3.31 In line with our stated principles of 'light touch' regulation, we will seek the least intrusive approach that is commensurate to the problem. Were any such proposal to lead to specific proposals for new regulatory burdens, we would of course conduct a full Regulatory Impact Assessment before proceeding.
- 3.32 Ofcom received support from some stakeholders for taking forward work on advertising comparisons, and we have held preliminary discussions with the ASA about the scope for greater clarity in comparative advertising, and the possible value of further guidance from Ofcom to assist this.
- 3.33 Ofcom is also convening discussions with stakeholders on the scope for improving bill formats to make them more user-friendly and comparable. In this context, we note the work being undertaken by the British Standards Institute (BSI) on developing a standard for bill formats that may provide some useful and relevant input to that process.
- 3.34 In relation to switching, a number of respondents commented that migration between broadband offerings to be difficult. There is no smooth, end-to-end migration process of the kind that has been introduced – in part, via regulation – in relation to both fixed voice and mobile switching. In some cases, consumers switching from one offering to another may be told that there will be a significant period of service interruption as the transition takes place. It has also been suggested that switching e-mail addresses can cause the same disruption as switching telephone numbers. We are continuing to monitor switching in internet including broadband, and if necessary, we will identify regulatory solutions.

Options where further investigation or research is required

- 3.35 As noted above, Ofcom will consider specific requests to intervene in relation to provision of telecoms information, but as yet we remain unconvinced that the evidence presented to us demonstrates a need for a major new campaign by Ofcom in this area. Some respondents argued that Ofcom was placing undue emphasis on information in the form of web-based price comparisons. Those 'uninvolved' groups identified by Ofcom's research were often the same people who were uncomfortable with the internet or did not own a PC.

- 3.36 We recognise the validity of this criticism. However, the problem may be much wider: if consumers are not actively seeking out such information and are not dissatisfied with their existing supplier, it may be very difficult to identify any medium where they will actively seek out information in relation to choice of suppliers and switching options. Ofcom has recently conducted further research with the University of East Anglia into this issue, with a view to understanding what sources of information different consumer groups principally use today when making consumption choices. Ofcom could follow a similar approach to that taken in the energy sector. There, Ofgem and energywatch (in the 'energySmart' scheme) have used combinations of fact sheets made available in public spaces such as Citizen's Advice Bureaux and public libraries, and publicity using free media such as consumer magazine programmes. However, it is not clear that fact sheets in particular are an attractive medium for those who express little interest in the subject at all. Further research is needed before Ofcom can determine which approach, or combination of approaches, might provide information in a format which consumers will actually make use of.
- 3.37 Without the ability to switch easily, there can be no effective competition. Our analysis suggests that switching behaviour differs between fixed voice, mobile and broadband markets. It is in the fixed voice telephony market where the switching process is the easiest, having received the most regulatory attention. Yet it is in the fixed market where consumers seem to have the greatest disinclination to switch. Partly this may be explained by consumers being satisfied with their current supplier or inherently less interested in switching their fixed telecoms service or by concerns about interruption of service. However, it may partly be explained by lack of knowledge or understanding of the options available (for instance, understanding that there is no interruption of service when switching operator), which could be addressed through the kind of information-raising campaign referred to above.
- 3.38 In the mobile market, service providers stated that there was a high level of switching (or as the operators describe it, 'churn') and yet our research suggested that two-thirds of consumers have never switched supplier. One interpretation, supported by research, is that there is a small group of high-spending consumers who have switched multiple times, and these consumers account for much of the churn activity that takes place.
- 3.39 Even if this active group is only a minority of consumers as a whole, all consumers could benefit from such intense competition. Price offerings designed to attract and retain such consumers might also benefit those who are less active, if the latter group either automatically benefit from such tariffs or can easily switch from their existing price offering to that new price offering. Some caution is needed here though, as it would be rational for service providers to price discriminate: i.e. to offer the best prices only to the high-spending switchers, and try to minimise take-up of these tariffs amongst everyone else. This is an area that Ofcom intends to monitor, but where we do not believe there is a short-term case for regulatory intervention.

Linkages with other project work

- 3.40 As we discussed above, Ofcom has commenced an internal project reviewing our consumer policy in general. This project will now take forward further examination of our approach to consumer information and switching.

- 3.41 Ofcom is also taking forward work in a range of areas where consumers are suffering because of scams or other causes of detriment. For example:
- slamming: since May 2005 all providers of telecoms services to SMEs and consumers have been required to have a sales and marketing code of practice, and enforcement activity is now underway;
 - silent calls: this is the focus of a new own-initiative investigation that we have opened; and
 - internet diallers: the prior permission scheme introduced by ICSTIS, as well as other measures taken as a result of our premium rate services review have helped reduce this scam, but work is being undertaken into how consumers can be made aware of call barring facilities and modem protection software.

Universal services

- 3.42 A critical feature of a well-functioning telecoms market is that a basic safety net of services is available to all citizens at affordable prices, aimed in particular at customers who are on low incomes, have disabilities, or live in remote areas. We considered in the Telecoms Review how the current regulations designed to deliver this safety net, known as the universal service obligation (USO), might need to evolve in response to changes in the telecoms market.
- 3.43 The Universal Services Directive (USD) establishes the scope of the USO that can be applied in the UK. In line with the requirements of that Directive, the Secretary of State for Trade and Industry sets out in an Order the specific universal service requirements for Ofcom to implement.
- 3.44 The current USO falls upon BT and, in Hull, Kingston Communications. They are required to provide a range of services, to be priced uniformly throughout the UK, including:
- a connection to the fixed telephone network following a reasonable request, with speeds which allow functional internet access;
 - schemes for consumers who have difficulty affording telephone services;
 - public call box services; and
 - a relay service for textphone users⁶
- 3.45 In the Phase 2 consultation document, Ofcom considered how the existing arrangements for provision and funding these obligations might need to change because of increasing levels of competition. A large number of respondents agreed in principle that when there is greater competition, it would be appropriate to set up a universal service fund. However, respondents differed about when this should be. BT and many consumer organisations argued for its rapid implementation. Most altnets and service providers argued that such a fund should only be set up once equality of access was in place, and effective competition had developed.

⁶ This requirement applies to BT only; with all providers supplying access

- 3.46 Ofcom recognises that these are important issues that should be kept under review for the future but believes that it is not necessary to reach a decision now. In Ofcom's statement on universal service published on 30 June, we explained that there is unlikely to be an undue financial burden currently on BT or Kingston as a result of the USO. However, Ofcom intends to carry out a full cost-benefit analysis of the provision of the USO in 2006, and this will inform a decision on whether a full-scale review is required. Such a review would include working with stakeholders on proposals for joint funding and provision. Other carriers, as well as BT and Kingston, might be able to deliver universal services, at least in some areas, to promote innovation and efficiency. One possibility would be to auction off the duty to deliver the universal service obligation, on the basis of the level of subsidy suppliers required for its provision.
- 3.47 The Phase 2 consultation also considered issues around the possible extension of the USO to other services. Ofcom explained that the ability to change the scope of the USO is determined by the Secretary of State, not Ofcom, and is also framed by the USD. Nevertheless, a wide variety of respondents, including many consumer and business organisations, argued that Ofcom should make the case for broadband and mobile services to be included in the USO.
- 3.48 Ofcom considers that the case for extending USO to broadband is not currently strong either because of economic efficiency or of equity. It is too early in the development of the market for the necessary conditions to be met. BT predicts that its rollout of DSL, including extended reach DSL, will make DSL available to 99.4% of the population during 2005. Much of the quite limited remaining shortfall is currently being addressed through public sector infrastructure schemes. Though low income consumers may have difficulty affording broadband services (or indeed a PC to receive them on), lack of access to broadband does not currently result in social exclusion sufficient to warrant universal service measures being introduced to address such affordability issues.
- 3.49 On mobile, Ofcom recognises that mobile phones may in future be able to help deliver many of the requirements of the current USO, and mobile may be a much cheaper technology to deliver services to some remote locations that are within mobile coverage. This does not mean that a separate mobile USO should be imposed alongside the obligation to provide a fixed service. However, a universal service obligation defined in terms of access to voice services could be delivered via a mobile connection once issues are addressed around the affordability of calls to and from mobiles and the provision of functional internet access. In terms of affordability, we concluded that the market was already delivering service packages, typically in the form of pre-pay, affordable by lower income consumers.
- 3.50 In its review of the scope of the USD, the European Commission reached similar interim conclusions to Ofcom on broadband and mobile. For broadband, the Commission's view was that an extension of USO is not appropriate at this time, as the majority of consumers do not use broadband. On mobile services the Commission considered that there are no affordability issues that need to be addressed through a USO.

A well-functioning market in the Nations and Regions

- 3.51 What constitutes a well-functioning telecoms market may vary in the different nations and regions of the UK. In the course of the Telecoms Review, we held public consultation seminars throughout the UK's nations and regions. There are supply-side variations across the UK: the rollout of infrastructure differs across the nations and regions, and between more or less remote areas, so that not all services are equally available everywhere. There are also demand-side differences: cultural differences combined with regional variations in the demographic and socio-economic profile of the population generate different patterns of consumption and demand in different localities.
- 3.52 It is important that the same regulatory approach for operators and consumers be in place across the UK, to avoid unwarranted and unintended distortion of markets in different areas, and to maintain clarity and certainty about regulatory guidelines and requirements. Nonetheless, we recognise that our approach must be sufficiently flexible to accommodate solutions that suit specific local conditions. We are therefore putting in place mechanisms to ensure that we are alert to regional variations and have the data we need to determine whether the benefits of tailoring regulation in response to those variations might, in some circumstances, outweigh the costs.
- 3.53 Specifically, we have already launched a major tracking survey interviewing over 9,000 people every year about their access, use, and attitudes towards a wide range of communications technologies. This includes six-monthly analysis in each of the UK's nations and the English regions to ensure that we have an accurate picture of regional differences within key market indicators. Furthermore, over the next twelve months, we will carry out a major audit of the nations and regions to assess the extent to which citizen, consumer and SME interests in the communications market are met across the UK.

Section 4

Where effective and sustainable competition can be achieved

- 4.1 The second fundamental question for the review was: where can effective and sustainable competition be achieved in the UK telecoms market? This is an important question, because if regulation seeks to promote competition in parts of the network where it is either inefficient or unsustainable, there is a danger that any competition becomes dependent on regulation for its survival, and may also represent a waste of resources. In addition, if some level of competition is sustainable but is insufficient to constitute effective competition, the full benefits of competition to consumers, in terms of lower prices, greater choice and faster innovation, are unlikely to be forthcoming.
- 4.2 The Phase 2 review pointed out that anything close to the economist's concept of perfect competition – a large number of suppliers each with no market power – was not likely to be achievable in telecoms. This is due to the large and sunk nature of investment in telecoms infrastructure and the large scale economies that are possible: together these mean that there are always likely only to be a small number of network suppliers. We therefore looked at how much competition could be considered to constitute effective competition, and suggested that this depended on a number of factors including the cost structures of the network providers, the degree of sunk costs and the extent of product differentiation and innovation in the market.
- 4.3 Various types of competition are possible between telecoms providers. Telecoms companies can compete with each using their own end-to-end networks that stretch all the way to the customer. Or, they can compete using some of their own infrastructure and some of another company's infrastructure. Finally, they can compete as service providers: offering marketing, billing, pricing and some service design, but using another operator to provide all of their transmission infrastructure.
- 4.4 Regulation can promote each of these kinds of competition, but we pointed out in Phase 2 that there are trade-offs involved: if regulation tries to promote all of these kinds of competition in equal measure, it is likely to be unsuccessful. For the reasons that we discussed in earlier in this document, we believe that competition based upon infrastructure tends to give greatest benefits in terms of the mix of lower prices and faster innovation that consumers and businesses want. Therefore, we are adopting the principles that we suggested in Phase 2, that Ofcom should:

promote competition at the deepest level of infrastructure where it will be efficient and sustainable; and

create scope for market entry that could, over time, remove economic bottlenecks.

Fixed telecoms

- 4.5 In fixed telecoms, we looked at the prospects for effective and sustainable end-to-end competition, perhaps made possible by the evolution of technology. In particular, we looked at:
- *prospects for deployment of alternative access technologies.* We considered that the prospects for many new technologies, and particularly wireless technologies, were encouraging. This is particularly so for some customers in some locations. However, we concluded that at least in the short to medium term, such new infrastructures were likely *only* to be available to certain customers in certain locations, and that the prospects for their deployment were not yet sufficiently certain to base a regulatory strategy upon;
 - *prospects for substitution between fixed and mobile networks.* We considered that there is a prospect that mobile networks could one day become sufficiently close substitutes for fixed networks, particularly in voice services, that they will provide an effective competitive constraint on fixed networks. However, we concluded that for substitution to develop to the point where mobile companies exerted effective competitive pressure on fixed services, it would be necessary for the differences in prices between these services to decline quite significantly; and
 - *the evolution to next generation networks.* Next generation networks are likely to have a somewhat different architecture: in particular, they are likely to have a flatter, less hierarchical structure. However, we saw no reason why this would make competition based on end-to-end networks feasible, where previously it was not.
- 4.6 For these reasons, we concluded that there are enduring economic bottlenecks in fixed telecoms networks: that is, there are parts of the network where there is little prospect for effective and sustainable competition in the medium term. The location of these bottlenecks in the network varies for different customers, different services, and different geographies. For example, broadband competition based on LLU may be sustainable in large suburban exchanges, but not in small rural exchanges.
- 4.7 We concluded that twenty years of telecoms regulation had yet to overcome the problems of enduring economic bottlenecks combined with unequal access to these parts of the network. In parts of the network where it is uneconomic for new entrants to build their own infrastructure, competitors are reliant on BT to provide wholesale access to its network. Yet those who have relied on BT to provide such access have to date experienced slow product development, inferior quality wholesale products, poor transactional processes, and a general lack of transparency.
- 4.8 In Phase 2 we proposed the principle that Ofcom should:
- Focus regulation to deliver equality of access beyond the levels of infrastructure where competition will be effective and sustainable.*
- 4.9 Our preferred approach to deliver this is what we call equality of access. There are two aspects to this:

- equivalence at the product level. In markets or parts of the network in which BT has SMP, and which are enduring economic bottlenecks, for BT to offer the same or similar wholesale products to wholesale customers as it offers to itself, at the same prices, and using the same or similar transactional processes: and
 - supporting organisational changes within BT. This involves changes in BT's *management* structures, incentives, business processes and information flows necessary to support equivalence at the product level.
- 4.10 By focusing regulation on parts of the network that are enduring economic bottlenecks, and making that regulation more effective, we expect to be able to deregulate elsewhere. For example, once equality of access is in place in wholesale markets, we expect to be able to deregulate in many retail markets. We discuss this in more detail in the next chapter.
- 4.11 The vast majority of the responses to our Phase 2 consultation supported the adoption of equality of access. However, many of them emphasised the importance that any set of rules delivering such an approach should be legally enforceable, in order to give BT's competitors the confidence they need to make significant investments in competing infrastructure going forwards.
- 4.12 Following this Phase 2 consultation, Ofcom carried out an analysis under the Enterprise Act into the supply of wholesale access and backhaul services. Instead of making a market investigation reference to the Competition Commission under the Enterprise Act, Ofcom published a consultation in June 2005 on its proposal to accept a set of undertakings from BT in lieu of a reference. Ofcom's statement on this consultation is contained in part 2 of this document: it states that we have accepted a set of undertakings from BT. As we describe in Chapter 7, we expect these undertakings by BT to have the effect of delivering equality of access in a manner that is legally enforceable.

Mobile telecoms

- 4.13 Mobile telecoms networks lack the enduring economic bottlenecks that we found to exist in fixed networks. Competition has been sustainable between a sufficient number of networks, each providing end-to-end services to customers, to constitute effective competition. In the UK this has also resulted in competition in wholesale markets as well as retail markets, as network operators have entered into commercial arrangements to provide wholesale access to the variety of Mobile Virtual Network Operators (MVNOs) that have emerged in the market.
- 4.14 For this reason, and as we noted in Chapter 2, it has not been appropriate for the Telecoms Review to focus on mobile. Ofcom's principal strategy to promote further competition in mobile (and in the wireless sector more generally) has been through our approach to liberalising spectrum policy, and this has been addressed by Ofcom's Spectrum Framework Review. With regard to mobile, we would like to reach a situation where there are no constraints on "fixed" spectrum being used for mobile or vice versa, and no technological constraints on spectrum use, except for reasons relating to interference. We intend to auction spectrum that has been freed up without policy constraints unless they can be justified, and in a technologically neutral manner. There are however a number of important issues to be addressed in

the evolution between the current status quo and this end point, which Ofcom will be working with the industry to resolve.

- 4.15 In their Phase 2 responses, a number of mobile operators nonetheless challenged Ofcom to put in place a comprehensive deregulatory agenda for mobile. The principal remaining area of economic regulation in mobile is in relation to call termination. We discussed in the Phase 2 consultation a number of ways in which the underlying causes of SMP in call termination markets could be removed, and followed up with a more detailed (but still preliminary) consultation specifically on this subject in June 2005. This consultation has only recently closed. In our consultation document, we noted that major change to tariff structures such as Receiving Party Pays (RPP) could be disruptive and confusing to consumers, and that there is some scepticism about the potential for the evolution to IP-based technologies to remove the causes of SMP. The consultation challenged the mobile industry to look at technological methods, such as multiple SIM cards, and common, shared, or duplicated location registers, by which the underlying causes of SMP could be removed.
- 4.16 A number of mobile operators have also called for the removal of the market for access and call origination on mobile networks from the European Commission's Recommendation on Relevant Product and Service Markets. The Commission will be looking at this issue when it considers the markets to be included in future revisions of its Recommendation, and Ofcom will provide input into these considerations at the appropriate time.

The wider telecoms value chain

- 4.17 In Phase 1 of the review, Ofcom set out its intention to consider not just the traditional area of regulatory focus – i.e. telecoms networks and the conveyance services carried on such networks – but also the wider value chain which encompasses the equipment connected to networks, software and applications provided over networks, and the new entertainment and business services being offered over networks. We recognised that the move to open all-IP networks, and the increasing capabilities and processing power of devices owned by the customer but connected to the network, signalled a shift in focus away from the network (and network operators) towards service, content, equipment and applications providers.
- 4.18 We considered that this shift could be important because it could:
- deliver countervailing market power to companies elsewhere in the value chain who transact with telecoms network operators; and
 - create new problems of market power at points in the value chain other than the network itself, perhaps necessitating a response from the regulator.
- 4.19 In Phase 2, we set out our preliminary conclusions on this question. First, although it was possible that the network itself would play a smaller role in the overall telecoms value chain, this did not lead to the conclusion that regulation of the network would no longer be necessary. Those who had market power over parts of the network would continue to do so.
- 4.20 In relation to new competition problems emerging elsewhere in the value chain, we recognised that some specific problems could arise, particularly in

relation to control of scarce or premium content. We said that it was appropriate in most cases to adopt a light touch regulatory approach to what might turn out to be transitional bottlenecks, backed up where necessary by the use of competition law. However, it was possible to imagine circumstances in which it may be appropriate to use *ex ante* powers to address problems arising from control of such premium content, for instance:

- where rights were tied up for very long periods of time;
- where *ex ante* regulation would provide additional certainty to the market; and
- where the nature of the remedies required to avoid abuse of the bottleneck were such that an ongoing sector-specific regime would be the best mechanism to protect and promote competition.

4.21 In relation to potential market power in markets for devices or applications, we considered that there was a strong presumption against premature intervention. This suggested a general reliance on *ex post* competition law, coupled with action to promote open standards and interoperability in key areas. We also recognised that many such issues would in any event be addressed by international bodies given the transnational nature of the markets concerned.

4.22 This analysis led us to formulate a general regulatory principle that Ofcom should:

In the wider communications value chain, unless there are enduring bottlenecks, adopt light touch economic regulation based on competition law and the promotion of interoperability.

4.23 This section of the Phase 2 consultation attracted relatively little comment, but amongst those who did respond there was support for Ofcom's proposed regulatory approach. In line with these principles, Ofcom will maintain a watching brief on competition problems in the wider value chain, and stands ready to use its full range of powers as appropriate should problems arise. In addition, we will play a full part in ongoing discussions in international forums in relation to the promotion of open standards and interoperability.

Section 5

Scope for a reduction in regulation

Principles of deregulation

- 5.1 The third fundamental question that Ofcom set out to answer in the Telecoms Review was: is there scope for a significant reduction in regulation, or is the market power of incumbents too entrenched?
- 5.2 Under the Communications Act, Ofcom has a general duty to be deregulatory, and in particular, a duty to ensure that regulation does not impose or maintain burdens that have become unnecessary. In the review we wanted to establish from first principles whether there remained a case for the kind of detailed, sector-specific intervention that has existed in fixed telecoms markets since the privatisation of BT in 1984.
- 5.3 In our Phase 2 consultation, we discussed three approaches to regulation. Option 1 was deregulation: an immediate, across-the-board withdrawal of sector regulation, and a reliance instead on Ofcom's powers under the Competition Act. We considered that while enduring economic bottlenecks existed in fixed telecoms, we could not withdraw from such regulation, and that reliance on competition law would entail key decisions becoming embroiled in lengthy and complex litigation. Our subsequent consultation confirmed this view: not one response was in favour of this kind of across-the-board deregulation.
- 5.4 Nonetheless, as we mentioned in Chapter 4, our preferred approach of equality of access involves regulation being targeted on parts of the network that are enduring economic bottlenecks, creating scope for deregulation elsewhere. We therefore set out in Phase 2 the principle that Ofcom should:
- as soon as competitive conditions allow, withdraw from regulation at other levels*
- 5.5 This principle is anyway inherent in the EU regulatory framework. It is an established principle of the framework that downstream markets should not be subject to *ex ante* regulation where remedies imposed in upstream wholesale markets are sufficient to ensure effective downstream competition⁷. This principle is significant because it means that, once equality of access to upstream bottlenecks has been achieved, steps can be taken to remove *ex ante* regulation in downstream retail markets.
- 5.6 In their responses to Phase 2, many of BT's competitors urged Ofcom to be cautious in the pace of deregulation that it adopted. They urged us to deregulate only given *evidence* of effective competition in a market, not merely because of the *prospect* of effective competition as a result of equality of access having been put in place in an upstream market. The approach that we will be adopting to deregulation is set out below.

⁷ Article 17 of the Universal Services Directive states that NRAs can only impose obligations under that Directive if the obligations imposed under the Access Directive would not achieve the policy and regulatory objectives set out in Article 8 of the Framework Directive.

Approach to deregulation

- 5.7 Ofcom expects that the introduction of effective equivalence in upstream markets may warrant deregulation of downstream markets in two ways:
- through the removal of remedies in downstream markets where BT has SMP; and
 - in some cases, through a finding that BT no longer has SMP in downstream markets.
- 5.8 Where BT has SMP in a downstream market, it may be appropriate to remove some or all SMP conditions once equivalence has been introduced in upstream markets. We recognise that in some cases such remedies can have the effect of inhibiting competition (for example, price controls can restrict price competition). Deregulation would be appropriate where remedies in the relevant upstream markets could be considered sufficient to fulfil Ofcom's duties under Section 4 of the Communications Act 2003. Where there is equivalence of outcome, rather than of input, in upstream markets, the extent of downstream deregulation that would be appropriate may be less.
- 5.9 Even where equivalence is introduced upstream, it may not be appropriate immediately to remove all SMP conditions in downstream markets. For example, if downstream SMP conditions are removed before all of the issues relating to upstream equivalence have been addressed, BT's competitors may regard themselves as being vulnerable to unfair competition from BT, who could remain in a position to leverage its market power. However, where as a result of the introduction of equivalence upstream the dynamics of a downstream are moving towards effective competition, Ofcom may take this into account in imposing SMP conditions in the downstream markets, but with a clear understanding that Ofcom will be willing to re-regulate if necessary.
- 5.10 In some cases, the imposition of equivalence in upstream markets could contribute to a finding that there is no SMP in downstream markets. In particular, the imposition of equivalence upstream may be sufficient for a presumption of SMP in downstream markets, based on market share alone, to be rebutted.
- 5.11 It is important to recognise that the achievement of equivalence in upstream markets cannot be the only issue that Ofcom considers in its assessment of SMP or of appropriate remedies. In many markets some important additional issues will need to be addressed, including:
- evidence that effective competition is viable in downstream markets, taking account of factors such as margins, migrations, investment made or committed, and previous growth by new entrants. For example, this may include consideration of whether the margin available to BT's competitors is likely to be sufficient to enable effective competition;
 - whether the design of BT's 21CN allows scope for competition; and
 - whether the migration of legacy products to the 21CN will be achieved in a way which does not create unfair advantages for BT.
- 5.12 It is also important to note that we are referring here specifically to *ex ante competition* regulation. Establishment of upstream equivalence does not lessen the need for regulations put in place for consumer protection or to make competition more effective, for example rules on slamming. In addition,

even where *ex ante* regulation was removed, companies would still be subject to the Competition Act.

Deregulation by geography or customer type

- 5.13 Ofcom's preferred approach to regulation is to focus regulation on the parts of the network beyond which effective competition is not likely to be sustainable. However, we recognised in Phase 2 that this level is likely to vary – by customer, by product, and by geography. One of the regulatory principles that we proposed in Phase 2 was that Ofcom should:

accommodate varying regulatory solutions for different products and where appropriate, different geographies

- 5.14 Up to now, Ofcom (and Oftel before it) has not seen evidence to persuade it that there are separate markets by geography or customer type. Geographic markets have typically been defined to cover the whole of the UK, excluding Hull. In line with the EU guidelines on market definition, it has been recognised that competitive conditions may vary between different parts of the UK, but such variations have not been considered sufficient justification for the identification of separate markets. However, in our Phase 2 consultation we asked in what circumstances Ofcom should put in place different regulation in different geographic areas.
- 5.15 Many responses to Phase 2 urged us to be very cautious in this area. Altnets and service providers pointed out that it was essential that they could cover the whole of the UK with the same product, and they feared 'black holes' in their coverage. They pointed out the practical difficulties of gathering sufficient information to define such geographic markets correctly, and thereafter to investigate any anti-competitive behaviour. Many regional and national authorities were concerned that such a move could accentuate the digital divide, and that those areas with lower customer densities would end up with less competition and higher prices.
- 5.16 Ofcom will continue to adopt a case-by-case approach to market definition based upon geography. This may open up the prospect of deregulating, partially or fully, more competitive market segments. Some have argued that the wholesale markets for leased lines in central London and other major metropolitan centres and broadband services in large exchange areas, or the retail markets for services provided to large business customers, are examples of such market segments. Where the evidence supports the adoption of narrower market definitions, Ofcom will need to undertake formal market reviews, involving the assessment of market power and the consideration of SMP remedies where appropriate. The application of a disaggregated approach will need to be soundly based in empirical evidence, and that evidence will take some time to collect.

Ofcom's programme for deregulation

- 5.17 Ofcom currently has a number of initiatives under way that are likely to lead to some form of deregulation in specific markets. These are described below.

Residential voice services

- 5.18 In December 2003, Oftel concluded that BT had SMP in the fixed narrowband retail services markets throughout the UK excluding Hull. These services markets include the provision of residential analogue and digital exchange lines as well as residential local calls, national calls and calls to mobiles. The finding of SMP resulted in BT being subject to a range of conditions. These include an obligation to comply with an RPI-RPI price control until 31 July 2006 in respect of a number of residential retail services markets. In addition, BT is required not to discriminate unduly and to publish its prices.
- 5.19 In its statement on wholesale line rental in the March 2003, Oftel committed to relaxing the retail charge control on BT once BT had implemented a fit-for-purpose wholesale line rental product. The detailed criteria that would need to be met were also described. Oftel's November 2003 statement reiterated this commitment.
- 5.20 In July 2005, BT requested that Ofcom assess whether its wholesale line rental product is fit for purpose. Ofcom is now undertaking that assessment and expects to publish its conclusions and its proposals in a Consultation Document in October 2005, to be followed by a statement in December 2005. If Ofcom concludes that wholesale line rental is fit-for-purpose, BT's retail price control will be relaxed from RPI-RPI to RPI-0.
- 5.21 The 2003 retail price control will expire next year. Ofcom will consult in the early part of 2006 on whether remedies in the form of SMP obligations, including a retail price control, continue to be needed in the fixed narrowband retail services markets. The scope for further deregulation will be considered at that time.

Business retail services

- 5.22 BT currently has SMP in the retail business markets for analogue and digital exchange lines, inland calls and low bandwidth leased lines. As a result, it is subject to a number of SMP conditions which, amongst other things, require it to publish its prices and prohibit undue discrimination in the provision of these services. At present, these conditions prevent BT from offering discounts on retail service bundles that include any of the services supplied to markets in which BT has SMP.
- 5.23 Ofcom's statement on business pricing in May 2004 set out the circumstances in which we considered that it would be appropriate to permit BT to offer discounted prices for bundles of services. These circumstances included the condition that the products in the bundle must be replicable by other providers. The statement concluded that many of the services in SMP markets were not replicable in this way, and that at that time it would therefore not have been appropriate to permit BT to bundle these products together and offer discounted prices for the bundle.
- 5.24 Ofcom has now revisited that assessment, in light of the changes and improvements that BT has made to the wholesale products used by other communications providers to compete against BT in these markets. In a consultation document published on 20 July 2005, Ofcom has consulted on whether BT's retail business calls, exchange lines and leased lines products appear now to be replicable.

- 5.25 If Ofcom concludes that these retail products are now replicable, we will no longer presume that BT is unduly discriminating if BT decides to offer bundles of retail business calls, exchange lines and leased lines products – either these products bundled with each other, or bundled with other retail business products from markets in which BT does not have SMP. Providing that it complies with certain pricing tests, BT will also be able to offer these bundles at discounted prices (relative to stand-alone prices).
- 5.26 On 7 September 2005, Ofcom published a consultation document that considered whether, in the event that BT's retail SMP services are found to be replicable, the pricing restrictions should be relaxed further by allowing BT to compete by offering unpublished bespoke prices for retail SMP services. Ofcom is consulting on the proposal that this freedom should be granted initially for customers spending more than £1m a year with BT and subject to a requirement that prices for SMP services should not fall below a price floor which covers transfer charges for network components plus fully allocated retail costs.
- 5.27 Full market reviews of the retail business markets in which BT has SMP are expected to take place in 2006 or 2007. The scope for further deregulation will be considered at that time.

Leased lines – geographic analysis

- 5.28 BT currently has SMP in the following markets for leased line products, in the UK excluding the Hull Area:
- retail low bandwidth traditional interface leased lines;
 - wholesale low bandwidth traditional interface symmetric broadband origination;
 - wholesale high bandwidth traditional interface symmetric broadband origination;
 - wholesale alternative interface high bandwidth symmetric broadband origination; and
 - wholesale trunk segments at all bandwidths.
- 5.29 Ofcom has initiated a review of the extent to which competitive conditions vary in different parts of the UK in the retail and wholesale markets for leased lines. The purpose of this analysis is to assess the case for defining separate geographic markets at the regional or local level, or for varying SMP remedies by geographic area within a single market. Ofcom intends to consult on its findings later this year.
- 5.30 If there appears to be a strong case for defining separate geographic markets, Ofcom will launch a full market review of the relevant markets. Alternatively, if there is a strong case for varying remedies by geography within a single market, a further consultation document on this subject will be published during the first half of 2006. Either process could result in a lessening of regulation in the markets for some categories of leased lines.

Wholesale International Services

- 5.31 BT currently has SMP in 113 separate markets for wholesale international services, involving the conveyance of traffic to network termination points outside the UK. Cable & Wireless (C&W) has SMP in four such markets. As a

result, BT and C&W are subject to a number of SMP conditions, including requirements to provide network access on reasonable request and not to discriminate unduly in the provision of services to these markets.

- 5.32 Ofcom has initiated a market review of the markets for wholesale international services, to ascertain whether, in the light of competitive developments in these markets, BT and C&W continue to have SMP. If they do not, the SMP designations and associated regulatory remedies will be removed. Ofcom expects to publish a consultation document on this subject towards the end of this year.

Wholesale Broadband Access

- 5.33 BT is currently designated as having SMP in the asymmetric broadband origination market in the UK (excluding Hull) and in the broadband conveyance market in the UK. There are a number of regulatory requirements that stem from these SMP findings, including requirements to provide network access on reasonable request, not to discriminate unduly, and to publish a reference offer. In addition to these requirements, BT has also been directed to provide ATM interconnection priced on a retail minus basis; this is the current DataStream product.
- 5.34 In the last Wholesale Broadband Access (WBA) market review (issued 13 May 2004), Ofcom recognised that LLU-based competition may provide an increasingly important constraint in the WBA market. Should this be the case then it may be appropriate to remove some, or all, of the regulatory requirement and to instead rely on the competitive constraint offer by LLU-based competition. However, it is apparent from LLU rollout in the UK to date and from LLU rollout in other countries, that LLU is unlikely to be successful in all parts of the UK.
- 5.35 Ofcom is planning to review the WBA market next year (2006) and given the potential constraining effect of LLU this review will pay particular attention to the development of LLU and the impact that this is having in the WBA market. As a precursor to this review Ofcom intends to consult on whether there is a case for varying regulatory solutions by geography and if so, how the different geographic areas should be defined and what are the likely effects on consumers.

Wholesale fixed narrowband services

- 5.36 Ofcom has already withdrawn all regulation from one wholesale fixed narrowband market, that of inter-tandem conveyance and inter-tandem transit. These services involve the transfer of calls between main (tandem) exchanges in the UK.
- 5.37 The deregulation resulted from Ofcom's conclusion in August 2005 that BT does not have SMP in the market. In reaching its decision, Ofcom considered the dynamics of the market, including the clear downward trend in BT's market share towards almost 40%, and the capacity of altnets to exploit their high connectivity at BT's tandem exchanges by offering competing services in the absence of BT obligations to supply. The decision followed eight years in which this market has been judged to be as prospectively competitive.

- 5.38 The lifting of BT's SMP status removed a range of obligations, including a requirement to not increase prices by more than inflation, and to not unduly discriminate between its customers. These changes will give BT more freedom to compete on price and other contractual terms.
- 5.39 This deregulation was accompanied by a reduction in regulation on BT in the markets for local-tandem conveyance and local-tandem transit. Whilst BT retains SMP in this market, it now only has to limit its price rises to inflation, rather than RPI-13% as for each year during 2001-5. BT also now has to give customers only 28 rather than 90 days' notice of changes to its charges and other terms and conditions.
- 5.40 At the same time, Ofcom applied a targeted approach by keeping regulations on three other fixed narrowband wholesale markets in which BT has SMP status:
- call origination in the UK;
 - single transit in the UK; and
 - call termination on BT's network.
- 5.41 Whilst Ofcom believes, following a check on competitive conditions in these markets, that BT's dominance in these markets will persist for the next several years, we will monitor developments such as the impact of BT's 21CN network, and in due course, we will conduct full reviews of these markets.

Section 6

Timely and efficient investment in next generation networks

- 6.1 The fourth fundamental question for the Telecoms Review was: how can Ofcom incentivise timely and efficient investment in next generation networks?
- 6.2 A widely-held view amongst stakeholders was that Ofcom's objective should not be to encourage investment, but rather to ensure that its approach to regulation did not *disincentivise* investment. This is a critical issue: in an industry like telecoms with high infrastructure costs, there is a significant danger of the regulator's actions delaying or depressing investment. Ofcom's approach to regulation might disincentivise investment were it:
- to provide insufficient certainty regarding Ofcom's future approach to regulating new investments;
 - to fail to allow efficient investment by competitors by not providing them with access to fit-for-purpose wholesale inputs in parts of the network where there are economic bottlenecks; and
 - not to allow investors to earn returns that are commensurate with the risks faced at the time that the investment was made.
- 6.3 Ofcom is actively working to address each of these concerns. One of the reasons for undertaking the Telecoms Review was to put in place a clear regulatory approach in telecoms which would allow potential investors to judge better the direction of future regulation. We proposed the general principle in Phase 2 that Ofcom should:
- promote a favourable climate for efficient and timely investment and stimulate innovation, in particular by ensuring a consistent and transparent regulatory approach*
- 6.4 We published a statement on 18 August 2005 on our approach to risk assessment⁸. This statement discussed how Ofcom should recognise the risks incurred by companies in making investments, in the context of both traditional telephony products and newer services. Regulatory clarity was also a key consideration in our decision to conduct a review of Next Generation Access networks, which we will shortly be beginning. This is discussed in more detail later in this chapter.
- 6.5 The second concern – access by competitors to parts of BT's network where effective competition is not sustainable – has been a central focus of the Telecoms Review. This issue is addressed by the undertakings that we are accepting from BT in lieu of a reference under the Enterprise Act. Putting in place equality of access to parts of the network which are enduring economic bottlenecks is designed to provide operators with efficient incentives to invest

⁸ Ofcom's approach to risk in the assessment of the cost of capital, 18 August 2005

in those parts of the network where infrastructure-based competition is sustainable.

- 6.6 The third concern - that of Ofcom's approach to risk and return - was addressed by our August statement. Ofcom considered a number of issues relating to the relationship between risk and return in a regulatory context. The key principles contained in that statement were that:
- Ofcom's analysis could, in certain cases, take account of variations in risk within a company's activities;
 - the appropriate estimate for the equity risk premium (ERP) was 4.5%, this figure representing a value towards the top of a reasonable range of estimates;
 - Ofcom may consider the impact of real options⁹ in the case of new, higher risk investment; and
 - Ofcom should base its analysis of companies' returns on mean expected cash flows at the time that investment decisions were taken. For example, we should avoid assuming, *ex post*, that it was known *ex ante* that investments would turn out to be successful.
- 6.7 In accordance with this first principle, Ofcom disaggregated the equity beta that we use in calculating BT's allowable cost of capital into two categories; BT's lowest risk activities, and the rest of BT. Ofcom considered that BT's copper access assets constituted such lowest risk activities, because they are subject to less systematic risk than BT as a whole, and because they represent an enduring economic bottleneck. Many of BT's highest risk activities, notably information and communications technology (ICT), are subject to significant competition, and as such are unregulated.
- 6.8 This tendency for more risky products to be associated with more competitive activities may, however, not hold in the case of next generation networks. There may be significant risks associated with these networks, but they may also be the source of future potential competition concerns. Indeed, the provision of next generation access assets may be associated with enduring economic bottlenecks. This combination of high risks and a possible lack of competition present a particular challenge for Ofcom's approach to regulation. There may be conflicts between encouraging efficient investment by BT, and promoting competition and efficient investment by competitors. The key issues relevant to investment in next generation core and access networks are briefly discussed below

Investment in next generation core networks

- 6.9 Ofcom would like to deliver as much regulatory clarity as is possible around next generation core networks. We are aiming to achieve this by providing clarity on our overall regulatory approach, and more specifically through our August statement on risk, and through the undertakings we are accepting from BT.
- 6.10 The undertakings will have a key role to play in determining the appropriate regulatory approach with regard to next generation core networks. The initial

⁹ Real options is the concept that there is an implicit option value in a monopolist delaying a risky investment while the market environment becomes clearer.

configuration of these networks could determine whether future competition is encouraged or foreclosed. Ofcom believes that there should be a number of competing next generation core networks, provided the economics of NGNs support such an outcome. Our *ex ante* regulation and the undertakings we are accepting from BT are, and will be, designed to encourage such an outcome.

- 6.11 The extent to which it appears that there is a potential for the development of competition in next generation core networks will play an important part to determining Ofcom's future approach to regulation in this sector. If there is significant potential for competition, then this competition can be expected to protect consumers against excessive returns being earned from this part of the network. If there were little potential for competition, a more interventionist approach to regulating returns would be appropriate. In that case, in calculating allowable returns it would be appropriate to bear in mind that the risks faced by operators of those networks would be lower, as a result of the lack of competition.

Investment in next generation access networks

- 6.12 We noted in our Phase 2 consultation document that at some stage the current generation of access infrastructure may become insufficient to deliver the kinds of services that businesses and consumers demanded. At that stage, significant investment would need to be made in upgrading these access networks, and/or investing in new access technologies such as fibre optics deeper into the local loop, or wireless technologies.

- 6.13 We said that it was particularly important that regulation does not prevent these investments being made in a timely and efficient manner. But we noted in Phase 2 that this was a particular challenge, because of the characteristics of these investments:

- to date, the access network has been an enduring economic bottleneck, and as a result BT has been subject to *ex ante* regulation requiring it to provide access to other operators. Once deployed, next generation access infrastructure may have the characteristics of a bottleneck too;
- upgrading existing networks or investing in new access networks will be very large investments, and they are likely to have long pay-back periods. Therefore these investments will be particularly sensitive to regulatory uncertainty; and
- investments in next generation access networks will be subject to more significant demand-side risk than core network upgrades. Core network transmission capacity can be upgraded incrementally once the fibre has been laid and in response to known demand. However, providers of next generation access infrastructure would only have a clear idea of demand once they had incurred a very significant upfront sunk cost.

- 6.14 In Phase 2, we considered the definition of next generation access and invited discussion on a range of potential regulatory approaches. These were:

- equality of access from the outset with standard rate of return;
- equality of access from the outset with risk-adjusted rate of return;
- time-limited forbearance;
- time-limited forbearance combined with contestability.

- 6.15 Our consultation elicited very little debate on the substance of these proposals. It emerged that there was a dichotomy in attitudes to next generation access among stakeholders. On the one hand, most consumer and business organisations, many public sector bodies, many IT companies and equipment manufacturers argued that rapid deployment of this infrastructure was critical to the competitiveness of the UK's economy, the future delivery of public services, and many other societal benefits. On the other hand, most telecoms network operators said that they saw no business case for a substantial upgrade of the access network even in the medium term, and that there was plenty of scope left to deliver higher speeds from the existing copper infrastructure. It could be that both sides of this debate are correct, due to the presence of significant barriers to market development such as externalities or the lack of effective competition in the market. In this case, it would be appropriate that regulatory and public policy solutions were developed to address such barriers. Some stakeholders also predicted that radically different types of telecoms business models, such as Open Public Local Access Networks (OPLANs) would come to the fore because of a change in the economics of the industry, and that our regulatory options assumed too rigidly a continuation of the current industry structure.
- 6.16 Ofcom believes that it is important that it provides clarity on the regulatory regime for next generation access networks, so that any lack of regulatory clarity is not a contributory factor in the timing of future investments. However, there are many important and complex issues to be addressed before we can confidently set out the appropriate regulatory approach. Therefore, upon completion of the Telecoms Review, Ofcom will be undertaking a strategic review of next generation access. Before consulting on Ofcom's regulatory approach, this review will begin by considering:
- prospects for development of next generation access within the UK;
 - potential delays and inhibitors to UK rollout of such infrastructure; and
 - emerging regulatory issues for immediate consideration.
- 6.17 This review will be in three phases, with the following timescales:
- *Phase 1 consultation document* - prospects for deployment of higher bandwidth broadband next generation access in the UK (end 2005).
 - *Phase 2 consultation document* - regulatory approaches to higher bandwidth broadband next generation access (Spring 2006).
 - *Phase 3 statement* (Autumn 2006).
- 6.18 If you have any questions about this review or would like to contribute to Ofcom's early thinking, please contact Dougal Scott on dougal.scott@ofcom.org.uk, or 020 7783 4305.

Section 7

Achieving equality of access in fixed telecoms

- 7.1 The final fundamental question for the review was: at varying times since 1984, the case has been made for structural or operational separation of BT, or the delivery of full functional equivalence. Are these still relevant questions?
- 7.2 The feedback from our Phase 1 consultation was overwhelmingly that these absolutely were still relevant questions. Only a minority of stakeholders called for BT to be split up into divisions with separate ownership. However, many argued that BT needed to be made to deliver some kind of transactional or functional equivalence, and that break-up should be a last resort should this policy fail.
- 7.3 As discussed in Chapter 4 above, Ofcom considers that parts of the fixed telecoms network are enduring economic bottlenecks, and given this our preferred approach is equality of access. The concept of equality of access is close to the concepts of transactional or functional equivalence that many stakeholders were arguing for, and in Phase 2 Ofcom worked hard with BT and industry to define in great detail what equality of access would mean in practice.
- 7.4 In June 2005, BT offered Ofcom a set of undertakings in lieu of Ofcom making a market investigation reference under Part 4 of the Enterprise Act 2002. We published a document consulting on the acceptance of those undertakings on 30 June 2005, and in part 2 of this document we are publishing a statement accepting a set of undertakings from BT.
- 7.5 We expect that the undertakings will have the effect of delivering equality of access. We explained in Phase 2 that equality of access included both equivalence at the product level, and supporting organisational changes by BT. We expect the undertakings to have the effect of delivering both of these.
- 7.6 At the product level, the undertakings define a number of current products to which equivalence of input must be applied, and contain provisions for equivalence of input to be applied to certain types of product in future as next generation networks are rolled out. The current products to which such equivalence is to be applied include shared and full metallic path facility (MPF), wholesale line rental (WLR), backhaul extension service (BES), WAN extension service (WES) and IPStream.
- 7.7 In terms of BT's organisation, the undertakings require BT to put in place widespread changes that are designed to support equivalence at the product level. For example, Access Services¹⁰ (AS) will manage and sell wholesale products made up from the parts of the network that are enduring economic

¹⁰ In the Notice under Section 155(1) of the Enterprise Act, which we published in June 2005, this division was referred to as 'Access Services Division' (ASD)

bottlenecks, and the undertakings contain a number of provisions to protect the independence of this division. Similarly, there are organisational changes within BT Wholesale to protect the flows of information and influence between the parts selling SMP products, and other parts of the organisation.

- 7.8 Ofcom's statement in part 2 of this document contains more detail on those undertakings. The undertakings themselves are set out in Annex A.
- 7.9 The implementation of these undertakings and their effective measuring and monitoring will be critical to success, and we discuss this in Chapter 8. Ofcom expects that these undertakings will have the effect of delivering the equality of access to enduring economic bottlenecks which the Telecoms Review has concluded should be Ofcom's preferred regulatory approach.

Future regulation of telecoms

- 7.10 It is important to note that all of Ofcom's duties, functions and obligations under the Communications Act 2003 will remain in place following our acceptance of undertakings from BT under the Enterprise Act. The undertakings cannot, and do not try to, replace regulation under other legislation. In particular, the undertakings do not replace BT's obligations under the EU regulatory framework.
- 7.11 The undertakings commit BT to substantive changes in its organisation by means of remedies that do not form part of the EU regulatory framework, including a number of structural and governance commitments that BT has made. The undertakings also address a range of other competition concerns through remedies such as equivalence of input. In this way the undertakings are complementary to the EU Regulatory Framework. They will help to ensure the effective implementation of the framework, and we expect them to bring about greater competition and deregulation than would be possible otherwise.

Section 8

What happens next?

- 8.1 The Telecoms Review was Ofcom's strategic consideration of telecoms policy: we wanted to be clear, and we wanted our stakeholders to be clear, what our regulatory strategy was in relation to telecoms. This will enable future discrete regulatory decisions to be made in the context of an overall strategic direction, and it will enable our stakeholders better to be able to anticipate Ofcom's stance on emerging regulatory issues.
- 8.2 There were some issues raised by the Telecoms Review on which Ofcom has yet to complete its analysis. These have been discussed earlier in this document: they include some aspects of consumer policy in telecoms and regulation of next generation access networks.
- 8.3 Many responses to our consultation on the undertakings offered by BT emphasised how important it was that Ofcom should ensure that the undertakings were implemented in a full and timely manner. They also called on Ofcom to state how it would be monitoring the success of its regulation going forwards.
- 8.4 In this chapter we discuss how Ofcom will be taking forwards the conclusions of the review and the undertakings that we have accepted from BT. This chapter discusses:
- Ofcom's strategy on outstanding policy issues;
 - implementing the undertakings;
 - measuring success; and
 - further reviews.

Ofcom's strategy on outstanding policy issues

- 8.5 There were some areas of telecoms policy that were considered by the Telecoms Review, but where we have yet to finalise our regulatory strategy. We are now working to complete our analysis. The two principal areas, which were discussed in more detail earlier in this document, are:
- **Consumer information issues.** As we discussed in Chapter 3, we have narrowed down the options on the provision of consumer information that we put forward in Phase 2. However, before finalising our strategy we need to complete the analysis we are carrying out of the specific demographic groups that may be suffering from unreliable or confusing information. We also think that we should consider this issue in the context of our wider consumer policy. We will be issuing a consultation on our consumer policy in telecoms by the end of the year;
 - **Next generation access networks.** As we discussed in Chapter 6, we will be starting a strategic review of next generation access immediately. We will be issuing an initial consultation towards the end of 2005 on the prospects for deployment of next generation access in the UK, as well as on a number of immediate regulatory issues.

- 8.6 In addition to these areas of strategic analysis, we will be implementing the approach to deregulation discussed in Chapter 5. This will take place through the normal process of carrying out market reviews, assessing SMP and adopting appropriate remedies.

Implementing the undertakings

- 8.7 Many responses to our consultation on BT's undertakings urged us to work very closely with BT to ensure that the undertakings were fully and properly implemented, in a manner consistent with the spirit as well as the letter of the undertakings. We will be working very closely with BT and other stakeholders in this area. For the first twelve months, we will be publishing implementation reports giving our assessment of progress. The first of these is planned for the end of October.
- 8.8 Implementing the undertakings will also require significant input by the rest of the telecoms industry, as new systems and processes need jointly to be developed. In addition, we ourselves will be working on our own implementation tasks – for example our processes for monitoring compliance and dealing with complaints. We will be issuing guidelines on many of these issues in due course.
- 8.9 Figure 4 summarises the timetable for implementation of the undertakings in the next six months.

Figure 4: Timetable for implementation of the undertakings in the first six months

Milestone	Clause	Date in Undertakings
Product Equivalence		
IPStream equivalence of inputs RFS	Annex 1	31 December 2005
Stand-alone address-matching service available	3.4	1 January 2006
Transparency		
Sufficient transparency provided for CPS, PPCs and DataStream	4.1.1	22 December 2005
Access Services		
CEO appointed	5.24	22 October 2005
AS established	5.1	22 January 2006
Ofcom satisfied that AS established	5.2	22 February 2006
AS headquarters team moved to access controlled accommodation	5.33.1	22 March 2006
BT Wholesale		
BTWS and BTS established	6.1	22 January 2006
Customer needs for leased lines identified	Annex 3	22 January 2006
Equipment Location		
Equipment location product available	7.2	22 March 2006
First vacation list provided	7.7	22 March 2006
Code of Practice		
Code of Practice published	9.1	22 January 2006
EAB		
EAB established with five members	10.1	22 March 2006
Contracts Management Mechanism		
Scheme in place	12.1	22 March 2006
General		
Chinese Wall and systems separation provisions come into effect	20.5	22 January 2006

Measuring Success

8.10 In their responses to the consultation on BT's undertakings, many in the industry pointed out how important it will be for Ofcom closely to monitor whether BT was complying both with the letter and the spirit of the undertakings. Some suggested that Ofcom should define a set of metrics that it then would monitor in order to assess this. The analysis of such metrics

would guide both Ofcom and BT, showing where initiatives are succeeding, and where further attention should be focused. For the rest of industry there is likely to be a need to be able to see that true progress is being made in establishing the basis for effective competition. The use of metrics could provide an objective basis on which to build trust in this process.

- 8.11 A number of other responses, including organisations representing consumers and businesses, urged Ofcom to define a set of metrics that would measure not just whether the undertakings were being complied with, but even if they were, whether Ofcom’s regulatory approach was delivering the kinds of outcomes for businesses and consumers that were intended.
- 8.12 Ofcom considers both of these to be important. In fact we have divided the indicators that could be measured into four groups, and these are shown in Figure 5. The first two categories of indicators will measure whether the undertakings are being complied with, both to the letter and more broadly to the spirit. Intermediate industry outcomes are indicators that measure the rate at which competition is developing in particular markets. Finally, consumer outcomes measure the things that actually make a difference to businesses and consumers: for example, what choice do they have, what price do they pay, how rapidly do new services become available?

Figure 5: Types of indicators



Examples

- Equivalence deadlines
- EAB, AS set up
- EAB complaints
- Comparable service measures
- Levels of deep network investment
- WLR and LLU take-up
- Price
- Choice
- Innovation

- 8.13 A number of responses not only called for Ofcom to define the indicators that it would be monitoring, but also challenged Ofcom to set target levels. They argued that only in that way could Ofcom’s regulatory approach be judged successful or otherwise.
- 8.14 We agree that targets are appropriate for many of the measures on the left hand side of Figure 5. In fact, the undertakings already contain a number of clearly defined deadlines by which certain things must be in place: for example the introduction of equivalence and various organisational changes. However, there are many indicators of whether the undertakings are being delivered that do not lend themselves to particular threshold levels being defined. For example, if the number of complaints to the EAB is high, that could be a symptom of problems with the implementation of the undertakings, or it could be an indication that the EAB was a very effective body for resolving even quite minor complaints. For these kinds of indicators, only a consideration of the full range of indicators in totality can give a clear impression. For this reason, we do not consider it appropriate to set threshold measures for many of these type of indicators.

- 8.15 Targets may in some cases be appropriate for intermediate industry outcomes. For example, the Office of the Telecommunications Adjudicator has put in place targets for BT's operational capacity to deliver LLU lines. If Ofcom could be confident that the market for a particular product (for example, LLU or WLR) was overwhelmingly constrained by supply rather than demand, it could be appropriate for Ofcom too to define targets for these kinds of indicators.
- 8.16 Ofcom considers that targets would generally be inappropriate for indicators measuring wider outcomes for consumers. It is certainly essential that Ofcom understands communications markets intimately, for example: what prices consumers are paying, how rapidly and widely new services are becoming available, how consumers are engaging with the market and what levels of satisfaction they derive. However, Ofcom's job is to facilitate these outcomes not to deliver them. For example, we do not require nor deliver investment, lower prices or new services. We aim to create an environment where suppliers have an incentive to cut costs and where this feeds through to lower prices; where suppliers have an incentive to invest and to innovate. Targets for these kinds of metrics risk being misleading or even distorting. They may be misleading if they point to regulatory success or failure when in fact the underlying market driver (for example, the extent of cost reduction in the industry) was anticipated incorrectly. They may be distorting if, for example, they encouraged Ofcom to encourage an inefficiently fragmented market structure for the sake of pursuing an over-ambitious target on consumer choice.
- 8.17 Below we discuss in more detail our approach to each of the types of metrics set out in Figure 5, and finally in this chapter, we discuss our approach if success is not forthcoming.

Delivery to the letter and spirit of the undertakings

- 8.18 The undertakings themselves contain a large number of deadlines for measurable changes to be put into effect. Some of these deadlines are some way in the future, and BT has itself established an implementation plan with a number of interim deadlines. We discuss this in more detail above. Ofcom will be working with BT, in particular the Equality of Access Board, to monitor closely whether these interim and final deadlines and other measurable requirements of the undertakings are being delivered.
- 8.19 The requirements and deadlines contained in the undertakings have been described in detail elsewhere, and are not repeated exhaustively here. They include, for example:
- equivalence of inputs delivered for the products specified;
 - Equality of Access Board in place;
 - AS organisational build and re-branding progress; and
 - code of practice established satisfactorily.
- 8.20 A number of responses pointed out that there were requirements in the undertakings which, though specific, were largely unmeasurable. For example, it is very hard to measure how well a Chinese wall is working. More broadly, even if the undertakings are being met to the letter, it is very hard to measure whether the intention of the undertakings has been met. For example, the senior management of AS may not have bonuses or incentive

plans linked to the success of the BT Group, but how do they act when faced with a decision on the supply of a product to a downstream rival to the BT Group?

- 8.21 Under the undertakings, the Equality of Access Board can review and comment on a set of Key Performance Indicators (KPIs) which, taken together, will give an indication of whether these kinds of outcomes are being delivered. This is important, because many of these indicators can only really be measured from within BT. Whilst Ofcom will work closely with BT to define the set of KPIs that it will employ to measure outcomes, Ofcom will advise, and not dictate, the set of metrics BT will use.
- 8.22 In addition to the KPIs the EAB will monitor, there are likely to be helpful indicators that Ofcom is well placed to measure. In particular, once the organisational changes required by the undertakings have been fully implemented, we could undertake an analysis of the cultural and process improvements achieved, in consultation with stakeholders.
- 8.23 Over the next couple of months we will be talking with industry and other stakeholders to provide input into our discussions with BT and the EAB on KPIs, and to help define any additional indicators that we should be monitoring. Ofcom is keen to receive feedback from all stakeholders over the precise indicators that could eventually be adopted that would gauge whether the spirit of the undertakings is being complied. If you would like to contribute to this discussion, please contact Andrew Heaney on andrew.heaney@ofcom.org.uk, or 020 7783 4315.
- 8.24 As we mention above, these kinds of metrics could individually be misleading, and only in totality can provide an accurate picture. By way of example, such indicators could include:
- proportion and absolute number of Statements of Requirements (SOR) accepted by AS and BTW;
 - instances of BT's downstream competitors being first-to-market with products which use innovations introduced by AS or BTW;
 - proportion of AS sales supplied by the AS's own sales force;
 - comparable service measures – for example the order rejection rate, order lead time, on-time delivery of new services, fault rate, and fault out-of-service time experienced by BT's downstream divisions and by its downstream competitors; and
 - the number of complaints raised with the Equality of Access Board or with Ofcom, the number upheld, and the number remedied as a result.
- 8.25 Following these discussions, we will be making a statement in December on the actual indicators Ofcom will use, which in totality will allow us to monitor BT's compliance with the spirit and the letter of the undertakings.
- 8.26 In a year's time, we will be conduct a review as to the efficacy and delivery of the undertakings, and we will make this assessment based upon these indicators. We will also be assessing specifically how a number of the detailed rules in the undertakings are working in practice.

Intermediate industry outcomes

- 8.27 Ofcom's regulatory approach aims to deliver better outcomes to businesses and consumers by promoting effective competition. So it is important to measure how effective competition is over time.
- 8.28 The rate of change in market share is a commonly-used measure of how effectively competition is developing in markets once dominated by a monopoly supplier. Ofcom believes that it is important to be very cautious in using this measure. Certainly, in a very competitive market it would be unusual for new entrants not to be making some headway against a very dominant incumbent. However, an incumbent may legitimately be maintaining market share because it is competing vigorously on price or service – if so, this would demonstrate effective, not ineffective competition. Though Ofcom will monitor market shares, we believe that simplistic interpretation can lead to incorrect assessments and even perverse incentives on the industry.
- 8.29 Once again, we will be talking with business and consumer groups, BT and the rest of industry to establish what intermediate industry indicators it would be appropriate for Ofcom to monitor. Our statement in December will include the indicators that we intend to monitor to measure intermediate industry outcomes. We think that the kinds of indicators that might be included would be:
- level of deep level investment, for example number of unbundled exchanges;
 - take-up of products supplied by AS, for example WLR and LLU lines, and PPC tails; and
 - successful migration to 21CN, allowing both BT and its external customers to introduce innovative new products.
- 8.30 As we discuss above, we consider that it would be misleading to establish targets or threshold measures for many of these indicators. In most cases, only in totality would they be likely to give a clear picture.

Business and consumer outcomes

- 8.31 In the various consultations that we have held since the start of the Telecoms Review, many business and consumer groups have urged us not to lose sight of the end goal: we are adopting a new regulatory approach because we think it will deliver better outcomes to businesses and consumers. So it is essential that we can measure what kind of experience these end customers are having.
- 8.32 We consider that the outcomes that we should measure, for both businesses and consumers, include:
- retail prices;
 - service quality, for example fault rates and repair times;
 - choice of services;
 - awareness of the level of choice;
 - measures of innovation (see below);
 - customer satisfaction; and
 - instances of particular practices that lead to consumer dissatisfaction, for example of slamming or mis-selling, or silent calls

- 8.33 Of these metrics, innovation is particularly hard to measure. Traditional measures such as the number of patents filed are not relevant in this case. We consider that the best method of measuring innovation is through international benchmarking: are services available, or more widely available, to UK customers than to customers in other countries? But we will need to be cautious in interpreting this benchmarking. Different supply side conditions (such as customer density), different consumer tastes or different industrial policies by governments could all contribute to differential rates of service availability and take-up.
- 8.34 Ofcom already monitors most of these market metrics as part of our statutory obligation to construct a well-informed view of the telecoms market. At present however, various elements of these data are reported in a number of different publications. In future we will publish all of these metrics in Ofcom's annual Communications Market Report, together with our assessment of trends and changes in the data.
- 8.35 It is important to bear in mind the lead time between supply-side reform of an industry, and the delivery of better outcomes for consumers. If our new regulatory approach delivers the benefit that we are hopeful that it can, consumers may experience some benefits quite quickly (for example, a greater choice of service provider for access lines, or the availability of a high speed broadband service using LLU). But the greatest benefits – lower prices, more rapid innovation and more choice – may be felt two, five or even ten years into the future.

Where measurement reveals a lack of success

- 8.36 As well as just measuring success, it will be important that we take action to remedy situations where our monitoring, or stakeholders' complaints, reveal problems.
- 8.37 Where the above indicators or other evidence suggests that the undertakings are not being adhered to, we will take immediately take the appropriate remedial action. The undertakings contain the provision for Ofcom to issue directions to BT to remedy any breaches. Whether Ofcom issues such a direction, or whether we directly initiate proceedings in the High Court, will depend upon the nature of the breach, as well as a consideration of the accumulation of any infringements by BT up to that date. In particular, if there has been a history of BT declining to accept directions, Ofcom is more likely, in relation to any further breaches, to initiate proceedings in the High Court without first giving BT the opportunity to accept any directions made pursuant to the undertakings.
- 8.38 Where indicators suggest that though the undertakings are being adhered to, Ofcom's overall regulatory approach is not delivering the outcomes expected of it, we will need to look again at our approach. We discuss this in the next section.

Further reviews

- 8.39 Ofcom's intention in conducting this review was to create a durable medium-term strategy for telecoms. Therefore, we believe that the measures set out in this statement constitute such a strategy. We would not expect to conduct a

further review within the next five years. There are, however, some external factors which might justify an earlier review. The first is the evolution of the EU Regulatory Framework. A mid-term review of that Framework is currently planned for next year. At this time however, Ofcom does not anticipate that this review will lead to radical revision of the EU Framework. Any output from that review is therefore likely to require fine-tuning of our strategic approach rather than a fundamental revision.

- 8.40 It is also possible that a new technology, or a combination of new technologies, will be launched which fundamentally alters the economics of the telecoms market. Whilst we believe this is unlikely in the foreseeable future, by the nature of such disruptive technologies they are difficult to predict in advance.
- 8.41 It is also not certain that the market will respond to this review in the way that our analysis suggests. We have recognised that the exploitation of opportunities created by regulation would require the emergence of strong, infrastructure-based operators with scale. Clearly, there are many barriers and hurdles to be overcome before such a market structure arises. We have also sought to create a regulatory regime which encourages the necessary investment, but again investors are subject to a range of forces and motivations many of which are beyond Ofcom's control.
- 8.42 As outlined above, Ofcom will monitor a range of indicators, and we will evolve our policy approach in the event that effective competition does not emerge in the way that we expect.
- 8.43 Finally, in the statement in part 2 of this document, Ofcom is accepting undertakings from BT in lieu of making a reference under the Enterprise Act. We have accepted these undertakings because we believe that they represent as comprehensive a solution as is reasonable and practicable to the competition problems that we have identified. If, in practice, it emerges that they are failing to deliver such a solution, Ofcom would be able to open an investigation with a view to making a Market Investigation Reference to the Competition Commission. It is important that we give these undertakings time to have an effect in the market, and we will do so. In any event, under the Enterprise Act 2002 we may not make a reference to the Competition Commission on an issue covered by the undertakings within twelve months of having accepted those undertakings, unless Ofcom considers that there has been a breach of the undertakings and Ofcom has given BT notice of such breach.

Statement on undertakings in lieu of a reference under Part 4 of the Enterprise Act 2002

Statement

Issued on 22 September 2005

Statement on undertakings in lieu of a reference under Part 4 of the Enterprise Act 2002

1. On 30 June 2005, Ofcom issued a notice under Section 155 of the Enterprise Act 2002, consulting on undertakings offered by British Telecommunications plc (BT) in lieu of a reference under Part 4 of the Enterprise Act 2002.
2. Section 370 of the Communications Act 2003 gives Ofcom concurrent functions with the OFT under Part 4 of the Enterprise Act 2002. Under Section 131 of the Enterprise Act 2002, Ofcom may make a market investigation reference to the Competition Commission where it has reasonable grounds for suspecting that any feature, or combination of features, of a market in the UK for goods or services prevents, restricts or distorts competition in connection with the supply or acquisition of any goods or services in the UK or a part of the UK.
3. Under Section 154 of the Enterprise Act, instead of making such a reference, but where it has the power to make one and otherwise intends to do so, Ofcom may accept undertakings from such persons as it considers appropriate, to take such action as it considers appropriate. These undertakings must be for the purpose of remedying, mitigating or preventing any adverse effect on competition concerned, or any detrimental effect on customers so far as it has resulted from, or may be expected to result from, the adverse effect on competition.
4. In the notice that we published in June, we explained that we had reasonable grounds to suspect that competition was being restricted in markets for the supply of wholesale access and backhaul services in the United Kingdom, and in directly related downstream retail markets. We explained that we believed that the combination of BT's upstream market power and vertical integration provided BT with the incentive and the ability to discriminate against its downstream competitors. Moreover, we explained why we suspected that BT may have engaged in conduct which had had the effect of restricting competition.
5. We also set out the undertakings that BT had offered in lieu of a reference to the Competition Commission. We explained why we considered that the package of undertakings was appropriate to address the difficulties that we had identified, and why we considered that they offered as comprehensive a solution as was reasonable and practicable.
6. We received around forty responses to our consultation¹¹. Most of the responses thought that Ofcom should accept undertakings from BT in lieu

¹¹ The responses are available on Ofcom's website at www.ofcom.org.uk/consult/condocs/sec155/responses

of a reference under the Enterprise Act. A small number of respondents argued that Ofcom should not accept undertakings from BT. For example, Viatel felt that structural separation would be preferable to the undertakings. Entanet International argued that BT should be split into retail and wholesale divisions. Following our own analysis and in light of the other responses to the consultation, we do not agree; we believe that the structural separation of BT (which could only be imposed by the Competition Commission) would not at this time be a proportionate remedy to the competition problems identified. We set out our reasons for this in the notice published in June 2005.

7. Most responses suggested a number of changes that respondents thought should be made to the undertakings, and some respondents thought that Ofcom should only accept undertakings if certain changes were first agreed with BT. We set out below a summary of the points raised by respondents to the consultation, together with our views on these issues, and including an explanation of how certain of those issues have been taken into account in the undertakings being offered by BT.
8. A number of important points were made in responses to the consultation which did not relate to the terms of the undertakings, but instead related to what Ofcom should do were it to accept undertakings. A number of responses were concerned that Ofcom was replacing its existing powers with the undertakings that it was proposing to accept. It should be emphasised that the undertakings cannot replace Ofcom's powers under primary legislation; neither do the undertakings replace BT's obligations under other legislation, and in particular BT's obligations under the EU regulatory framework.
9. A number of responses also emphasised how important it was that Ofcom should be very closely involved with the implementation of the undertakings, to ensure that BT fulfilled its obligations in a timely manner and in conformity with the spirit as well as the letter of the undertakings. Other responses called upon Ofcom to define the metrics by which it would measure the success of its regulatory approach. We have set out our approach to these issues in the Final Statement on the Strategic Review of Telecommunications.
10. Having taken full account of the responses to the consultation and having agreed certain changes to the undertakings with BT in light of those responses, Ofcom has decided, instead of making a reference to the Competition Commission and for the purpose of remedying the adverse effects on competition identified, to accept the undertakings which it considers are appropriate having had regard in particular to the need to achieve as comprehensive a solution as is reasonable and practicable to the adverse effects on competition.
11. The full text of the undertakings accepted by Ofcom is provided in Annex A.

Comments on the undertakings raised in response to the consultation

12. The two tables below summarise the points made in response to the consultation. In the first table, we set out a number of issues raised by the consultation, together with an explanation of how those issues have been taken into account in the undertakings offered by BT. In the second table, we set out the other issues raised by the consultation, together with Ofcom's views on those issues.
13. In addition to the points covered in these tables, the consultation raised a large number of detailed drafting suggestions. Some of these have been taken into account in the undertakings offered by BT. However, we have not addressed these in this statement.

Figure 1: Issues raised in response to the consultation, together with an explanation of how these have been taken into account in the undertakings offered by BT

Issues raised in the consultation	How these issues have been taken into account in the undertakings
<i>Equivalence</i>	
The circumstances in which BT is not obliged to apply equivalence of input where there are security issues is defined too broadly	<ul style="list-style-type: none"> The security provision is now more specific in relation to, for instance, national and criminal security issues.
The equivalence of input requirements around full Metallic Path Facility (MPF) are insufficient. In particular, if in future an Multiple Service Access Node (MSAN) access product is provided by Access Services (AS), it should use full MPF as an input, on an equivalence of input basis	<ul style="list-style-type: none"> BT is required to agree with Ofcom what the input to any Wholesale Line Rental (WLR) successor product based on MSAN access should be. BT and Ofcom will agree what, if any, input into a successor WLR product would be appropriate to be provided on an equivalence of inputs basis, taking into account the commercial aspirations of LLU operators and other communications providers, and the long term interests of consumers. From mid-2006 BT expects to deliver full MPF using the same strategic systems platform as partial MPF. BT faces a strong incentive to deliver a fit-for-purpose partial MPF product, because it uses this as the basis of its own downstream broadband services. This will provide a mechanism to ensure that the shared systems platform is fit for purpose.
The undertakings are silent as to how the installed customer base of other communications providers would be migrated to equivalence of input products after the Ready For Service (RFS) date	<ul style="list-style-type: none"> BT is required to discuss with communications providers how migration can be completed with minimum disruption to customers before the Installed Base Migration Complete (IBMC) date.
There is a possible confusion caused by splitting the Partial Private Circuit (PPC) product between AS and BT Wholesale (BTW).	<ul style="list-style-type: none"> We have agreed that all PPC products will be managed within BTW. But we have also agreed that AS will product manage two new products; a 'traditional interface leased line access product', and a 'traditional interface leased line backhaul product'. The costs attributable to these new products will form part of the cost stack for BT's PPC product. These new products will allow other operators to replicate commercially, from the point of view of their use of these new products, relevant Partial Private Circuits.

Issues raised in the consultation	How these issues have been taken into account in the undertakings
Access Services	
The undertakings should be clear on what Network Termination Equipment (NTE) or Customer Premises Equipment (CPE) services AS engineers will provide and to whom	<ul style="list-style-type: none"> We have agreed that maintenance and provision carried out by AS field engineers on NTE and internal wiring does not have to be provided on an equivalence of inputs basis. This will allow routine repair of an exchange line without requiring the attendance of two field engineers from different BT divisions. However, this exclusion does not apply to any work carried out on CPE.
There should be specificity on what AS and/or BTW may not do (i.e. line of business restrictions), and there should be greater clarity around the respective sales functions of AS and BTW	<ul style="list-style-type: none"> The undertakings now have a specific section dealing with the sale of AS products. This section states: <ul style="list-style-type: none"> a) AS is expected to be the primary sales channel for its own products and services; b) AS may take orders for products from other parts of BT only if the products require detailed operational co-ordination with AS products, if a communications provider predominately buys AS products and wishes to have a single sales relationship with BT, or by agreement with Ofcom; c) AS can only sell to other Communications Providers; for example it may not sell to corporate customers who purchase products and services for their own internal use; and d) other parts of BT (e.g. BT Wholesale or BT Retail) may take orders for AS products if the products require detailed operational co-ordination, or if a communications provider wishes to have the product delivered by another part of BT.
There should be greater specificity around which elements of branding are captured in AS rebrand (for example, that it will apply to websites but not manhole covers)	<ul style="list-style-type: none"> AS is only required to rebrand stationery, website, web address, relevant buildings, clothing and vehicles. It may re-brand other items if it wishes.
The accounting and transactional transparency between AS and the rest of BT is not clear enough	<ul style="list-style-type: none"> More clarity and detail has been added regarding the basis for preparation of AS accounts, reconciliation with divisional statutory accounts and regulatory accounts. This is designed to ensure the approach is more effective and transparent.
The stipulations around backhaul are insufficiently clear. For example, can any form of backhaul topology be used?	<ul style="list-style-type: none"> The undertakings now make clear that various forms of backhaul topology (e.g. hub and spoke, daisy chaining) are included. This section has also been amended to make clear that AS is not required to supply backhaul products which will be used to replicate a core network. The detailed design of backhaul solutions must however be for commercial discussion between AS and its customers. It is not beneficial for this to be over-specified in the undertakings.
Other organisational provisions	
The undertakings should specify where interconnection products are managed	<ul style="list-style-type: none"> A requirement has been included that hand-over products relating to certain AS products should 'follow' the associated access product; i.e. they should be managed by AS.
The scope of the BT Group 'insider' functions (listed in Annex 2 of the undertakings) is not tight enough. The undertakings should provide details of what functions can do, and/or the EAB have consultative role	<ul style="list-style-type: none"> A requirement has been included that the EAB is able to review Annex 2; both the scope of Annex 2, and the training of those people.

Issues raised in the consultation	How these issues have been taken into account in the undertakings
<p>The Chinese Wall provisions are not complete enough. For example there is a provision missing relating to Customer Confidential Information in AS, and the BTS/BTWS split is weak and only covers flows of information in one direction</p>	<ul style="list-style-type: none"> • The Chinese Wall provisions have been modified so that (with a few necessary exceptions): <ol style="list-style-type: none"> a) AS employees are not able to share Customer Confidential Information with BTW/BTR; b) no employee of AS can attempt to influence the commercial policy of any other part of BT; c) no employee of BTS may attempt to influence the commercial policy of BTWS; and d) the Chinese Wall between BTWS and BTS in respect of Customer Confidential Information now prevents indirect information sharing • There will also now be a four month transitional period before all Chinese Wall provisions are in place; this coincides with the four month period that BT will have to set up AS, BTS and BTWS.
<i>Next generation networks</i>	
<p>The “reasonably practical” caveat for BT in applying equivalence of input on 21CN leaves too much room for interpretation</p>	<ul style="list-style-type: none"> • Some examples of circumstances under which this caveat might apply have been added.
<i>Enforcement and monitoring</i>	
<p>The audit of the EAB Annual Report should cover non-financial metrics and should be a full and comprehensive audit</p>	<ul style="list-style-type: none"> • The EAB audit will cover non-financial metrics. The audit will be part of the audit of BT’s annual regulatory compliance report, which is required to be reasonably comprehensive.
<i>Other issues</i>	
<p>The new equipment location product specification is not precise enough. For example there is a lack of transparency over vacation sites, it is unclear if retail leased lines can be terminated at sites, there needs to be a migration product to the new product, and there needs to be an ability to locate customer-owned equipment in sites</p>	<ul style="list-style-type: none"> • Several small changes have been made including: <ol style="list-style-type: none"> a) requiring equipment to be controlled but not necessarily owned by a communications provider; b) including retail leased line termination equipment; c) protections for communications providers in the event of a dispute; and d) expanding the definition of the exchange from which this product should be provided to any building containing a Local Access Node.

Figure 2: other points made in response to the consultation

Respondents' comments on the undertakings	Ofcom's views
<i>Equivalence</i>	
There should be compensation for late delivery of equivalence of input to ISDN2 as well as to WLR	<ul style="list-style-type: none"> We consider the requirement in the undertakings to offer equivalence of input by a defined date to be more important than the extent of compensation.
The equivalence of input implementation plan should include more interim delivery dates	<ul style="list-style-type: none"> Commitment in the undertakings to interim dates without further feasibility assessment may result in milestones which are impractical. BT is providing Ofcom with an implementation plan which contains detailed interim steps, and we will be working closely with BT to ensure they are met.
Equivalence of input should apply to DataStream	<ul style="list-style-type: none"> We consider this disproportionate, given that there is equivalence of input on both LLU and IPStream, and given that the DataStream product is likely to be superseded in the 21CN.
WLR should use full MPF as an input	<ul style="list-style-type: none"> We consider this would undermine WLR-based competition. WLR connection and rental charges would have to increase substantially, since they would have to include the product-specific costs associated with LLU, as well as the product-specific costs associated with WLR. This would in turn be reflected in the line rental paid by consumers. Requiring WLR to use full MPF as an upstream input would also impact on those broadband services which are dependent on PSTN lines. Broadband services based on shared MPF or asymmetric IPStream would effectively be paying LLU product costs twice. The current LLU systems and processes are also not dimensioned so as to handle the total volume of narrowband transactions generated by BT Retail and by other providers.
The address database and appointments book access should be on fully equivalent basis	<ul style="list-style-type: none"> These fixes are designed to give real benefits rapidly. The arrangements will be superseded by new OSS systems developed to deliver equivalence of input. It would take a long time to upgrade the current arrangements to be fully equivalent, detracting from the 'quick win' nature of this commitment.
The undertakings should specify what is meant by equivalence of outcomes and specify compensation for non-delivery	<ul style="list-style-type: none"> This is best addressed by the ex ante framework including the no undue discrimination guidelines and charge setting.
There should be a process for assessing "trivial differences" within equivalence of input products so that they don't collectively become material	<ul style="list-style-type: none"> We consider the current arrangements sufficient to deal with this issue. The EAB has a duty to assess whether equivalence is in place, and will hear complaints from customers if they consider that equivalence is not in place. If this mechanism fails, Ofcom will be able to investigate on its own initiative whether the undertakings are being met.
The commercial terms and charges that BT does not pay will remain a source of non-equivalence. AS should be required not to shift contract risk onto altnets	<ul style="list-style-type: none"> Equivalence of payment is designed to be achieved through a combination of equivalence of input, accounting approach and the relevant ex ante measures. The Contract Management Mechanism is aimed at ensuring that reasonable terms are set.
The undertakings are not precise enough on which future products equivalence of input is applied to and so BT could create new (regulatory bypass) products to	<ul style="list-style-type: none"> We consider the current wording to be sufficient to prevent such circumvention.

Respondents' comments on the undertakings	Ofcom's views
circumvent the undertakings' intent	
All BT's products in markets which are downstream of markets in which BT has SMP should be required to be built out of equivalence of input products	<ul style="list-style-type: none"> We consider that this would be disproportionate, and it would go against the principle of regulation being focused at the level of the network where competition is unlikely to be effective and sustainable.
Equivalence of input should apply to core as well as backhaul products	<ul style="list-style-type: none"> We consider much of the core network to be competitive (we have recently concluded that BT does not have SMP in relation to narrowband inter-tandem conveyance and inter-tandem transit). Therefore, applying equivalence of input would be inappropriate.
The timescale for introduction of equivalence of input to WLR should be more rapid	<ul style="list-style-type: none"> Introduction of equivalence of input for WLR is a complex task, and there is a risk that a more rapid timescale may not practically be achievable. In the meantime, BT will be required to put in place a number of outstanding changes to the current product, in order to deliver a product that achieves improved equivalence of outcomes.
Access Services	
Dark fibre, or backhaul from street cabinets should be offered by AS	<ul style="list-style-type: none"> Any future requirement for BT to provide these products would be best addressed by the ex ante framework in this instance. If Ofcom were to deem such remedies appropriate at some point in the future, any dark fibre products would be provided out of AS.
CPS should be in AS	<ul style="list-style-type: none"> We believe the general principle to be appropriate that AS should own those access and backhaul products which are associated with the physical or transmission layer of the network. Those services which operate at the network layer, because they make use of switches or routers, are owned by BTW. This includes CPS.
WLR should not be in AS	<ul style="list-style-type: none"> We do not consider this appropriate, since all the network elements contained in the WLR product are currently enduring economic bottlenecks in the narrowband access value chain.
AS should provide the new equipment location product and the new equipment, location product should be provided on an equivalence of input basis	<ul style="list-style-type: none"> The new equipment location product needs to support products sold by both BTW and AS and so its management should 'follow' the product (as for interconnection circuits). Thus specifying where it is product managed may be inappropriate. With regard to applying equivalence of input, significant feasibility would be required to assess if, how and when this product could be provided on an equivalence of input basis.
The conditions relating to incentive remuneration (e.g. bonus, Long Term Incentive Plan) should be expanded to include pay rises	<ul style="list-style-type: none"> We consider this unnecessary, since bonus and LTIP are the most critical forms of performance-related remuneration, particularly for senior staff.
There should be separate offices for non-HQ AS staff	<ul style="list-style-type: none"> We consider this not to be proportionate. Many non-HQ buildings are small regional offices: it would not be practical to require BT physically to separate its staff in these locations.
The existing timings around re-branding of AS are unreasonably long and there should be more interim steps	<ul style="list-style-type: none"> We consider the timescales to be reasonable, and proportionate in that they allow BT to rebrand gradually as assets (e.g. vans, stationery) are replaced. We will be monitoring interim steps to delivery, but we do not consider it necessary for such interim steps to be contained in the

Respondents' comments on the undertakings	Ofcom's views
	undertakings
There should be no reference at all to BT in the AS brand	<ul style="list-style-type: none"> We do not consider this necessary. One of the aims of the rebranding is that AS staff and customers realise that something significant has changed. It is not necessary totally to eliminate reference to the BT logo all together to achieve this.
The AS Terms of Reference should be published	<ul style="list-style-type: none"> We do not consider this necessary, because to all intents and purposes the undertakings contain the AS's terms of reference.
There should be penalty-free migration to AS products from altnets currently buying from elsewhere in BT	<ul style="list-style-type: none"> This can best be addressed through commercial negotiation, ex ante requirements and the normal disputes procedure if agreement cannot be reached.
There should be no distance limit contained in the definition of backhaul products	<ul style="list-style-type: none"> The distance limit is intended to ensure that backhaul products are used as backhaul products, and are not used to replicate a core network. This would reduce the incentive for altnets to invest in their own core networks.
The definition of core nodes is too loose	<ul style="list-style-type: none"> The definition of core nodes used in the undertakings is closely based on the definition of trunk nodes used in previous market reviews, and which we believe is appropriate.
AS should be required to publish the process by which it will consider requests for product development	<ul style="list-style-type: none"> We do not consider that this would be proportionate. We consider the behavioural controls around AS, and the requirement on AS to use a statement of requirements process on an 'equivalent' basis and to be under EAB oversight in its operation of that process, to be sufficient. Greater specification of the process in the undertakings could significantly increase on-going regulatory burden and risk inflexibility.
<i>Other organisational provisions</i>	
BT should not be able to recover reorganisation costs in regulated charges	<ul style="list-style-type: none"> This is best addressed by ex ante charge setting.
BT has an incentive to load costs out of BTW and BTR and into AS	<ul style="list-style-type: none"> The ex ante charge setting regime is the most appropriate means to address inappropriate loading of costs.
Greater independence of investment decisions by BTW is required to avoid inequality	<ul style="list-style-type: none"> We consider the current provisions, which stipulate the extent to which the BTWS product management group shall be independent of the rest of BT Wholesale, combined with EAB oversight, to be sufficient.
Group Regulatory and Group Commercial Policy Forum should be removed from Annex 2 list of 'insiders'	<ul style="list-style-type: none"> We do not consider this appropriate at present. If this becomes an issue, it can be addressed through EAB examination and recommendation.
Phone books and numbering activities should move from BTR to AS or BTW	<ul style="list-style-type: none"> Fixed line number portability will move to AS. We do not consider that it would be appropriate for AS to own the actual production of phonebooks, since the Telecoms Review has not identified this as an enduring economic bottleneck.
There should be earlier data separation than 2010, which is dictated by the timing of the WLR IBMC date	<ul style="list-style-type: none"> Completion of equivalence of input on WLR is an important enabler of data separation, and so earlier dates may be impractical without further feasibility work.
There should be more (and possibly earlier) milestones for delivery of physically separate IT systems	<ul style="list-style-type: none"> Commitment to additional dates without further feasibility assessment may result in impractical milestones. BT is developing interim deadlines in its implementation plan, which Ofcom will closely monitor, but we do not consider it appropriate for them to be included in the undertakings.

Respondents' comments on the undertakings	Ofcom's views
Volume/pool discounts for wholesale customers should apply across BT's different organisational groups	<ul style="list-style-type: none"> We consider this issue to be best addressed through Ofcom's ex ante powers.
There should be a gardening leave requirement for staff leaving AS or BTWS and moving to other parts of BT	<ul style="list-style-type: none"> The EAB will be able to recommend this under the undertakings, if it considers that any such move would contravene the intent of the undertakings. We do not consider a specific provision to be necessary.
The undertakings should specify the organisational / reporting arrangements of BTWS and BTS	<ul style="list-style-type: none"> We consider that over-specification could leave BT with a lack of reasonable operational flexibility.
There should be an obligation on BT to design equivalence of input interfaces with regard for altnets' needs	<ul style="list-style-type: none"> BT is required by the ex ante framework to consult on the interfaces it adopts. In any case, since BT has a strong preference for non-proprietary interfaces, which allow it to make use of multiple equipment vendors, the risk of problems is much reduced.
Next generation networks	
The consultation process that BT is required to follow on 21CN should be defined more tightly	<ul style="list-style-type: none"> The undertakings now require 'formal' consultation. But it would be disproportionate to specify precisely how BT should consult with its wholesale customers.
BT should be required publicly to review 21CN design decisions already made	<ul style="list-style-type: none"> We do not consider it reasonable to request BT to agree a process which would automatically re-open all the formal decisions it has already made, for example in relation to vendor selection. We also do not accept that all of BTs design decisions should be made public. We do however accept the need to ensure that design decisions already made do not undermine the spirit of these undertakings. We consider that the design of 21CN is still sufficiently flexible that the ongoing review process established by these undertakings should provide adequate opportunity for review.
The undertakings are not precise enough on which future products equivalence of input is applied to. Is it possible for the Undertakings to specify where there is likely to be enduring SMP?	<ul style="list-style-type: none"> The undertakings cannot specify where there is likely to be enduring SMP – that needs to be the subject of future market reviews as the markets evolve. However Ofcom will carry out such reviews in a timely manner and indicate where it believes there is enduring SMP as part of the Market Review process.
The test for applying equivalence of input to future products "BT could be reasonably expected to be found to have SMP" allows BT too much flexibility	<ul style="list-style-type: none"> It is very important that the undertakings should be complementary to the ex ante regulatory framework, going forwards. Ofcom will carry out market reviews under the framework in a timely manner, and intends to provide as much certainty as is appropriate as to where we consider that there could reasonably be expected to be SMP in future.
21CN design principles should be more specific and could be widely interpreted in court	<ul style="list-style-type: none"> We consider that the principles strike the right balance between broad principles and specificity, given the current early stage of design. Additional specificity could constrain efficient design, and we believe would therefore be inappropriate.
The undertakings should specify a precise time between launch of new products at a retail and a wholesale level	<ul style="list-style-type: none"> The lead time required depends on circumstances (the appropriate time could be weeks or many months) so additional specificity would be counter-productive. We also consider that specifying a process involving Ofcom in product development would be burdensome and could constrain innovation. We consider the current solution, involving a commitment backed up by behavioural changes and EAB oversight, to be sufficient.

Respondents' comments on the undertakings	Ofcom's views
The requirement for broadband dialtone not to result in "material competitive advantage" could be interpreted to give BT too much flexibility	<ul style="list-style-type: none"> No specific technical solution is yet sufficiently advanced to address this problem, though a number of possible solutions do exist in principle. We consider it would be detrimental to disallow this innovation, and that this protection is sufficiently tight to give BT an incentive to resolve this problem.
Compensation payments under 21CN transition should include non-infrastructure costs	<ul style="list-style-type: none"> If commercial negotiation of compensation payments fail, then this can be dealt with as a dispute under normal regulatory procedures.
Equality of Access Board	
<p>How will the Undertakings ensure that the EAB independent members are really independent, for example can Ofcom publish its opinion?</p> <p>The categories of people excluded from being independent members of the EAB should be tightened</p>	<ul style="list-style-type: none"> The undertakings require BT to consult Ofcom on appointments. We consider it inappropriate to over-specify the people that can be on the board, and that the process outlined in the undertakings is sufficient to ensure the independence of the independent members of the board.
The EAB should have powers to enforce its findings, not just monitor	<ul style="list-style-type: none"> We consider that the EAB will be most effective if its function is to monitor, and not to have executive powers. Were it also to execute equivalence, it could be appropriate for it to be more accountable to shareholders and have a majority of BT executives. If BT's main board is to be accountable for the undertakings, it should also be responsible for seeing that they are adhered to. We therefore consider the current arrangements to be most effective.
The EAB should be wholly independent of BT	<ul style="list-style-type: none"> We believe that it is important that the EAB should be internal to BT. This is because the undertakings give it both a duty and an incentive to report breaches of undertakings to BT's main board, as well as to Ofcom. If EAB was external to BT it could not do this; in fact there may not be a clear rationale for having an EAB separate to Ofcom – and this would be little advancement on the status quo.
The EAB should contain a member appointed and paid for by industry	<ul style="list-style-type: none"> The EAB will need free rein to look at issues which are highly commercially confidential to BT. We consider that may be inappropriate for it to contain members who were funded or otherwise accountable to its competitors.
The EAB should have an Ofcom observer	<ul style="list-style-type: none"> Ofcom has visibility of EAB activities through minutes and EAB reports. We therefore do not believe an observer to be appropriate.
The EAB should have an independent chair	<ul style="list-style-type: none"> If BT's main board is to take note of the EAB's findings, we consider it most effective if the EAB chairman is one of their number, but not a BT executive.
There should be a champion of consumer values on the EAB	<ul style="list-style-type: none"> The EAB may include members who are external experts, and this may be a useful skill for one of its number to have. However, we do not consider it necessary that one member should be designated a consumer champion in this way. The EAB is designed to ensure the delivery of equivalent <i>wholesale</i> products. Though it is part of a wider set of arrangements designed to promote competition and hence improve consumer outcomes, it will not directly consider consumer issues. We consider that such consumer issues are better addressed directly by Ofcom.

Respondents' comments on the undertakings	Ofcom's views
<i>Enforcement and monitoring</i>	
The provision that BT may refuse to accept an Ofcom Direction is too weak	<ul style="list-style-type: none"> Ofcom considers the enforcement route envisaged by the Enterprise Act as a good backstop should BT refuse to accept Ofcom's Directions. We also discuss our approach to the use of Directions in Chapter 8 of our Final Statement on the Strategic Review of Telecommunications.
Contract adjudicator decisions (in the Contracts Management Mechanism) should be binding	<ul style="list-style-type: none"> The scope and arrangements for the contracts management mechanism will be worked out in full by BT and industry to provide an effective mechanism to deal with issues surrounding terms and conditions relating to SMP products.
The Contracts Management Mechanism should clearly state that the adjudicator will consider best practice in other industries	<ul style="list-style-type: none"> We consider this unnecessary to specify in the undertakings as the effective contract management mechanism may take into account relevant best practice issues.
What happens if Ofcom is consulted on something (e.g. EAB appointments) but does not agree with BT's approach?	<ul style="list-style-type: none"> Issues such as this will be included in our on-going monitoring and assessment of the efficacy of the undertakings.
There should be a deadline for a major review of the undertakings, and a formal process for their amendment	<ul style="list-style-type: none"> Ofcom has stated in the final Telecoms Review statement its expectations of future reviews. We consider it unnecessary to be more specific in the undertakings, beyond the current provision that the undertakings may be amended by the mutual consent of BT and Ofcom, especially given that Ofcom is under a duty to keep the undertakings under review.
<i>Other issues</i>	
BT's commitments on the LLU / broadband margin stability should be included in the undertakings	<ul style="list-style-type: none"> Were Ofcom to wish to put in place a regulatory commitment on BT to offer such a margin stability, it would be appropriate to address this through the ex ante framework.

Annex A

Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002

WHEREAS:

- (a) Ofcom considers that it has the power to make a reference to the Competition Commission under Section 131 of the Enterprise Act 2002;
- (b) BT has offered undertakings to Ofcom in accordance with section 154 of the Enterprise Act 2002; and
- (c) Ofcom, instead of making a reference to the Competition Commission, has decided to accept BT's undertakings.

NOW THEREFORE:

BT hereby gives Ofcom the undertakings below (these "Undertakings") and shall act in the manner set out in this document.

1. **Scope**

- 1.1 These Undertakings shall be binding on BT in the United Kingdom.
- 1.2 These Undertakings shall apply in respect of the matters to which they relate in the whole of the United Kingdom (except the Hull Area) but shall apply to Northern Ireland only to the extent set out in section 13.

2. **Definitions and Interpretation**

2.1 In these Undertakings:

"Access Network" means the Electronic Communications Network which runs from a Local Access Node to a network termination point on an End-User's premise and which supports the provision of copper-based access services and fibre-based access services to End-Users.

"Alternative Communications Provider Operational Area" means a Communications Provider Operational Area at an Exchange other than that requested by the Communications Provider so that the Communications Provider has the same ability to provide electronic communications services that make use of Network Access at no greater cost to the Communications Provider than that which it would have paid had it occupied a Communications Provider Operational Area at the Exchange named within its request.

"AS" means the Access Services division referred to in these Undertakings as AS, to be established by BT in accordance with section 5 of these Undertakings.

"AS CEO" means the Chief Executive Officer of AS.

“AS Headquarter Management Team” comprises the AS CEO and those of his direct reports based in the same city as the AS CEO, that city at the date these Undertakings take effect being London.

“AS Management Board” means the management board of AS, comprising the AS CEO, his direct reports and any other person(s) appointed to that board from time to time.

“Associated Services” means those products and services supplied from time to time ancillary to the provision of Metallic Path Facility and Shared Metallic Path Facility. At the date these Undertakings take effect they are listed in section B6, part 6.03 of the BT Carrier Price List and include:

- a) co-mingling space (variable exchange space footprints and rack space units);
- b) power (AC & DC);
- c) ventilation & cooling;
- d) internal tie cabling;
- e) external tie cabling (for distant location); and
- f) cable link for Metallic Path Facility and Shared Metallic Path Facility (installation of third party backhaul).

“Backhaul Extension Service” means BT’s product of that name existing at the date these Undertakings take effect and as it may evolve, be developed or replaced (whether under the afore mentioned or a new name) from time to time.

“Backhaul Product” means a Network Access service which runs from a BT Local Access Node to:

- a) another BT Local Access Node; or
- b) a BT Core Node; or
- c) another Communications Provider’s point of handover (but which is not an interconnection circuit or interconnection service provided over that circuit),

provided that the straight line distance to any of the above is no more than the greater of:

- i) 15km (or such other distance as may be mutually agreed between BT and Ofcom); or
- ii) the straight line distance from BT’s Local Access Node to the nearest BT Core Node.

For the avoidance of doubt this definition does not include backhaul services to nodes outside the UK.

“Bitstream Network Access” means a form of Network Access which provides transmission capacity between an End-User premise and a BT node or a point of handover to another Communications Provider, which allows a degree of control to Communications Providers (including BT) over how the service to the End-User is realised.

“BT” means British Telecommunications plc whose registered company number is 1800000, and including any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 736 of the Companies Act 1985, as amended by the Companies Act 1989.

“BT Group Operating Committee” means the committee of that name, established by the BT Group plc Board resolution approved on 19 February 2002 and any successor to that committee.

“BT Group plc” means BT Group plc whose registered company number is 4190816.

“BT’s Backhaul Network” means BT’s Electronic Communications Network from BT’s Local Access Nodes to:

- a) another BT Local Access Node; or
- b) a BT Core Node; or
- c) another Communications Provider’s point of handover.

“BTNI” means the organisation within BT currently called BT Northern Ireland, together with its dedicated support teams in BT Regions, and includes any successors. For the avoidance of doubt, it does not include BT employees or agents working in Northern Ireland for other parts of BT.

“BT Wholesale” means the division within the BT organisation that currently has that designation and which predominantly manages upstream products and services, apart from those which will be provided by AS, designed for use by other Communications Providers, as inputs to their own products, and includes any successors to that division.

“Carrier Pre-selection” means a facility which allows a subscriber to whom a publicly available telephone service is provided by means of a public telephone network to select which pre-selected provider of such services provided wholly or partly by means of that network, is the pre-selected provider the subscriber wishes to use to carry his calls by designating in advance the selection that is to apply on every occasion when there has been no selection of provider by use of a telephone number.

“Carrier Price List” means the price list having that name which contains charges for certain products and services provided by BT to Communications Providers and certain products and services provided by Communications Providers to BT, as such price list is amended from time to time, and which is published at www.btwholesale.com at the date these Undertakings take effect.

“Code of Practice” means the code or codes of practice drawn up and published in accordance with section 9 of these Undertakings.

“Commercial Information” means information of a commercially confidential nature relating to SMP Products or other products and services to which Equivalence of Inputs applies; or in the case of sections 6.10.3 and 6.13 and 6.14 relating to products and services described in section 6.1.2; and which relates to any or all of the following in relation thereto:-

- a) product development,
- b) pricing,
- c) marketing strategy and intelligence,
- d) product launch dates,
- e) cost,
- f) projected sales volumes, or
- g) network coverage and capabilities,

excluding any such information as agreed by Ofcom from time to time.

“Commercial Policy” means policies and plans in relation to SMP Products or, in the case of section 8.6, relating to products and services described in section 6.1.2, and which relate to any or all of the following in relation thereto:-

- a) product development,
- b) pricing,
- c) marketing strategy and intelligence,
- d) product launch dates,
- e) cost,
- f) payment terms,
- g) product specific forecasting, or
- h) network coverage and capabilities,

excluding any such policies and plans as agreed by Ofcom from time to time. For the avoidance of doubt this excludes commercial policy of general application across BT which it is appropriate to set centrally.

“Communications Provider” means a person providing a Public Electronic Communications Service or a Public Electronic Communications Network, including BT where relevant and for the avoidance of doubt shall include any internet service provider. For the avoidance of doubt this does not include any person in so far as he procures such a service or network for provision to himself or the members of his group of companies for their own private use.

“Communications Provider Operational Area” means any part of an Exchange which is:

- a) capable of independent use and occupation by a Communications Provider (including the use of the common areas) but which will not adversely affect the use or value of the remaining part of that property; and
- b) is not bona fide reasonably required by BT at any time for the purposes of BT's business.

“Communications Provider Property Users Group” means a group representing Communications Providers (other than BT) made up of three representatives appointed by them.

“Core Node” means a node in an Electronic Communications Network whose primary function is not to support the provision of access services to End-Users but to switch or route traffic between other nodes in a network.

“Customer Confidential Information” means any information, in whatever form, which, in the case of written or electronic information, is clearly designated by the Communications Provider as commercially confidential and which, in the case of information disclosed orally, is identified at the time of disclosure as such or is by its nature commercially confidential, but excluding any information which:

- a) enters the public domain otherwise than by reason of a breach of confidentiality;
- b) is previously known to BT at the time of its receipt;
- c) is independently generated or discovered at any time by BT; or
- d) is subsequently received from a third party without any restriction on disclosure.

“DataStream” means an asynchronous transfer mode based Bitstream Network Access service offered under that name by BT at the date these Undertakings take effect.

“Downstream Divisions” means BT’s divisions which are predominantly concerned with providing End-Users with downstream products and services and for the avoidance of doubt excludes BTNI.

“EAB” means the Equality of Access Board to be established by BT in accordance with these Undertakings.

“EAO” means the Equality of Access Office to be established under section 10 of these Undertakings.

“End-User” has the same meaning as in the Communications Act 2003.

“Equipment” means for the purpose of sections 5.19 and 7 Communications Provider’s equipment listed in Annex 4:

- a) which is under the sole control of that Communications Provider;
- b) which is used by that Communications Provider for the purpose of running and operating its own Electronic Communications Network;
- c) which provides Electronic Communications Services that make use of Network Access; and
- d) which is connected to the BT network.

“Equivalence of Inputs” or “EOI” means that BT provides, in respect of a particular product or service, the same product or service to all Communications Providers (including BT) on the same timescales, terms and conditions (including price and service levels) by means of the same systems and processes, and includes the provision to all Communications Providers (including BT) of the same Commercial Information about such products, services, systems and

processes. In particular, it includes the use by BT of such systems and processes in the same way as other Communications Providers and with the same degree of reliability and performance as experienced by other Communications Providers.

In this context “the same” means exactly the same subject only to:

- a) trivial differences;
- b) such other differences as may be agreed by Ofcom in writing;
- c) differences relating to the following:
 - i) credit vetting procedures;
 - ii) payment procedures;
 - iii) matters of national and crime-related security, physical security, security required to protect the operational integrity of the network and such other security requirements as agreed between BT and Ofcom from time to time;
 - iv) provisions relating to the termination of a contract; and
 - v) contractual provisions relating to requirements for a safe working environment; or
- d) such other differences as are specified elsewhere in these Undertakings, including where Commercial Information is provided in accordance with these Undertakings to any of the nominated individuals, and individuals occupying the roles and functional areas (and their relevant external advisers, subcontractors and agents) listed in Annex 2.

“Estimated Space Availability Details” means details of estimated space availability within the Exchanges annually notified to the Communications Provider Property Users Group in accordance with section 7.1.2.

“Ethernet” means the standard networking protocol defined under that name in IEEE 802.3 and published by the Institute of Electronic and Electrical Engineers.

“Exchange” means for the purposes of section 7 a BT building containing a Local Access Node.

“Exchange Line” means apparatus comprised in BT’s Electronic Communications Network and installed for the purpose of connecting a telephone exchange run by BT to a network termination point comprised in network termination and testing apparatus installed by BT for the purpose of providing Electronic Communications Services at the premises at which the network termination and testing apparatus is located.

“Hull Area” means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc.

“IBM” means, in relation to any product or service, Installed Base Migration Complete, and is the date by which the migration of all of the relevant BT installed End-User base to the Equivalence of Inputs product is completed.

“IPStream” means the IP-based Bitstream Network Access service offered by BT at the date these Undertakings take effect and as it may evolve, be developed or replaced (whether under the aforementioned or a new name) from time to time.

“ITU” means International Telecommunications Union.

“KPIs” means Key Performance Indicators.

“Local Access Node” means a node in an Electronic Communications Network which supports the provision of services to End-Users. For the avoidance of doubt, such nodes include the following, namely a main distribution frame, an optical distribution frame, a digital local exchange, a digital subscriber line access multiplexer, a remote concentrator unit and an MSAN.

“Management Information Systems” means those management information systems which hold Commercial Information and/or Customer Confidential Information.

“Metallic Path Facility” means a circuit comprising a pair of twisted metal wires between an End-User’s premise and a main distribution frame that employs electric, magnetic, electro-magnetic, electro-chemical or electro-mechanical energy to convey Signals when connected to an Electronic Communications Network.

“Migration Process” means a process by which:

- a) a Communications Provider transfers from using one product or service to another product or service;
- b) an End-User transfers from using one product or service to another product or service;
- c) an End-User transfers from using a product or service supplied by a Communications Provider to the same product or service supplied by another Communications Provider;
- d) any combination of a), b) or c) above;
- e) any combination of a), b) or c) above which involves more than one End-User and/or two or more Communications Providers and the transfer takes place within a single process; or
- f) any combination of a), b) or c) above which involves the synchronised transfer of multiple services or products.

“MSAN” means a Multi-Service Access Node, being a Local Access Node in BT’s NGN which is capable of supporting the provision of multiple services to End-Users whether over fibre or copper.

“Network Access” has the same meaning as is given to “network access” in section 151(3) of the Communications Act 2003.

“Network Layer” means the network layer of the International Standards Organisation seven layer model for communications protocols.

“NGN” means Next Generation Network, a packet-based Electronic Communications Network which is able to provide Electronic Communications Services and to make use of multiple broadband and quality of service-enabled transport technologies, and in which service-related functions are independent of underlying transport-related technologies.

“Ofcom” means the Office of Communications as established by the Office of Communications Act 2002, or, where relevant, the Director General of Telecommunications as appointed under section 1 of the Telecommunications Act 1984.

“Operational Support Systems” means those support systems carrying out the functions and processes which help to run a network and business, including (but not limited to) pre-ordering, taking a customer’s order, configuring network components, creating a bill and managing faults.

“Partial Private Circuit” means a circuit providing dedicated transmission capacity between an End-User’s premise and another Communications Provider’s point of handover, using an interface, as defined at G703 or G957 or X21, all as published by the ITU.

“Physical Layer” means the duct, fibre, copper, and other non-electronic assets in an Electronic Communications Network.

“Primary Accounting Documents” means that term as defined in Schedule 2 of the Notification to BT under sections 48(1) and 86(1) of the Communications Act 2003, and dated 22 July 2004.

“PSTN” means Public Switched Telephone Network.

“RFS date” means the Ready For Service date from which an Equivalence of Inputs product or service is available for use by other Communications Providers for their new End-Users, and is also available for use by BT (and is in use by BT) to handle all product or service events for New End-Users (being new after the RFS date). The RFS date is also the date of the start of migration of the relevant installed base of End-Users. In this definition “New End-User” means either:

- a) an End-User who has not previously been directly supplied by BT for any BT product or service; or
- b) an End-User with no current service from BT but who is returning to BT;

and excludes for the avoidance of doubt:

- i) an existing BT End-User who is moving premises, and
- ii) an existing BT End-User purchasing a new service.

“Scorecard” means a measure for setting targets in connection with the incentive remuneration of certain BT employees.

"SDH" means Synchronous Digital Hierarchy.

"Shared Metallic Path Facility" means access to the non-voiceband frequencies of the Metallic Path Facility.

"SLA" means Service Level Agreement.

"SMP" means Significant Market Power, where this is found pursuant to a market review under the relevant provisions of the Communications Act 2003.

"SMP Condition" has the same meaning as in the Communications Act 2003.

"SMP Product" means a product or service falling within a market for Network Access in which BT has been determined from time to time by Ofcom as having SMP (excluding international direct dial products based on interconnection directly or indirectly to BT's international switching centres).

"Statement of Requirements Process" means a procedure whereby a Communications Provider submits a request to BT for new or enhanced Network Access.

"Sub-Loop Unbundling" means access to the part of a Metallic Path Facility or the part of a Shared Metallic Path Facility from an End-User premises to an intermediate point prior to the main distribution frame.

"TILLAP" means a Traditional Interface Leased Line Access Product, being a leased line providing dedicated transmission capacity between an End-User's premise and a BT Local Access Node which uses an interface, as defined at G703 or G957 or X21, all as published by the ITU.

"TILLBP" means either:

- a) A Traditional Interface Leased Lines Backhaul Product, being a Backhaul Product providing dedicated transmission capacity using an interface, as defined at G703 or G957 or X21, all as published by the ITU; or
- b) A Network Access service using an interface, as defined at G703 or G957 or X21 all as published by the ITU, up to and including a bandwidth of 2Mb/s, which runs from a Communications Provider's radio base station to:
 - i) a BT Local Access Node; or
 - ii) a BT Core Node; or
 - iii) that Communications Provider's point of handover (but which is not an interconnection circuit or interconnection service provided over that circuit);

provided that the straight line distance to any of the above is no more than the greater of:

- a) 15km (or such other distance as may be mutually agreed between BT and Ofcom); or

- b) the straight line distance from a Communications Provider's radio base station to the nearest BT Core Node.

For the avoidance of doubt this definition does not include backhaul services to nodes outside the UK.

"Transmission Layer" means the electronic assets at and below the link layer of the International Standards Organisation seven layer model for communications protocols. For the avoidance of doubt this does not include Network Layer assets such as voice switches or data routers.

"UK Combined Code on Corporate Governance" means the document of that name dated July 2003 and published by the Financial Reporting Council.

"United Kingdom" has the meaning given to it in the Interpretation Act 1978.

"Upstream Division(s)" means a BT division or divisions other than AS, predominantly concerned with providing upstream products and services designed for use by Communications Providers, as inputs to their own products. At the date of these Undertakings this includes BT Wholesale. For the avoidance of doubt "Upstream Division(s)" excludes BTNI.

"Vacation Exchange" means any Exchange identified on the list delivered to Ofcom under section 7.7.

"Wholesale Analogue Line Rental" means an Electronic Communications Service provided for the use and ordinary maintenance of an analogue Exchange Line.

"Wholesale Calls" means BT's Network Access product consisting of the provision of an end-to-end calls service on a BT maintained line that the Communications Provider in turn offers to its End-Users.

"Wholesale End-to-End Ethernet Service" means a Network Access service providing uncontended Ethernet bandwidth between an End-User premise and another End-User premise up to a maximum straight-line distance of 25km between each premise unless technical feasibility dictates otherwise.

"Wholesale Extension Service" means BT's product of that name existing at the date these Undertakings take effect and as it may evolve, be developed or replaced (whether under the afore mentioned or a new name) from time to time.

"Wholesale Extension Service Access Product" means a Network Access service that provides uncontended Ethernet bandwidth between an End-User's premise and a BT Local Access Node.

"Wholesale Extension Service Backhaul Product" means a Backhaul Product that provides uncontended Ethernet bandwidth.

"Wholesale ISDN2 Line Rental" means an Electronic Communications Service provided for the use and ordinary maintenance of an ISDN2 Exchange Line.

"Wholesale ISDN30 Line Rental" means an Electronic Communications Service provided for the use and ordinary maintenance of an ISDN30 Exchange Line.

“Wholesale Line Rental” means any or all of Wholesale Analogue Line Rental, Wholesale ISDN2 Line Rental and Wholesale ISDN30 Line Rental.

- 2.2 Words or expressions shall have the meaning assigned to them in these Undertakings and otherwise any word or expression shall have the same meaning as it has in the Communications Act 2003.
- 2.3 The Interpretation Act 1978 shall apply as if these Undertakings were an Act of Parliament.
- 2.4 Headings and titles shall be disregarded.
- 2.5 The Annexes shall form part of these Undertakings.
- 2.6 References to sections and Annexes shall mean sections of, and Annexes to, these Undertakings, unless otherwise stated.
- 2.7 In these Undertakings, “product” means product and/or service as appropriate, unless the context otherwise requires.

3. **Provision of equivalent products and services**

3.1 **Equivalence of Inputs for certain products and services**

3.1.1 BT shall apply Equivalence of Inputs to the following products in accordance with the timetable set out in Annex 1 to these Undertakings, and continue to apply it following the relevant IBMC dates:

- a) Wholesale Analogue Line Rental;
- b) Wholesale ISDN2 Line Rental;
- c) Wholesale ISDN30 Line Rental;
- d) Wholesale Extension Service;
- e) Shared Metallic Path Facility;
- f) Metallic Path Facility;
- g) IPStream; and
- h) Backhaul Extension Service.

3.1.2 When BT provides in the future the following products it will do so on an Equivalence of Inputs basis:

- a) Wholesale Extension Service Access Product;
- b) Wholesale Extension Service Backhaul Product;
- c) Wholesale End-to-End Ethernet Service;

- d) IP based Bitstream Network Access products that are the successors to IPStream or DataStream; and
- e) A successor product to Wholesale Line Rental if:
 - i) such a product is provided using BT's NGN, based on MSAN access; and
 - ii) BT is determined by Ofcom to have SMP in a Network Access market or markets which includes that product.

3.1.3 Nothing in this section 3.1 shall require BT when providing Wholesale Line Rental either to itself or to other Communications Providers to use Metallic Path Facility as an input to that product.

3.1.4 Should BT plan to provide a successor product to Wholesale Line Rental using BT's NGN and based on MSAN access, BT shall agree with Ofcom what, if any, input to this product it would be appropriate to provide on an Equivalence of Inputs basis, taking into account the commercial aspirations of those Communications Providers using Metallic Path Facility and Shared Metallic Path Facility and other Communications Providers and the long term interests of consumers. If agreement is reached, BT shall use such input for the successor Wholesale Line Rental product on an Equivalence of Inputs basis.

3.2 BT will as a gesture of good faith:

3.2.1 if notwithstanding the date specified in paragraph 1 of Annex 1 it does not achieve an RFS date for Equivalence of Inputs for Wholesale Analogue Line Rental of 31 December 2006 (other than as a result of matters beyond its reasonable control), provide an allowance to Communications Providers, including the relevant parts of BT, of a monthly amount of 25 pence for each Wholesale Analogue Line Rental line that they respectively rent for each complete month from 1 January 2007 until the date that RFS for Equivalence of Inputs for Wholesale Analogue Line Rental is achieved or 30 June 2007, whichever is the earlier. Such monthly allowance will not be made for any such line which the Communications Provider has ceased to rent in the month in question.

3.2.2 if it does not achieve an RFS date of 30 June 2006 for Metallic Path Facility and Shared Metallic Path Facility (other than as a result of matters beyond its reasonable control), provide an allowance to Communications Providers, including the relevant parts of BT, of a monthly amount of 25 pence for each Metallic Path Facility and Shared Metallic Path Facility line that they respectively rent for each complete month from 1 July 2006 until the date that RFS for Metallic Path Facility and Shared Metallic Path Facility as appropriate is achieved. Such monthly allowance will not be made for any such line which the Communications Provider has ceased to rent in the month in question.

Provided that BT shall not be obliged to pay any allowances under sections 3.2.1 and 3.2.2 if the failure to achieve an RFS date is the result of matters beyond its reasonable control, provided that if such failure is due in whole or in part to the

acts or omissions of any Communications Provider, any dispute over the provision of any such allowances may be referred to Ofcom. BT agrees to be bound by Ofcom's decision as to what extent, if at all, any such allowance shall be made.

- 3.3 If BT and Ofcom agree an Equivalence of Inputs timetable in respect of any other product that does not use BT's NGN in addition to those in section 3.1 such new agreed timetable will apply.
- 3.4 Commencing on 1 January 2006 BT shall make available to other Communications Providers a stand alone address matching service (on the basis that the data made available under that service can only be used by Communications Providers for address matching purposes directly related to the order and/or repair of the products concerned) with the objective of reducing address matching failures, until such service is no longer reasonably required by virtue of the availability of an alternative Equivalence of Inputs service.
- 3.5 Commencing on 1 July 2006 BT will provide improved access to the engineering appointment books used by BT to enable Communications Providers to provide their End-User customers with a service better and faster than that which they are able to provide as at the date of these Undertakings, until such service is no longer reasonably required by virtue of the availability of an Equivalence of Inputs service.
- 3.6
 - 3.6.1 Commencing on 1 January 2007 and until such time as the relevant RFS date is reached, BT employees and agents will use the Wholesale Line Rental service provider gateway to raise Wholesale Analogue Line Rental service transfer requests when BT takes over a customer of another Communications Provider, and where that customer is not already a BT customer for any other retail product.
 - 3.6.2 In circumstances where a Communications Provider ceases to trade and BT takes a bulk transfer of customers of that Communications Provider, section 3.6.1 shall not apply to the extent that there is a requirement to use the Wholesale Line Rental service provider gateway to raise service transfer requests.

Migration Processes

- 3.7 To the extent that the Migration Processes are either internal to BT or are otherwise within BT's control, BT shall apply Equivalence of Inputs to BT's Migration Processes for products for which BT must apply Equivalence of Inputs. Where the migration involves EOI and non EOI products, the EOI Migration Process will only apply to the part of the process involving the EOI product. BT shall apply the EOI Migration Process at the same time as the relevant RFS date set out for each product in Annex 1 or as otherwise agreed with Ofcom. Where a process involves more than one EOI product, the RFS date for each product shall apply separately to the relevant EOI Migration Process.
- 3.8 BT shall comply with performance targets for the Migration Processes covered by section 3.7 as required in writing by Ofcom and following any consultation to be undertaken by Ofcom, provided that such targets are reasonable and practicable.

4. **Transparency**

- 4.1 BT shall, for Partial Private Circuits, Carrier Pre-selection and DataStream:
- 4.1.1 within three months of these Undertakings taking effect, provide sufficient transparency to other Communications Providers to enable them to identify and understand any differences between the matters BT is required to list in its reference offer pursuant to the relevant SMP Condition in connection with the products referred to above in this section 4.1 which it provides to other Communications Providers, and the comparable products that it supplies to itself; and
 - 4.1.2 use its reasonable endeavours at all times to resolve any outstanding issues with any other Communications Provider concerning its provision of the products referred to in section 4.1 (including the systems and processes used to supply such products) to that Communications Provider.
- 4.2 When AS provides in the future a TILLAP or a TILLBP, the costs attributable to those products shall form part of the cost stack for BT's relevant Partial Private Circuits, and shall allow other Communications Providers to replicate commercially, from the point of view of their use of the TILLAP and/or TILLBP, relevant Partial Private Circuits, as set out in section 5.6.

5. **Access Services**

The establishment of Access Services

- 5.1 BT shall establish AS within four months of these Undertakings taking effect, and shall thereafter operate AS in accordance with these Undertakings.
- 5.2 BT shall, within five months of these Undertakings taking effect, satisfy Ofcom that it has established AS in accordance with section 5.1.
- 5.3 AS shall provide those SMP Products which are predominantly provided using the Physical Layer and/or Transmission Layer of BT's Access Network and/or the Physical Layer and/or Transmission Layer of BT's Backhaul Network, as set out in sections 5.4, 5.5, 5.7 and 5.8. The provision of products shall include in particular:-
- a) product management;
 - b) sales (or equivalent internal supply between AS and other parts of BT);
 - c) in-life service management;
 - d) specification of the products and their functionality; and
 - e) setting prices.

AS shall sell (or internally supply within BT) its products to any Communications Provider and shall determine Commercial Policy in respect of those products.

- 5.4 Section 5.3 applies to the following existing SMP Products and enhancements to those SMP Products and their immediate successors:
- a) Wholesale Analogue Line Rental;

- b) Wholesale ISDN2 Line Rental;
 - c) Wholesale ISDN30 Line Rental;
 - d) Wholesale Extension Service and relevant handover products;
 - e) Shared Metallic Path Facility and Associated Services;
 - f) Metallic Path Facility and Associated Services.
 - g) Backhaul Extension Service and relevant handover products.
- 5.5 AS shall also offer to provide to any Communications Provider within a reasonable time of a request the following and where relevant their handover products:
- a) TILLAP;
 - b) TILLBP;
 - c) Wholesale Extension Service Access Product;
 - d) Wholesale Extension Service Backhaul Product;
 - e) Wholesale End-to-End Ethernet Service; and
 - f) Sub-Loop Unbundling and any relevant associated services.
- 5.6 When AS provides a TILLAP or a TILLBP, those products shall be made available to other Communications Providers in a manner that provides them with the opportunity to replicate commercially, from the point of view of their use of the TILLAP and/or TILLBP, relevant Partial Private Circuits.
- 5.7 If a new Network Access product is provided using BT's NGN:
- a) which is based on MSAN access; and
 - b) BT is determined by Ofcom to have SMP in a market containing the new Network Access product; and
 - c) MSANs do not contain Network Layer functionality;
- then, if so required by Ofcom, the new Network Access and any relevant handover product will be provided by AS.
- 5.8 For products not covered by section 5.7, if so required by Ofcom, AS shall provide on the same basis as set out in section 5.3 any new form of Network Access which BT is obliged to supply as a result of a market review carried out under the relevant provisions of the Communications Act 2003, if such new form of Network Access would be predominantly provided using the Physical Layer and/or Transmission Layer of BT's Access Network and/or the Physical Layer and/or Transmission Layer of BT's Backhaul Network.
- 5.9 As part of the establishment of AS, the people and non-network capabilities used to provide fixed line number portability will be included in AS.

- 5.10 AS will develop its Backhaul Products in accordance with sections 5.16 to 5.18.
- 5.11 Where Network Access products are requested from AS by Communications Providers (including BT) which are not products which BT is obliged to provide as a result of a finding of SMP, AS will use a Statement of Requirements Process, and will be subject to EAB oversight in its operation of that process. In these cases, however, AS is free to treat those requests as would any other commercial organisation and to accept or reject them on the basis of, among other things:
- a) fit with the assets, skills and resources and terms of reference of AS;
 - b) commercial attractiveness to AS; and
 - c) opportunity cost to AS.

For the avoidance of doubt, section 5.11 does not apply in relation to internal products AS supplies to the rest of BT relating to the core network as described in section 5.46.1 f) or as otherwise agreed between BT and Ofcom.

- 5.12 AS shall control and operate the assets contained within the Physical Layer of BT's Access Network and the Physical Layer of BT's Backhaul Network including such items needed to support these assets, such as line testing and remote diagnostics. It shall determine which products these assets must support, and also determine any appropriate enhancements in the functionality of these assets, having full responsibility for any investment decisions relating to these assets and made within the annual operating plan to be created in accordance with section 5.28. It shall have full responsibility for building, maintaining and repairing these assets.
- 5.13 AS shall not control or operate the assets contained within the Transmission Layer of BT's Access Network and the Transmission Layer of BT's Backhaul Network, but it shall have influence over the way in which these assets are managed sufficient for it to be able adequately to discharge its responsibilities under section 5.3. This influence shall be provided using mechanisms including the following:
- 5.13.1 AS requirements for new SMP Products which determine platform requirements shall be set out in AS product roadmaps and volume forecasts which shall be agreed with relevant platform managers. This includes new AS SMP Products delivered over BT's NGN, as well as new SMP Products delivered over the current network. Where backhaul platforms support products supplied by AS and other products supplied elsewhere in BT, AS will have the principal role in determining delivery requirements where it is the predominant user of the platform or where AS provides the only SMP Product using that platform;
 - 5.13.2 any investment decisions required in consequence of the product roadmaps and volume forecasts referred to in section 5.13.1 shall be considered solely on their own merits, and shall not take into consideration the potential impact on other products offered by BT's businesses downstream of AS other than in as much as they affect aggregate demand forecasts;

- 5.13.3 when AS makes use of Transmission Layer assets from BT Wholesale it shall set standards for in-life service management, covering such matters as provisioning times, provisioning effectiveness, fault rates, repair times and repeat fault rates. The standards will be based upon its judgement of the needs of the customer base it serves, and will not simply replicate the standards prevailing for BT's downstream services. The required standards shall be reasonably practicable and set out in SLAs between AS and BT Wholesale; and
 - 5.13.4 new requirements for SMP Products to be provided by AS will be addressed by an AS owned Statement of Requirements Process.
- 5.14 BT employees working for AS shall include:
- 5.14.1 all field engineers, (excluding some of the network planning, design and management engineers for BT's Backhaul Network), including their line management up to and including the AS CEO, associated with the provision, installation, maintenance and repair of the Physical Layer of BT's Access Network and of the Physical Layer of BT's Backhaul Network;
 - 5.14.2 those employees involved in the design, planning, implementation and in-life service management of products based upon the Physical Layer and/or Transmission Layer of BT's Access Network or the Physical Layer and/or Transmission Layer of BT's Backhaul Network, including their line management up to and including the AS CEO; and
 - 5.14.3 those employees who carry out activities which are ancillary to those described in section 5.14.1 and section 5.14.2, those who support and manage them, and those who undertake the sales function of AS.
- 5.15 In relation to particular geographical areas, AS and BT Wholesale may agree from time to time that:
- a) BT Wholesale shall on behalf of AS undertake activities which under these Undertakings are otherwise to be undertaken by AS; and/or
 - b) AS shall on behalf of BT Wholesale undertake activities which under these Undertakings otherwise fall to be undertaken by BT Wholesale,

provided that, unless Ofcom agree otherwise, not more than 250 field engineers shall at any one time be engaged in the undertaking of activities under this section.

Backhaul principles

- 5.16 When AS makes available Backhaul Products it shall do so in the following manner:
- 5.16.1 AS shall ensure that the provision of Backhaul Products which are SMP Products is not conditional on the provision of another form of Network Access or another product unless agreed by Ofcom;

- 5.16.2 AS shall ensure that Communications Providers can purchase Backhaul Products which are SMP Products in such a way that they can join together multiple network nodes, for example in daisy-chain or hub and spoke topologies, but not where the use of those topologies has the intent or effect of replicating a core network;
- 5.16.3 AS shall develop solutions that provide the ability to pick-up aggregated traffic from one or more smaller sites to a common handover point, including a managed transmission service. This section 5.16.3 shall apply to transmission services using either or both SDH and Ethernet technology in markets in which BT is determined by Ofcom to have SMP and any future technologies which enhance or replace these in Network Access markets;
- 5.16.4 AS shall provide Backhaul Products which are SMP Products which carry aggregated traffic referred to in section 5.16.3 to a point of handover within other Communications Providers' own networks. Such Backhaul Products shall include products based on SDH technology and products based on Ethernet technology, and any future technologies which enhance or replace these; and
- 5.16.5 AS shall ensure that Backhaul Products which are SMP Products provided to other Communications Providers shall give those Communications Providers the option to purchase the same degree of resilience as that offered to other parts of BT, and that the levels of resilience offered will be backed by appropriate SLAs.
- 5.17 Where charges for Backhaul Products are required by an SMP Condition to be cost orientated (however that requirement is expressed) BT shall set charges:
 - 5.17.1 using a distance related pricing gradient that accurately reflects the underlying costs of providing the product, so that Communications Providers purchasing these products benefit appropriately from extending their own network reach; and
 - 5.17.2 using a bandwidth related pricing gradient that accurately reflects the underlying costs of providing the product.
- 5.18 Where charges for a Backhaul Product which is an SMP Product are not required to be cost orientated, AS shall ensure that bandwidth related and distance related costs variations are among the factors taken into account in setting charges.
- 5.19 BT shall provide space in accordance with the obligations set out in section 7 of these Undertakings to permit the location by other Communications Providers of Equipment which can be used to aggregate traffic from multiple services which originates or terminates on BT's Access Network, as well as traffic which originates or terminates on other Communications Providers' own Access Networks.

General

- 5.20 Where assets controlled and operated by AS, as described in section 5.12 above, are not or cease to be used in connection with any SMP Product, such assets may be re-allocated to another part of BT and (notwithstanding anything

in section 5.14), relevant field engineers and other relevant BT employees working for AS may be re-allocated outside AS.

- 5.21 To the extent that a product supplied by AS which is an SMP Product ceases to be such, BT may provide matters set out in section 5.3 (a) to (e) other than within AS and not withstanding anything in section 5.14, relevant BT employees working for AS may be re-allocated outside AS.
- 5.22 Products offered by AS in accordance with section 5 will also be offered by BT in Northern Ireland.

The composition and duties of Access Services

- 5.23 AS shall be a separate division within BT.
- 5.24 In anticipation of section 5.1, BT shall appoint the AS CEO within one month of the date that these Undertakings take effect.
- 5.25 The AS CEO shall report solely and directly to the BT Group plc CEO.
- 5.26 The AS CEO shall not be a member of the BT Group Operating Committee but may attend where matters pertaining to AS are discussed and where such attendance is appropriate. The EAO shall be notified of such attendances.
- 5.27 The AS Management Board shall manage AS in a way designed to secure compliance with those sections of these Undertakings applicable to AS and shall operate to terms of reference agreed by the BT Group plc CEO following consultation with Ofcom. The terms of reference will be notified to Ofcom.

Governance of Access Services

- 5.28 With effect from the BT financial year 2006/2007, AS shall establish an annual operating plan which shall be submitted to the BT Group plc Board for approval. Once approved, execution of that plan shall be the responsibility of the AS CEO and the AS Management Board. The plan will establish the budget, including capital and operating expenditure, for AS. The plan shall include plans and targets for implementing and applying those sections of these Undertakings applicable to AS for the relevant year. Following each year of operation of AS such plan shall include a commentary on the previous year's implementation and application of these Undertakings as they apply to AS. The annual operating plan and commentary shall be shared with the EAB.
- 5.29 The AS CEO shall have delegated authority from the BT Group plc Board to authorise capital expenditure of up to £75 million within the annual operating plan referred to in section 5.28. This limit may be varied from time to time at the discretion of the BT Group plc Board. Ofcom and the EAB shall be notified of such variation within five working days.
- 5.30 With effect from the start of BT's financial year 2006/2007, the charging approach, management accounts and management information associated with AS shall be prepared on the following basis or as may be otherwise agreed by BT and Ofcom:
 - a) charges will be calculated on the same basis for BT and other Communications Providers;

- b) information relating to those charges shall be provided in the same way for BT and other Communications Providers;
 - c) transfer charges in the regulatory accounts for products provided to and from AS and other BT divisions will be separately identified and based on the transfer charging principles set out in the Primary Accounting Documents of the regulatory financial statements; and
 - d) Physical Layer access and backhaul assets will be capitalised and depreciated in AS's financial statements in line with BT's accounting policies. AS's use of the Transmission Layer access and backhaul assets will be accounted for as a charge in AS's P&L. BT will implement a transfer charging arrangement between AS on the one hand and the other BT divisions on the other hand consistent with the scheme used for the regulatory financial statements and agreed with Ofcom.
- 5.31 With effect from the start of BT's financial year 2006/2007, the regulatory financial statements of BT will also separately present the financial results of AS. The form, content and basis of preparation of the financial results of AS will follow those used in the preparation of the regulatory financial statements of BT except where differences are agreed with Ofcom and properly disclosed in the financial statements and related documentation. Information about the financial results of AS will include the following: headline revenue, cost of sales (or gross margin), SG&A, EBITDA, depreciation, operating profit and capital expenditure, revenues broken down into the broad product groups that the AS provides and further split between internal and external sales, separately identified payments to other parts of BT for products that form inputs to AS products (e.g. electronics); and a commentary that explains any changes in the basis within which the above figures are presented. BT's regulatory financial statements will reconcile AS's revenue and operating profit (and other such items as may be agreed between BT and Ofcom) with information about AS shown in BT Group plc's annual report and accounts. The independent audit of BT's financial statements will include AS.
- 5.32 BT shall begin to report AS's financial performance in BT Group plc's annual and quarterly reports in the same format as is used for BT's existing divisions from the start of BT's financial year 2006/2007.
- 5.33 The AS Headquarter Management Team shall move to:
- 5.33.1 access controlled accommodation which is separately secured from BT businesses downstream of AS and shall have completed this move within six months of the date that these Undertakings take effect; and
 - 5.33.2 accommodation which is separately located from BT businesses downstream of AS unless otherwise agreed by Ofcom and shall have completed this move within eighteen months of the date that these Undertakings take effect.
- 5.34 Once the AS Headquarter Management Team is established the AS CEO will review with the EAB the adequacy of any planned moves to access controlled accommodation, and make appropriate changes.

- 5.35 None of the employees described in section 5.14 may, whilst working for AS, work for the Upstream Division(s) or any of the Downstream Divisions, save as agreed in writing by Ofcom.
- 5.36 All incentive remuneration of BT employees working for AS shall reflect solely the objectives of AS. AS will operate to a Scorecard which reflects its responsibilities to deliver Equivalence of Inputs and fair access to its products. The principles of that Scorecard will be cascaded to all BT employees working for AS who have currently, or may have in the future, bonus payments. Bonus payments based on Scorecard performance shall relate solely to the performance of AS and to any other relevant obligations under these Undertakings. Such bonus payments shall not be denominated in BT Group plc shares, but BT employees working for AS remain eligible to participate in BT's ongoing and future general all-employee share plans and benefits arrangements.
- 5.37 BT shall as soon as reasonably practicable:
- 5.37.1 introduce new long term incentive plans for relevant BT employees working for AS including a deferred bonus plan ('new plans') which BT anticipates will be in place for implementation during the summer of 2006;
 - 5.37.2 where a BT employee has been granted an option over shares under the BT Group Global Share Option Plan or an award of shares under the BT Group Incentive Share Plan, the BT Group Retention Share Plan or the BT Group Deferred Bonus Plan and subsequently moves to AS, use its reasonable endeavours to replace those options or share awards with share awards under the new plans;
 - 5.37.3 ensure that, where a performance condition applies to the granting or vesting of an award under the new plans, that performance condition shall relate to the performance of AS or some other appropriate index related to the objectives of AS; and
 - 5.37.4 ensure that no such awards in respect of BT Group plc shares shall be made to BT employees at a time they are working for AS except that BT Group plc shares may be part of an appropriately weighted basket of shares or some other appropriate index.
- 5.38 Save as set out in section 5.41, no employee or agent of BT (including its external advisers and sub-contractors), who is not working for AS shall:
- 5.38.1 directly or indirectly participate in the formulation or making of, or influence or attempt to influence, the Commercial Policy of AS except through such mechanisms and processes that are also available to other Communications Providers; or
 - 5.38.2 have access to Commercial Information of AS held by any employee or agent of BT working for AS unless it is of the nature that would be provided to other Communications Providers in the ordinary course of business.
- 5.39 BT employees working for AS shall not disclose AS Customer Confidential Information to BT employees working for the Upstream or Downstream Divisions except:

- a) with the relevant customer's consent; or
- b) to the minimum extent that disclosure to BT employees working for the Upstream Division(s) is necessary to operationally enable AS to deliver products provided by AS under section 5 of these Undertakings; or
- c) where an order is transferred from one part of BT to another pursuant to section 5.47.5, and the information is disclosed solely for the purpose of that transfer.

Disclosure of such information may be made to the nominated individuals (if any), and individuals occupying the roles and functional areas (and their relevant external advisers, sub-contractors and agents) listed in Part A and Part B of Annex 2.

5.40 No employee or agent of BT (including its external advisers and sub-contractors), who is working for AS, shall influence or attempt to influence, the Commercial Policy of the Downstream Divisions or Upstream Division(s) of BT except:

- a) through such mechanisms and processes that are also available to other Communications Providers;
- b) as required for the delivery of these Undertakings, for example for the development of AS services utilising network assets managed by Downstream and Upstream Divisions of BT, or for the planning and implementation of BT's NGN;
- c) if they are nominated individuals or individuals occupying the roles and functional areas (or their relevant external advisers, sub-contractors and agents) listed in Part A of Annex 2;
- d) as otherwise provided for in these Undertakings; or
- e) if otherwise agreed with Ofcom.

5.41 As referred to in section 5.38:

- 5.41.1 sections 5.38.1 and 5.38.2 shall not apply to the nominated individuals (if any), and individuals occupying the roles and functional areas (and their relevant external advisers, sub-contractors and agents) listed in Part A of Annex 2;
- 5.41.2 section 5.38.2 shall not apply to the nominated individuals (if any), and individuals occupying the roles and functional areas (and their relevant external advisers, sub-contractors and agents) listed in Part B of Annex 2;
- 5.41.3 any nominated individuals and individuals occupying the roles and functional areas listed in Annex 2 shall be subject to dedicated training on the receipt and sharing of information relating to AS and on the restrictions on the exercise of influence required by these Undertakings. The EAB may review both the scope of Annex 2 and the training offered under this section; and

- 5.41.4 BT and Ofcom may agree from time to time to modify the lists in Annex 2. If no agreement is reached the list will remain unchanged.
- 5.42 For the avoidance of doubt, AS may draw upon support services from any part of BT or BT's agents and sub-contractors and may use BT's centres of excellence (including billing), provided that doing so will not require the disclosure of Commercial Information of AS, except where such support services or centres of excellence are included in either Part A or Part B of Annex 2.
- 5.43 AS shall ensure that the way in which new product requests are received and evaluated and Commercial Information of AS is made available is substantially the same for all Communications Providers (including BT) in like circumstances in relation to products where Equivalence of Inputs applies and is on a not unduly discriminatory basis in the case of other SMP Products.
- 5.44 BT shall:
- 5.44.1 ensure that all its Operational Support Systems designed for AS are designed on the principle of separation from the rest of BT systems;
 - 5.44.2 ensure that AS will have a logically separate Operational Support Systems capability that supports Wholesale Analogue Line Rental, Shared Metallic Path Facility and Metallic Path Facility by 30 June 2007, Wholesale ISDN2 Line Rental by 30 September 2007 and Wholesale ISDN30 Line Rental by 31 December 2007. The rigour of such separation shall be tested through an external audit;
 - 5.44.3 physically separate its Operational Support Systems such that these systems are run physically separately for AS and the rest of BT by 30 June 2010; and
 - 5.44.4 review on a regular basis with Ofcom achievement on a roadmap for the separation referred to in sections 5.44.1, 5.44.2 and 5.44.3.
- 5.45 Within 12 months of these Undertakings taking effect, BT shall logically partition its Management Information Systems such that these systems are run separately for AS and the rest of BT such that they do not lead to undue discrimination against other Communications Providers.
- 5.46 **The products and services supplied by Access Services**
- 5.46.1 AS will not supply any product to any other part of BT unless it also offers that product to other Communications Providers on an Equivalence of Inputs basis. This requirement does not apply to:
 - a) TILLAP and TILLBP;
 - b) such Associated Services as may be agreed with Ofcom;
 - c) any product where Ofcom agrees Equivalence of Inputs is not required for reasons of practicability or otherwise;
 - d) products listed in Annex 1 before Equivalence of Inputs is required to be provided in accordance with section 3.1;

- e) any new product to the extent of any agreement by Ofcom that Equivalence of Inputs shall only apply from any particular date;
- f) products relating to core network, duct, fibre and transmission between Core Nodes;
- g) any other product or class of products that Ofcom and BT agree does not need to be supplied externally;
- h) maintenance and provision carried out by AS field engineers, on behalf of a Communications Provider, on network termination equipment and internal wiring which is located on End-User premises; and
- i) 'handover products' referred to in sections 5.4, 5.5 and 5.7.

5.46.2 Section 5.46.1 shall not apply to products which:

- a) exist at the date the Undertakings come into force; and
- b) will be supplied by AS; and
- c) are not listed in Annex 1.

BT will within four months of these Undertakings coming into force review such products with Ofcom and agree either that:

- a) section 5.46.1 c) shall apply; or
- b) the product will be withdrawn from sale or supply by AS; or
- c) Equivalence of Inputs will be required.

If the product will be withdrawn from sale or supply by AS, BT and Ofcom shall agree an appropriate and reasonable withdrawal date.

If EOI is required, BT and Ofcom shall agree appropriate and reasonable RFS and IBMC dates.

Twelve months after these Undertakings come into force, the exemption from section 5.46.1 above shall lapse in relation to products to which this section 5.46.2 applies, unless BT and Ofcom agree otherwise.

5.46.3 For the avoidance of doubt, section 5.46.1 shall not alter the obligations concerning Equivalence of Inputs:-

- a) in respect of any product referred to in Annex 1; and
- b) in respect of any product falling within section 11.

Sales

5.47 In relation to sales activities:

- 5.47.1. AS is expected to be the primary channel to market for its portfolio of products.
- 5.47.2 AS can take orders for products which are product managed by BT Wholesale or another part of BT, and project manage their delivery, only under the following circumstances:
- a) where products which are managed by parts of BT other than AS and AS products require detailed operational co-ordination, in order for example to synchronise the supply of different elements of those products, such as combined orders for Wholesale Line Rental and Carrier Pre-selection; or
 - b) where a Communications Provider's commercial relationship with BT is only with AS because it predominantly purchases AS products, but it wishes as a matter of convenience to place a low volume of orders for other BT products via AS; or
 - c) by agreement between BT and Ofcom.
- 5.47.3 AS shall only accept orders for products from Communications Providers, including BT, unless otherwise agreed with Ofcom.
- 5.47.4 Other parts of BT can take orders for products which are product managed by AS and project manage their delivery, only under the following circumstances:
- a) where products which are product managed by AS and other parts of BT require detailed operational co-ordination, in order for example to synchronise the supply of different elements of those products as described in section 5.47.2 a) above; or
 - b) where a Communications Provider has or wishes to have a commercial relationship with a part of BT other than AS; or
 - c) by agreement between BT and Ofcom.
- 5.47.5 Where a Communications Provider places an order with one part of BT which pursuant to sections 5.47.2, 5.47.3 or 5.47.4 should properly have been placed with another part of BT, the part of BT which receives the order will arrange for its transfer and will advise the Communications Provider accordingly.
- 5.47.6 Where sections 5.47.2 and 5.47.4 permit an order to be submitted either to AS or other parts of BT, then BT shall ensure that Communications Providers are able to submit such orders to either AS or to those other parts of BT, according to their choice, and that they will experience no disadvantage in terms of price, service or quality as a result of this choice, provided such products are SMP Products or are required to be provided by BT on an Equivalence of Inputs basis.
- 5.47.7 In relation to sections 5.47.2 and 5.47.4 where they relate to the provision of products required to be provided by BT on an Equivalence of Inputs basis, the part of BT that product manages the relevant

Equivalence of Inputs product will be responsible for resolving any service issues.

Access Services brand

5.48 BT shall develop a separate brand name for AS which does not incorporate the elements “BT” or “British Telecom” and which will be used in proximity to an endorsement containing the words “a BT Group business (and BT corporate device)”. Such endorsement shall be secondary to the AS brand. There will be a progressive programme for branding or rebranding the following items only:

- a) Stationery, relevant website and web addresses and relevant buildings during the first sixteen months from the date these Undertakings take effect; and
- b) Clothing and vehicles as these are replaced, to be completed within five years of the date of establishment of AS.

Other items will be re-branded as and when AS decides it is appropriate to do so.

6. Management and structure of BT Wholesale

6.1 Within four months of the date that these Undertakings take effect, BT shall separate from each other and create the following two product management organisations within BT Wholesale each of which will be separately responsible for:

- 6.1.1 the product management of BT Wholesale’s SMP Products other than those to be managed by BTS in accordance with these Undertakings (referred to herein as BTWS); and
- 6.1.2 the product management of other products of significance to other Communications Providers (referred to herein as BTS) namely:
 - a) Wholesale Calls and IPStream;
 - b) any leased lines product variants of the types of leased line listed in paragraph 1 of Annex 3 created to meet the needs of Communications Providers in accordance with paragraph 3 of Annex 3; and
 - c) any products added or removed in accordance with sections 6.4.2 or 6.4.3,

where ‘product management’ describes the activities referred to in section 6.5 a) to c).

For the avoidance of doubt the product management of BT Wholesale products which are neither SMP Products nor products within section 6.1.2 can be within BTS, BTWS or elsewhere within BT Wholesale as BT may decide from time to time.

6.2 A member of the BT Wholesale Executive Board will have responsibility for the performance of BTWS and BTS.

- 6.3 For the avoidance of doubt both BTWS and BTS may at any time product manage products which are not otherwise required to be product managed within either BTWS or BTS as provided for in section 6.1.
- 6.4 Products may be added to or removed from the scope of activity of BTWS or BTS on the following basis:
- 6.4.1 any new SMP Product or any Network Access falling within section 11.8.2 unless otherwise agreed by Ofcom which is not required to be provided by AS in accordance with section 5 shall be product managed within BTWS;
- 6.4.2 BT and Ofcom may agree to add existing or new products to the list of products required to be managed by BTS. Such products will generally only be added:
- a) if they are new products that are successors to the existing BTS portfolio; or
 - b) where:
 - i) a BT downstream managed product receives 55% or more of product revenue from other Communications Providers, and there is not an upstream managed product that provides equivalent functionality; and
 - ii) there is reasonable demand from Communications Providers for an equivalent product managed and supplied from BT's Upstream Division(s).
- For the avoidance of doubt if BT and Ofcom are not able to agree the list will not be changed.
- 6.4.3 BT and Ofcom may agree to remove any product from the list of products required to be managed by BTS. For the avoidance of doubt if BT and Ofcom are not able to agree the list will not be changed.
- 6.4.4 BT shall product manage leased lines products for other Communications Providers in BTS in accordance with Annex 3.
- 6.5 BT employees working for BTWS and BTS shall have responsibility and control in relation to their respective products as follows:
- a) product management, including product specific terms and conditions and pricing;
 - b) product specification; and
 - c) product related procurement processes.

Incentive arrangements

- 6.6 The Scorecard for the member of the BT Wholesale Executive Board referred to in section 6.2 shall not include measures related to overall BT Group plc performance.
- 6.7 All incentive remuneration of BT employees working for BTWS shall reflect solely the objectives of BTWS. BTWS will operate to a Scorecard which reflects its responsibilities to deliver fair access to its SMP Products. The principles of that Scorecard will be cascaded to all BT employees working in BTWS who have currently, or may in the future have, bonus payments. Bonus payments based on Scorecard performance shall relate solely to the performance of BTWS and to any other relevant obligations under these Undertakings. Such bonus payments shall not be denominated in BT Group plc shares but BT employees working for BTWS remain eligible to participate in BT's ongoing and future general all-employee share plans and benefits arrangements.
- 6.8 BT shall as soon as reasonably practicable:
- 6.8.1 introduce new long term incentive plans for relevant BT employees working for BTWS including a deferred bonus plan ('new plans') which BT anticipates will be in place for implementation during the summer of 2006;
 - 6.8.2 where a BT employee has been granted an option over shares under the BT Group Global Share Option Plan or an award of shares under the BT Group Incentive Share Plan, the BT Group Retention Share Plan or the BT Group Deferred Bonus Plan and subsequently moves to BTWS, use its reasonable endeavours to replace those options or share awards with share awards under the new plans;
 - 6.8.3 ensure that, where a performance condition applies to the granting or vesting of an award under the new plans, that performance condition shall relate to the performance of BTWS or some other appropriate index related to the objectives of BTWS; and
 - 6.8.4 ensure that no such awards in respect of BT Group plc shares shall be made to BT employees at a time they are working for BTWS except that BT Group plc shares may be part of an appropriately weighted basket of shares or some other appropriate index.
- 6.9 BT employees working for BTWS may not work at the same time for any of the Downstream Divisions, save as agreed in writing by Ofcom.

Other provisions

- 6.10
- 6.10.1 BT employees working for BT Wholesale shall not disclose its Customer Confidential Information to AS or to the Downstream Divisions except:
 - i) with the relevant customer's consent; or
 - ii) to the minimum extent that disclosure to BT employees working

for AS is necessary to operationally enable BT Wholesale to deliver BT Wholesale products to customers; or

- iii) where an order is transferred from one part of BT to another pursuant to section 5.47.5, and the information is disclosed solely for the purpose of that transfer.

Disclosure of such information may be made to the nominated individuals (if any), and individuals occupying the roles and functional areas (and their relevant external advisers, sub-contractors and agents) listed in Part A and Part B of Annex 2.

6.10.2 BT employees working for BTWS shall not directly or indirectly disclose its Customer Confidential Information to BTS except:

- i) with the relevant customer's consent; or
- ii) where an order is transferred from one part of BT to another pursuant to section 5.47.5, and the information is disclosed solely for the purpose of that transfer.

Disclosure of such information may be made to the nominated individuals (if any), and individuals occupying the roles and functional areas (and their relevant external advisers, sub-contractors and agents) listed in Part A and Part B of Annex 2.

6.10.3 BT employees working for BTWS and BTS shall not disclose their respective BTWS or BTS Commercial Information to BT employees working for the Downstream Divisions unless:

- i) it is of the nature that would be provided to other Communications Providers in the ordinary course of business; or
- ii) the BT employees working for the Downstream Divisions are nominated individuals or individuals occupying the roles and functional areas (or their relevant external advisers, sub-contractors and agents) listed in Part A and Part B of Annex 2.

6.10.4 Except in the case of those nominated individuals or individuals occupying the roles and functional areas (or their relevant external advisers, sub-contractors and agents) listed in Part A of Annex 2, BT employees or agents (including its external advisers and sub-contractors) working for BTS, shall not unduly influence or attempt unduly to influence, the Commercial Policy of BTWS otherwise than through mechanisms and processes identical or similar to those available to other Communications Providers.

6.11 Where:

6.11.1 BTWS decides, or is required, to add new functionality or capabilities to its products and such changes require changes to the assets delivering SMP Products within BTWS; or

6.11.2 BTWS receives from Communications Providers (including BT) and evaluates requests for new SMP Products,

BTWS shall secure in either or both cases that this is done in a manner which ensures that other Communications Providers do not suffer material competitive disadvantage in relation to BT.

- 6.12 In circumstances where demands for product enhancement from AS, BTWS or BTS create a situation which requires prioritisation by BT of its capital expenditure, BT will not unduly discriminate in its prioritisation. BT will seek the view of the EAB on the best means of avoiding such undue discrimination.
- 6.13 As soon as is reasonably practicable after the date that these Undertakings take effect, and for the purposes of assisting compliance with sections 6.10.2 and 6.10.3, BT shall secure:
- a) the Management Information Systems which hold BTWS and BTS Commercial Information such that such systems are not available to BT employees working for the Downstream Divisions; and
 - b) the Management Information Systems which hold BTWS Customer Confidential Information such that such systems shall not disclose such information to BT employees working for BTS.
- 6.14 For the avoidance of doubt, nothing in this section 6 precludes BTWS or BTS or any other part of BT Wholesale from being provided with support services from across BT or from using BT's centres of excellence, provided that doing so will not require the disclosure of BTWS or BTS Commercial Information except in the case of those nominated individuals (if any), and individuals occupying the roles and functional areas (and their relevant external advisers, sub-contractors and agents) listed in Part A and Part B of Annex 2, and except in the case of BT employees working for BTNI.
- 6.15 Where a product supplied by BTWS no longer falls within a market which Ofcom has notified as having SMP then to that extent, this section 6 of these Undertakings shall cease to apply in respect of that product, unless that product is then added to BTS in accordance with section 6.4.2.

7. **Equipment location**

- 7.1 Sections 7.1 to 7.8 apply to the location of Equipment in Exchanges.
- 7.1.1 The Undertakings in these sections 7.1 to 7.8 are given on the basis that BT will be deemed to be acting reasonably if its actions are substantially consistent with its corporate property strategy and its objectives for NGN deployment.
 - 7.1.2 The Estimated Space Availability Details will be provided by BT by the November 1 preceding the next BT financial year for which the BT corporate property strategy applies.
 - 7.1.3 BT may invite the Communications Providers Property Users Group to submit by the 1 January preceding the next BT financial year for which the BT corporate property strategy applies, written observations (including demand forecasts for space) to BT concerning the Estimated Space Availability Details.

7.1.4 BT will consider reasonable observations provided under section 7.1.3 as part of the BT corporate property strategy, when planning future use of Exchanges, provided that the effect of the observations would not materially affect BT's right to carry out its bona fide business requirements or its right to reduce its bona fide costs of managing and maintaining the Exchanges.

7.2 Within six months of these Undertakings taking effect and on an on-going basis thereafter and subject to sections 7.3 to 7.8 below, BT shall provide other Communications Providers with the facility to occupy on reasonable commercial terms a Communications Provider Operational Area within any Exchange for the purpose of locating their Equipment, provided that:

7.2.1 the request of the Communications Provider:

- a) is made in proper written form and identifies the relevant Exchange in which the Communications Provider wishes to locate its equipment;
- b) identifies the Equipment to be located in the Communications Provider Operational Area;
- c) is made on reasonable notice prior to the date of proposed occupation having regard to any work that they reasonably think BT must carry out to provide the Communications Provider Operational Area and having regard to any information that BT may have given the Communications Provider about any work required to provide the Communications Provider Operational Area; and

7.2.2 there is:-

- a) sufficient space available at the relevant Exchange at the date of that request (including any future plans that BT has for use of the Exchange in connection with its business); and
- b) sufficient electrical power available at the relevant Exchange at the date of that request (including any future plans that BT has for use of the Exchange in connection with its business).

In any event BT may provide an Alternative Communications Provider Operational Area to the Communications Provider if it is reasonable to do so.

7.3 On receipt of the Communications Provider's request under section 7.2, BT shall adopt a process similar to that used for co-location for the purposes of Metallic Path Facility and Shared Metallic Path Facility save that it will carry out a site survey to identify whether or not there is sufficient space at the Exchange including having regard to any future plans that BT has for use of the Exchange in connection with its business.

7.4

7.4.1 BT will seek to enter into an agreement with other Communications Providers on reasonable commercial terms that safeguard the operational

integrity of the relevant Exchange including but not limited to obligations to comply with BT's standards on security, health and safety, access to buildings and non interference with either BT's equipment or equipment of other Communications Providers.

- 7.4.2 The agreement may, at BT's discretion, provide for a Communications Provider to acknowledge that its rights to occupy the Communications Provider Operational Area do not amount to a tenancy and that there is no intention to create a lease.
- 7.4.3 If the Communications Provider does not contract to locate its Equipment at the BT site within one month of BT offering reasonable commercial terms under sections 7.4 and 7.8 the Communications Provider's request under section 7.2 will be deemed withdrawn unless there exists a bona fide dispute between BT and the Communications Provider in relation to the terms of offer made by BT in which case the period may, at the written request of either party to the dispute, be extended for further successive periods of one month (up to a maximum aggregate period of six months from the date of the offer by BT) during which time such parties shall endeavour to resolve the dispute.
- 7.4.4 If no resolution is reached within two months from the date of the offer by BT the dispute may be escalated to a BT Wholesale Executive Board member at the written request of either of the parties to the dispute and if unresolved on the expiry of such six month period the Communication Provider's request under section 7.2 will be deemed withdrawn.
- 7.5 BT may at its discretion charge a Communications Provider a sum equivalent to the amount that BT would charge per square metre to another part of BT plus all reasonable costs in creating and in providing the Communications Provider Operational Area.
- 7.6 BT may require that any Equipment must meet appropriate standards including, but not limited to, ETSI and ISO 14001 standards.
- 7.7 Within six months of these Undertakings taking effect, BT will deliver to Ofcom a list of Exchanges that it intends to vacate in accordance with its property strategy (such list will not be published except in respect of such information as is required to be disclosed to Communications Providers who take Metallic Path Facility or Shared Metallic Path Facility in any event). BT will inform any Communications Provider requesting to occupy a Vacation Exchange before the Communications Provider deploys its Equipment at the site that it is a Vacation Exchange and the proposed date of vacation. Subject to BT complying with its obligations under this section 7.7, the Communications Provider will vacate that site on or before the proposed vacation date and will not be entitled to any compensation from BT, except where existing SMP Conditions, directions or contractual terms apply. BT will have the right to amend that list once every six months during the period of these Undertakings and such amended list shall be sent to Ofcom.
- 7.8
- 7.8.1 It will be part of the reasonable commercial terms offered by BT under section 7.4 that if any Communications Provider remains in occupation of an Exchange after the expiry or earlier termination of the agreement

granting rights to occupy for the purposes of locating its Equipment, then the Communications Provider will fully indemnify BT against all payments, compensation, damages, actions, costs and claims howsoever arising under the terms of the BT and Telereal property transaction completed on 13 December 2001.

- 7.8.2 The reasonable commercial terms referred to in section 7.8.1 shall also include a process to enable the Communications Provider to obtain the best information available to BT at the time BT contemplates vacating an Exchange in respect of such payments, compensation, damages, actions, costs and claims.

For the avoidance of doubt, this section 7 does not apply to co-location as defined for the purposes of Metallic Path Facility and Shared Metallic Path Facility.

8. **Separation of Upstream and Downstream Divisions**

- 8.1 BT shall maintain an organisational separation between the Upstream Division(s) and the Downstream Divisions. BT will maintain a strong organisational separation of people, Commercial Information and Management Information Systems, between the sales functions of the Upstream Division(s) and the sales functions of the Downstream Divisions so that:
- 8.1.1 the sales functions of the Downstream Divisions are not in a position to influence the Commercial Policy of the Upstream Division(s) otherwise than through mechanisms and processes identical or similar to those available to other Communications Providers;
- 8.1.2 Customer Confidential Information of the Upstream Division(s) is not disclosed by its sales function to sales functions of the Downstream Divisions other than:
- a) with the customer's consent; or
 - b) where an order is transferred from one part of BT to another pursuant to section 5.47.5.
- 8.1.3 Commercial Information of the Upstream Division(s) is not disclosed by its sales function to the sales functions of the Downstream Divisions unless it is of the nature that would be provided to other Communications Providers in the ordinary course of business.
- 8.2 Communications Providers wishing to purchase products which are product managed by either the Upstream Division(s) or Downstream Divisions, shall be account managed by either the Upstream Division(s) or Downstream Divisions according to their choice and they will experience no disadvantage, in terms of price, service, or quality, or product range by being managed by the Upstream Division(s).
- 8.3 BT shall ensure that other Communications Providers, wishing to purchase products from BT, are not obliged to deal with the Downstream Divisions in relation to such purchases, where such products are inputs to products that they shall offer to End-Users in competition with the Downstream Divisions. In such circumstances BT shall ensure that other Communications Providers shall be able, in dealing with the Upstream Division(s) in relation to the purchase of

products, to purchase them on exactly the same terms and conditions (including price) as offered by the Downstream Divisions, save where differences are trivial or where there are material differences between the products that the Downstream Divisions supply and the products that the Upstream Division(s) supplies.

- 8.4 For the avoidance of doubt, nothing in this section 8 shall of itself require BT to supply products which are not within a market in which BT has been determined by Ofcom as having SMP.
- 8.5 BT shall logically separate its systems which hold Commercial Information and Customer Confidential Information between AS on the one hand and the Upstream and Downstream Divisions on the other, by the IBMC date for Wholesale Analogue Line Rental given in Annex 1. BT will use its reasonable endeavours to achieve such logical separation earlier.
- 8.6 Except in the case of those nominated individuals (if any), and individuals occupying the roles and functional areas set out in Part A of Annex 2, BT employees working for the Downstream Divisions may not directly or indirectly unduly influence or attempt to unduly influence the Commercial Policy of BTWS or BTS, except through mechanisms and processes identical or similar to those available to other Communication Providers. This section shall not prevent the provision of information to, or provision of expert advice to, BTWS or BTS where these are so required.
- 8.7 Where the Downstream Divisions require changes or enhancements in SMP Products or BTS products described in section 6.1.2, these requirements will be addressed by a Statement of Requirements Process, as used by other Communications Providers. BTWS and BTS will ensure this operates without undue discrimination.

9. **Code of Practice**

- 9.1 Within four months of the date these Undertakings take effect, BT shall draw up and publish on relevant BT websites a Code of Practice, to be made available to all BT employees, which sets out how BT employees must act to ensure compliance with these Undertakings.
- 9.2.1 Unless otherwise agreed with Ofcom, the Code of Practice shall include specific guidance for BT employees in the following areas:
- a) AS;
 - b) BTWS;
 - c) BTS;
 - d) rest of BT Wholesale; and
 - e) those BT nominated individuals (if any), and individuals occupying the roles and functional areas listed in Annex 2 distinguishing between Parts A and B.
- 9.2.2 In the case of BTNI, the Code of Practice shall include specific guidance which shall cover those behaviours which will be required of BT

employees working for BTNI to achieve consistency with the intent of these Undertakings.

- 9.3 The Code of Practice shall make plain the rules set out in these Undertakings for access to, and dissemination of, Customer Confidential Information and Commercial Information, and the restrictions on influencing Commercial Policy of AS, BTWS, BT Wholesale and BTS and, following appropriate union consultation in accordance with current agreements, make clear the disciplinary consequences of non-compliance. The Code of Practice shall also draw attention to BT's confidential telephone number and other access routes, established for general purposes and in accordance with the UK Combined Code on Corporate Governance, for reporting any concerns about BT's compliance with these Undertakings.
- 9.4 A programme of briefing and training shall be introduced on the launch of the Code of Practice, ensuring that all relevant employees of BT are, as soon as reasonably practicable, aware of their responsibilities in ensuring that BT complies with these Undertakings.
- 9.5 BT's mandatory compliance and regulatory training for all its employees shall cover compliance with these Undertakings and the Code of Practice.

10. **The establishment of an Equality of Access Board**

- 10.1 BT shall, within six months of these Undertakings taking effect, establish an EAB, consisting of five people, namely three independent members, one BT Group plc non-executive Director and one BT senior manager. The independent members shall be appointed once BT, having consulted Ofcom, is satisfied there is no material conflict of interest, having taken into account whether such person is:
- 10.1.1 an employee or former employee of BT;
 - 10.1.2 a director or senior executive of any other Communications Provider;
 - 10.1.3 a partner or senior executive of any firm, company or other organisation providing consultancy services to BT or any other Communications Provider;
 - 10.1.4 an employee of Ofcom; or
 - 10.1.5 a material shareholder in BT Group plc or in any other Communications Provider.
- 10.2 The BT Group plc Chairman shall appoint the BT Group plc non-executive Director. The BT Group plc Chairman shall also appoint the BT senior manager to the EAB who shall not be someone who is within the AS, the Upstream Division(s) or the Downstream Divisions.
- 10.3 The EAB shall be chaired by the BT Group plc non-executive Director.
- 10.4 Subject to receiving confirmation from BT that there is no material conflict of interest as referred to in section 10.1, the Chairman of the EAB shall appoint the three independent members following agreement with the BT Group plc Chairman (on behalf of the BT Group plc Board) and consultation with Ofcom.

- 10.5 BT shall consult Ofcom on any terms of reference for each EAB member and on the terms of appointment of each independent member.
- 10.6 The Chairman of the EAB, following agreement with the BT Group plc Chairman and consultation with Ofcom, may remove the independent members of the EAB.
- 10.7 The BT Group plc Chairman, in consultation with Ofcom, may remove the Chairman of the EAB or the BT senior manager.
- 10.8 In the first twelve months of operation the EAB shall have between six and ten meetings. Thereafter the EAB shall meet as frequently as the EAB determines from time to time.
- 10.9 The role of the EAB is a general one of monitoring, reporting and advising BT on BT's compliance with these Undertakings and the Code of Practice, with a specific focus on the provision of products on an Equivalence of Inputs basis and the operation of AS. It is not one of executive policy making for BT or any part thereof.
- 10.10 The minutes of each meeting of the EAB shall be sent to Ofcom within a reasonable time of each such meeting. Such minutes shall be a fair, true and accurate summary of each EAB meeting.
- 10.11 The EAB:
 - 10.11.1 shall review the content of the Code of Practice;
 - 10.11.2 shall review BT's performance against KPIs which relate to these Undertakings;
 - 10.11.3 shall review reports of the EAO on complaints and complaint handling concerning BT's compliance with these Undertakings, including the conclusions of investigations into those complaints;
 - 10.11.4 shall review complaints regarding these Undertakings made by BT employees to BT's confidential helpline and access routes established for general purposes in accordance with the UK Combined Code on Corporate Governance;
 - 10.11.5 shall have the right to review any reports produced by the EAO;
 - 10.11.6 may, of its own initiative, review any aspect of BT's compliance with these Undertakings; and
 - 10.11.7 may, of its own initiative, review, or request the EAO to investigate, any other issue concerning these Undertakings.
- 10.12 The EAB shall be responsible for monitoring and reviewing the product roadmaps and volume forecasts as referred to in section 5.13.1, as well as the associated investment decisions as referred to in section 5.13.2, as they relate to AS and SMP Products.
- 10.13 The EAB will be informed of the SLAs set by AS including those referred to in section 5.13.3 and may call for reports on performance against them. The EAB shall have oversight of compliance with these SLAs and may use the escalation

route mechanisms set out in section 10.20 to comment on the subject matter of SLAs, the levels at which SLAs are set or on performance delivered against them.

- 10.14 The EAB will review AS's supply of products to other parts of BT in accordance with these Undertakings.
- 10.15 In respect of any of the activities described in sections 10.11 to 10.14 the EAB:
- 10.15.1 may suggest to BT remedial action to ensure compliance with these Undertakings. BT shall take due account of any suggestions or comments the EAB may have;
 - 10.15.2 shall be informed of any action that BT has taken in relation to section 10.15.1 above. BT shall explain its conclusions and approach to the EAB;
 - 10.15.3 may comment on any action BT has taken, comment on whether such action was appropriate in ensuring compliance and suggest further remedial action if necessary; and
 - 10.15.4 shall record its view in the minutes of the appropriate EAB meeting. The EAB's annual report shall show summary details of such minutes, subject to commercial confidentiality.
- 10.16 BT shall inform the EAB of any breaches of these Undertakings that it identifies and the EAB secretary shall record such breaches in the minutes of the next meeting of the EAB.
- 10.17 The EAB shall inform Ofcom, within ten working days, when it comes to its attention that there has been a non-trivial breach of these Undertakings.
- 10.18 The EAB shall report regularly to the BT Group plc Board on BT's compliance with these Undertakings, with a particular focus on those sections of these Undertakings which concern the provision of products on an Equivalence of Inputs basis, the operation of AS and the adequacy of existing reporting controls, including the scope of proposed and actual KPIs.
- 10.19 BT shall report performance on KPIs relevant to these Undertakings. The EAB may review, from time to time, the matters which the KPIs shall cover and propose changes. BT shall provide information on such KPIs to the EAB in a timely manner unless it has a reasonable reason for not doing so. The EAB shall pay particular attention to proposed KPIs for migrations and for behavioural measures and may for these activities propose target performance levels. BT shall publish its performance against the KPIs on a quarterly basis. The first such publication shall be within three months of the establishment of the EAB.
- 10.20 In the event that one or more of the members of the EAB has a serious concern, the EAB shall have an escalation route via the EAB Chairman, ultimately to the BT Group plc Board. The EAB's annual report shall show summary details of any such escalations to the BT Group plc Board, subject to commercial confidentiality.
- 10.21 BT shall apply to the operation of the EAB those principles of the UK Combined Code on Corporate Governance which it considers appropriate and relevant.

- 10.22 The EAB shall be supported by the EAO, the resource for which shall be supplied by BT. The role of the EAO shall be to:
- 10.22.1 support the EAB on matters within the EAB's remit by analysing and reporting on the data provided on performance, commissioning reviews, and conducting such other inquiries as the EAB may from time to time require;
 - 10.22.2 consider any complaint brought to it by a Communications Provider that these Undertakings have been breached, report its decision to the EAB and once the EAB has noted or responded to the EAO, the EAO shall report back to the complainant on the action, if any, taken by the EAB as a result of the complaint;
 - 10.22.3 publish guidelines for dealing with such complaints. It shall inform Ofcom of any such complaints within a reasonable time of their receipt;
 - 10.22.4 produce reports to the EAB on the nature, type and pattern of complaints from Communications Providers relating to these Undertakings; and
 - 10.22.5 track and follow-up any complaints of breaches of these Undertakings made by BT employees to BT's confidential helpline. It shall report any relevant findings to the EAB.
- 10.23 BT shall ensure that the EAO has reasonable access to information held by BT that it needs to fulfil its role, regardless of where such information may be held by, or within, BT.
- 10.24 The EAO shall be able to draw upon the expertise of functions within BT including from BT's Internal Audit and Compliance team and the office of BT's Company Secretary.
- 10.25 BT shall ensure that the EAO is resourced commensurate with the demands placed upon it and is able to operate with the level of independence required.
- 10.26 The EAB shall have no remit in respect of:
- 10.26.1 actions and activities conducted in respect of the Regulation of Investigatory Powers Act 2000 and any other legislation relating to national security or relations with a foreign government;
 - 10.26.2 conduct of claims or litigation; and
 - 10.26.3 for the avoidance of doubt, matters outside these Undertakings.
- 10.27 The EAB shall conduct an annual review of compliance with these Undertakings in their entirety in relation to BT's financial year, commencing with the relevant months of the BT financial year 2005/2006. Upon completion of such a review the EAB shall send a report to Ofcom, which shall include a detailed, accurate and complete account of:
- 10.27.1 performance against KPIs;

- 10.27.2 instances where a material breach of these Undertakings has been identified, and any steps taken as a consequence of such material breach and including a summary of non-material breaches;
 - 10.27.3 areas where it has a concern with regard to possible future breaches of these Undertakings, and the EAB considers that such concerns have not been adequately addressed by BT;
 - 10.27.4 steps BT has taken or is taking to ensure compliance with these Undertakings;
 - 10.27.5 the adequacy of the governance measures in place to ensure compliance with these Undertakings;
 - 10.27.6 how the report was compiled;
 - 10.27.7 a summary of any documents (excluding any internal audit reports, legal advice or legally privileged documents) prepared for the EAO for the purposes of preparing the report that substantiate significant conclusions of the report. Such documents shall be supplied to Ofcom if so requested; and
 - 10.27.8 whether the EAB had adequate resources at its disposal to discharge its duties pursuant to these Undertakings.
- 10.28 Once the review referred to in section 10.27 of compliance with these Undertakings has been approved by the EAB, the EAB shall offer a briefing on the report's findings to Ofcom.
- 10.29 Once the briefing on the report has been made to Ofcom, EAB shall publish in June each year a summary report (the 'EAB annual report') on its activities as a distinct part of BT's annual regulatory compliance report. It shall be made available on the BT website.
- 10.30 The EAB annual report shall be audited by independent external auditors as part of their audit of BT's annual regulatory compliance report. The audit may include an opinion on the processes for non-financial metrics such as KPIs.
- 10.31 BT shall use reasonable endeavours to include in its letter of engagement appointing the external auditors referred to in section 10.30, provisions acknowledging the acceptance by the external auditors of duties and responsibilities to Ofcom in respect of its audit work, audit report and audit opinion, subject to a liability limit to be agreed with Ofcom.
- 10.32 The EAO shall report to the EAB on matters within the terms of reference of the EAB. Otherwise the EAO shall report as appropriate to the BT senior manager on the EAB and/or the BT Group plc Company Secretary.
- 10.33 The most senior person of the EAO and the EAB Secretary shall be appointed with the agreement of the EAB, save where the first such appointments occur before the establishment of the EAB and hence are made by BT.
- 10.34 The EAB will aim to reach decisions on a unanimous basis. Where it is unable to do so decisions will be made on a majority basis with the Chairman of the EAB

having a casting vote and any dissent in relation to such a decision by an EAB member shall be noted in the minutes.

- 10.35 The EAB shall be quorate with three members present, one of which must be the Chairman of the EAB or his nominee. The BT senior manager shall also be entitled to nominate an alternate for him if he is unable to attend a meeting of the EAB, such alternate shall not be someone who is within AS, the Upstream Division(s) or the Downstream Divisions.
- 10.36 BT shall review with Ofcom the operation of the EAB within twelve months of its establishment and thereafter as agreed in writing by Ofcom.
- 10.37 The EAB shall determine how best to engage with representatives of industry in order to understand their issues and concerns.

11. **Next Generation Networks**

No foreclosure of network access

- 11.1 BT shall supply other Communications Providers with Network Access using its NGN in Network Access markets in which, from time to time, BT is determined by Ofcom to have SMP. Such provision of Network Access shall not be conditional on the provision of another form of Network Access or another product, unless agreed by Ofcom.
- 11.2 The supply of Network Access covered by section 11.1 shall be on terms and conditions which allow other Communications Providers to compete effectively with downstream end-to-end services which BT provides over its NGN.
- 11.3 Whilst constructing its NGN BT shall not make any network design decisions on network architecture the effect of which would be to prevent the provision of Network Access as described in section 11.1 to other Communications Providers, without first formally consulting with other Communications Providers. If such consultations suggest that demand may exist for a specific form of Network Access, BT shall enter into commercial negotiations with those Communications Providers interested in such Network Access and shall continue such negotiations for a period of up to three months, during which period BT will not implement any such design decisions to its NGN which would prejudice the outcome of these negotiations.
- 11.4 Section 11.3 shall not apply where:
- 11.4.1 the subject of the proposed design decision has previously been the subject of a consultation in accordance with section 11.3; or
 - 11.4.2 BT consulted with other Communications Providers and Ofcom but such consultations did not suggest demand existed for such Network Access; or
 - 11.4.3 BT consulted with other Communications Providers and Ofcom, such consultations did suggest such demand existed for the particular form of Network Access, BT entered into commercial negotiations with other Communications Providers, but BT did not supply the particular form of Network Access and was not required to do so by Ofcom as a result of regulatory action initiated by Ofcom within two months of

Ofcom receiving notice from BT that the relevant commercial negotiations with other Communications Providers had ceased; or

- 11.4.4 any request for Network Access made before or during the consultation referred to in section 11.3 is evidently frivolous or disingenuous.

Charges for SMP Products to be based on efficient design

- 11.5 Where charges for Network Access are required by an SMP Condition to be on a cost-orientated basis (however that requirement is expressed), and BT provides such Network Access using its NGN, BT shall set its charges for such Network Access on the basis of the costs it would have incurred in designing and building its NGN in the most efficient manner that could reasonably have been employed in order to provide such Network Access. This section shall not apply where:

- 11.5.1 section 11.3 applied and BT complied with that section 11.3; or
- 11.5.2 BT consulted with other Communications Providers and Ofcom but such consultations did not suggest demand existed for the particular form of Network Access; or
- 11.5.3 BT consulted with other Communications Providers and Ofcom, such consultations did suggest such demand existed for the particular form of Network Access, BT entered into commercial negotiations with other Communications Providers, but BT did not supply the particular form of Network Access and was not required to do so by Ofcom as a result of regulatory action initiated by Ofcom within two months of Ofcom receiving notice from BT that the relevant commercial negotiations with the other Communications Providers had ceased; or
- 11.5.4 Ofcom sets a charge or charge control for the relevant form of Network Access pursuant to the Communications Act 2003.

Provision of Network Access on an Equivalence of Inputs basis

- 11.6 BT shall build its NGN and associated systems in such a manner as to ensure that other Communications Providers can purchase from BT Network Access on an Equivalence of Inputs basis.
- 11.7 Where BT provides Network Access using its NGN, it shall do so on an Equivalence of Inputs basis.
- 11.8 Sections 11.6 and 11.7 shall apply only to Network Access in markets in which:
- 11.8.1 from time to time Ofcom has determined that BT has SMP; or
- 11.8.2 BT may reasonably expect it to be determined that BT has SMP because:
- a) the market is the immediate successor to a market or markets in which BT has previously been determined by Ofcom to have SMP; and

- b) the SMP, which Ofcom has previously determined BT to have, is of an enduring nature.

11.9 Sections 11.6 and 11.7 shall not apply where it would not be reasonably practicable to provide Network Access on an Equivalence of Inputs basis for example where:-

- a) both Ofcom and BT agree that it is not reasonably practicable to provide Network Access on an Equivalence of Inputs basis; or
- b) in relation to a specific Communications Provider, that Communications Provider is not in a position to use the relevant Equivalence of Inputs product; or
- c) it is not practicable for BT to use that product internally, such as interconnection circuits; or
- d) it is a form of Network Access that is one that Ofcom and BT have agreed does not need to be supplied externally.

Provision of Network Access

11.10 Where BT launches a new downstream product which makes use of its Network Access provided by means of BT's NGN, it shall ensure that such Network Access is made available to other Communications Providers sufficiently in advance of the launch of such new product so that such other Communications Providers are able to launch competing downstream products to Communications Providers or End-Users at the same time as BT. For the avoidance of doubt, except where BT is required by virtue of these Undertakings to provide products on an Equivalence of Inputs basis, the AS or the Upstream Division(s) can deliver Network Access using BT's NGN to the Downstream Divisions as they see fit, provided that those Downstream Divisions experience the same charging regime and functionality as experienced by other Communications Providers.

11.11 Section 11.10 shall apply where the downstream product is based on Network Access in markets in which:

- 11.11.1 from time to time Ofcom has determined that BT has SMP; or
- 11.11.2 BT may reasonably expect it to be determined that BT has SMP because:
 - a) the market is the immediate successor to a market or markets in which BT has previously been determined by Ofcom to have SMP; and
 - b) the SMP, which Ofcom has previously determined BT to have, is of an enduring nature.

Industry group

11.12 Insofar as a multilateral industry group is established to agree key aspects of the transition from existing PSTN to NGN networks, and this industry group is endorsed by Ofcom, BT agrees to participate in that group. Subject to agreement

by other industry participants, BT agrees that the group should if it so wish and if it exists have authority to do the following:

- 11.12.1 Produce a reference interconnection architecture, setting out the manner in which NGN networks are expected to interconnect with each other;
 - 11.12.2 Produce a transition plan setting out the detailed process for managing the transition from PSTN to NGN networks, including the process for migrating PSTN interconnection to NGN interconnection;
 - 11.12.3 Produce a communications plan setting out how this transition will be communicated to End-Users; and
 - 11.12.4 Oversee the actual transition, taking any such action as may be necessary in order to ensure that the above plans are achieved.
- 11.13 For the avoidance of doubt, the group referred to in section 11.12 will not be responsible for, nor have authority over, managing the deployment by BT of its NGN, nor can its actions have the effect of materially delaying such deployment, except with the agreement of BT.
- 11.14 In the absence of such a new industry group as referred to in section 11.12, issues related to SMP Products impacted by BT's NGN, will continue to be managed through the existing Consult21 process and technical standards issues will continue to be managed through the Network Interoperability Consultative Committee.

Operational dispute adjudicator

- 11.15 Insofar as an operational dispute adjudicator scheme as a form of alternative dispute resolution (which does not conflict with sections 185-191 of the Communications Act 2003) for fast-track binding adjudication of operational disputes in relation to BT's NGN is established by Ofcom, following consultation with BT and other Communications Providers as to its terms of reference, BT agrees to participate.
- 11.16 Such operational dispute adjudicator scheme shall not deal with:
- 11.16.1 disputes which materially affect the initiating operator's business case associated with specific products, markets, or providers, including:
 - a) pricing; and
 - b) contractual terms; or
 - 11.16.2 matters which materially affect the policy framework established by Ofcom; or
 - 11.16.3 disputes whose outcome is likely to result in significant operational disruption or financial expenditure.
- 11.17 Such operational dispute adjudicator scheme will enable any Communications Provider, including BT, within two months of an operational issue arising in the

context of BT's NGN implementation plan, including transition, relating to that Communications Provider, to refer operational disputes to this adjudicator for a time-limited binding decision. The nature of the time-limited decision shall be such that only the directly affected parties may file a dispute and all disputes must be resolved within four weeks. Following the resolution of a dispute, if further disputes are submitted addressing the same or similar points, BT can elect to bypass the operational dispute adjudicator scheme and refer directly to Ofcom.

Compensation arrangements

11.18 The principles BT will use in making compensation to a Communications Provider taking Network Access from BT as part of BT's implementation of NGN for network costs necessarily borne by such Communications Provider taking Network Access as a result of notified planned changes to access and interconnection arrangements, will take into account:

- a) the extent to which these changes are unilaterally decided by BT without industry agreement;
- b) the distribution of benefits that accrue from these changes;
- c) the asset life of any legacy interconnect equipment employed at the time of the change;
- d) the extent to which new investment of assets which cannot be re-employed is reasonably and justifiably made by a Communications Provider after it has been made aware of forthcoming changes; and
- e) the additional cost necessarily and directly incurred as a result of having to bring forward investment in new interconnect equipment.

"Broadband dialtone"

11.19 BT shall ensure that no Communications Provider, to which it supplies Metallic Path Facility or Shared Metallic Path Facility, suffers a material competitive disadvantage to its products based on such Metallic Path Facility or Shared Metallic Path Facility solely as a result of BT's software-controlled migration between products made possible by its NGN.

NGN implementation

11.20 This section 11 contains all BT's specific obligations by virtue of these Undertakings in relation to the development and implementation of its NGN. Subject to the provisions of this section 11, nothing in these Undertakings shall impede the flow of information reasonably required to enable BT to design, build, and implement its NGN or the decision making process relating thereto.

12. Contract management mechanism

12.1 BT will work with Ofcom and other Communications Providers to set up, within six months from the date these Undertakings take effect, an effective mechanism to deal with issues surrounding terms and conditions relating to SMP Products, it being noted that the mechanism will not apply to certain types of contractual provision.

13. **Northern Ireland**

13.1 Sections 5 (other than section 5.22), 6 and 8 of these Undertakings (subject as below) shall not apply in respect of BTNI.

13.2 For the avoidance of doubt:-

- a) in section 5.38 a BT employee or agent working for BTNI is not to be treated as an employee or agent of BT who is not working for AS;
- b) nothing in section 5.44 requires any separation in respect of BTNI or its systems or prevents BT employees or agents working for BTNI accessing AS systems.

13.3 For the purposes of section 5.45, “the rest of BT” does not include BTNI.

13.4 Notwithstanding anything in section 8.2, a Communications Provider based in Northern Ireland who meets the criteria referred to therein shall, if it so chooses, be entitled to be account managed by BTNI.

14. **Information requests and Co-operation**

14.1 Where, following consultation with BT on the draft of such a request, Ofcom make a proportionate request in writing for information reasonably necessary for Ofcom to monitor compliance with these Undertakings, BT shall provide such information to Ofcom within a reasonable period, being not less than fifteen working days, and which is reasonable having regard to the seriousness and urgency of the matter, of the request being received.

14.2 Where a request for information is received by BT under section 14.1 the reckless or deliberate provision to Ofcom of false or misleading information shall be deemed to be a breach of these Undertakings.

15. **Directions**

15.1 Where Ofcom:

15.1.1 has given BT a notification that it has reasonable grounds for believing that BT has breached any of these Undertakings, which specifies the Undertaking or Undertakings concerned and setting out its reasons and enclosed a draft of a direction which may specify or describe steps to be taken by BT for the purpose of securing compliance with the Undertaking or Undertakings concerned; and

15.1.2 has allowed BT a reasonable period, being a period of at least one month, to make representations to Ofcom following receipt of such notification; and

15.1.3 having considered any representations BT has made, is satisfied that BT is in breach of one or more of these Undertakings and has given BT a direction with reasons which may specify or describe steps to be taken by BT for the purpose of securing compliance with the Undertaking or Undertakings referred to in that section and which includes an address at which BT may give notice under a) or b) below,

BT may within two weeks of receipt of the direction, or such longer period as may be agreed with Ofcom in any particular case, give notice to Ofcom that it either:-

- a) accepts the direction; or
- b) following a decision to that effect of the BT Group plc Board, declines to accept the direction, in which case, for the avoidance of doubt the direction shall be of no effect.

In the event that BT fails to give a notice to Ofcom within the period specified above, it shall be deemed to have accepted the direction.

15.2 Where under section 15.1 BT accepts a direction it shall comply with the same. For the avoidance of doubt, if BT fails to comply with a direction it has accepted, it shall be in breach of these Undertakings.

15.3 For the avoidance of doubt, no prior finding, or direction under section 15.1 above, is required by Ofcom for BT to be in breach of these Undertakings.

16. **Breach of these Undertakings**

16.1 For the avoidance of doubt, where these Undertakings require BT to obtain Ofcom's agreement or consent, or to consult Ofcom before or when acting in a particular manner, but BT fails to do so, BT shall be in breach of these Undertakings.

16.2 Where any matter under these Undertakings involves BT obtaining Ofcom's consent or agreement or consultation with Ofcom, BT's obligations in respect of that matter, or any constraint on BT's ability to act in the case concerned, shall be conditional on that consent or agreement or any response to that consultation not being unreasonably withheld or delayed.

17. **Compliance with other legal requirements**

17.1 Compliance with these Undertakings does not affect the duty on BT and its respective directors and officers to comply with any of its obligations under:

- a) the Competition Act 1998;
- b) the Communications Act 2003;
- c) the Companies Act 1985, as amended;
- d) the Companies (Audit, Investigations and Community Enterprise) Act 2004; and
- e) any other law or enactment in any jurisdiction.

18. **Variation of these Undertakings**

18.1 BT and Ofcom may, from time to time, vary and amend these Undertakings by mutual agreement.

19. **Expiry and termination**

- 19.1 These Undertakings will automatically terminate in the event that a market investigation reference is made to the Competition Commission under the Enterprise Act 2002 in respect of markets to which these Undertakings relate and the Competition Commission determines remedies to address any findings by it in respect of the reference, unless the reference relates wholly or mainly to features of the market other than those addressed by these Undertakings.
- 19.2 Subject to sections 6.4.3 and 6.15 any commitments made under these Undertakings in respect of any SMP Products apply only for such time and to the extent that such SMP Products are required to be supplied as a result of a finding of SMP.
- 19.3 The entirety of these Undertakings shall no longer apply if, at any point in time, BT is not the subject of any determination by Ofcom that it has SMP in any market connected with Network Access. These Undertakings will cease to apply to the extent that, in the case of any geographical area, BT is not the subject of any determination by Ofcom that it has SMP in any market connected with Network Access in relation to that area. In either case, BT will give Ofcom notice that the Undertakings have ceased to have effect, or the extent to which this is the case, as the case may be.
- 19.4 BT shall be entitled at any time to make representations to Ofcom with a view to Ofcom undertaking a review of these Undertakings to determine whether and if so to what extent they should cease to apply.

20. **General**

- 20.1 For the avoidance of doubt nothing in these Undertakings shall automatically amend BT's contracts with other Communications Providers.
- 20.2 Nothing in these Undertakings shall prevent BT from complying with any applicable laws and regulations and in particular nothing shall inhibit the provision of information to any employee of BT who requires that information for the purpose of matters relating to the Regulation of Investigatory Powers Act 2000 or any other matters relating to national security, or otherwise prevent BT from doing anything necessary in connection with national security.
- 20.3 These Undertakings apply in so far as BT is not prevented from complying owing to a matter outside its reasonable control.
- 20.4 During an initial transitional period for implementation, these Undertakings shall have effect subject to any changes agreed between BT and Ofcom.
- 20.5 For the avoidance of doubt, the following sections shall not come into force until four months from the date on which these Undertakings take effect: 5.38, 5.39, 5.40, 5.41, 5.47, 6.10, 8.1 and 8.6.
- 20.6 Nothing in these Undertakings shall require BT to publish or otherwise disclose confidential information, other than to Ofcom.
- 20.7 For the avoidance of doubt nothing in these Undertakings affects the participation of BT employees in the various BT pension schemes.

20.8 Where any matter under these Undertakings involves either BT or Ofcom's consent, agreement or need to consult the other, such consent, agreement or consultation shall be in writing.

20.9 For the avoidance of doubt, the nominated individuals (if any) and individuals occupying the roles and functional areas set out in Annex 2 shall not abuse their positions to circumvent the intent of these Undertakings and BT employees or agents working for BTNI shall not abuse the provisions set out in sections 13.1 to 13.4 to circumvent the intent of these Undertakings.

20.10 Notices

a) All notices given by BT to Ofcom under section 15.1.3 of these Undertakings must be in writing and may be delivered by hand, fax, e-mail or first class registered post to the address shown in the direction given by Ofcom as described at section 15.1.3:

b) The reasonable period allowed for BT to make representations set out in section 15.1.2 and/or the two week period (or such longer period as may be agreed with Ofcom in any particular case) set out in section 15.1, shall only begin if the notification received by BT as referred to in section 15.1.2 or the direction received by BT under section 15.1.3 is in writing and has been delivered by hand, fax, e-mail or sent by first class recorded delivery post as follows:

to: the Office of the Group General Counsel
British Telecommunications plc
pp C5A
BT Centre
81 Newgate Street
London
EC1A 7AJ

Tel: +44 20 7356 6279
Fax: +44 20 7600 6891
Email: generalcounsel@bt.com

copy to: the Office of the Group Director of Regulatory Affairs
British Telecommunications plc
pp C8K
BT Centre
81 Newgate Street
London
EC1A 7AJ

Tel: +44 20 7356 3256
Fax: +44 20 7600 2709
Email: directorregulatoryaffairs@bt.com

c) Any notice referred to in this section 20.10 shall be duly served:

- i) if delivered by hand, at the time of delivery;
- ii) if sent by first class recorded delivery post, three working days after the date of posting;
- iii) if sent by fax, at the time of transmission; and

iv) if sent by email, at the time of transmission.

In the case of service by way of fax or email, a print out of the fax or email must also be sent by post as soon as reasonably practicable thereafter.

21. **Effective date of these Undertakings**

21.1 These Undertakings take effect on 22 September 2005.

Signed for and on behalf of British Telecommunications plc:

Signature: - - - - -

Name: - - - - -

Position: - - - - -

Date: - - - - -

Accepted for and on behalf of Ofcom:

Signature: - - - - -

Name: - - - - -

Position: - - - - -

Date: - - - - -

Annex 1

Equivalence of Inputs Timetable

1. For Wholesale Analogue Line Rental, the RFS date will be 30 June 2007 and the IBMC date in relation to BT's retail analogue line rental product will be 30 June 2010. The following intermediate staged milestones between the RFS date and that IBMC date will apply in respect of Wholesale Analogue Line Rental:
 - a) at least 30% of BT's relevant installed End-User base as at 30 June 2008 will have been migrated to the Equivalence of Inputs product by that date;
 - b) at least 70% of BT's relevant installed End-User base as at 30 June 2009 will have been migrated to the Equivalence of Inputs product by that date.
2. For Wholesale ISDN2 Line Rental, the RFS date will be 30 September 2007 and the IBMC date in relation to BT's retail ISDN2 line rental product will be 31 March 2009.
3. For Wholesale ISDN30 Line Rental, the RFS date will be 31 December 2007 and the IBMC date in relation to BT's retail ISDN30 line rental product will be 31 December 2009.
4. For Wholesale Extension Service, the RFS date will be 30 September 2006, and the IBMC date in relation to BT's relevant retail Ethernet-based local area network extension service will be 31 March 2007.
5. The RFS date for Shared Metallic Path Facility will be 30 June 2006. The IBMC date in relation to asymmetric IPStream will be 31 December 2006.
6. The RFS date for Metallic Path Facility will be 30 June 2006. The IBMC date in relation to symmetric IPStream will be 31 December 2006.
7. For IPStream the RFS date will be 31 December 2005 and the IBMC date in relation to BT's relevant retail broadband service will be 31 December 2006.
8. For Backhaul Extension Service BT will have Equivalence of Inputs capable systems in place by 30 September 2006.
9. BT shall by 30 September 2006 launch a Wholesale Extension Service Backhaul Product which shall be offered on an Equivalence of Inputs basis.
10. With effect from the relevant RFS date, for those Communications Providers who wish to migrate their existing End-Users to the EOI product, BT will discuss with any such Communications Provider how their End-Users' migrations could be accomplished with minimum disruption to the Communications Providers' End-Users, their service and systems, dependent in particular on the volume of customers each Communications Provider needs to migrate. BT and the Communications Provider will endeavour to work jointly in achieving a smooth transition. In any event, subject to the provisions of section 20.3, the migration will be completed by the relevant IBMC date. For the avoidance of doubt this paragraph refers to customer migrations rather than product migrations dealt with in sections 3.7 and 3.8 of the Undertakings.

11. For Shared Metallic Path Facility and Metallic Path Facility the RFS dates shown above are the dates from which an Equivalence of Inputs product is available for use by Communications Providers and by BT (and is in use by BT) for new customers of products based upon that Shared Metallic Path Facility or Metallic Path Facility. The BT products to which the Shared Metallic Path Facility or Metallic Path Facility is an input are shown in paragraphs 5 and 6 above. The definition of End-User included in the RFS date definition set out in section 2 of these Undertakings shall be read accordingly.

Annex 2

PART A

Any member of the board of directors of BT Group plc or British Telecommunications plc, and the Company Secretary of either Company

Any member of a committee of the Board of BT Group plc, including the BT Group Operating Committee

Group General Counsel

Legal and Regulatory

Group Strategy

Group Risk and Insurance

Head of Ethics/Business Practices

Group Technology for the purposes of planning and implementing BT's NGN

Group Portfolio

Group Commercial Policy Forum

Any part of BT acting under the Regulation of Investigatory Powers Act 2000 or other legislation relating to national security or relations with a foreign Government, or any body empowered to advise on or define pan-BT security related policies

Procurement

The following areas in Group Finance:

Group Financial Control

Group Treasury

Group Tax

Group Reporting, Planning and Analysis, and Controller BT Group

Group Corporate Finance

Commercial and Regulatory Finance

Industrial Action Contingency Group and other crisis management teams

And in all cases their:

- a) equivalents working for BTNI;
- b) relevant external advisers, sub-contractors and agents; and
- c) their successor bodies, roles and functional areas from time to time.

PART B

Any member of the EAB and the EAO, including the EAB secretary

External Auditors

External Quality Assurance

Finance

Internal Audit

Compliance

AS Audit Committee members

Human Resources

Group Information

BT Property

Group Technology (including development)

BT Company Secretary's Office and Board Secretariat

Press, communications, media, public affairs, government relations and investor relations; BT Regions, BT Regional Directors and members of BT Regional Board

BT Group Risk Panel

Billing Centre of Excellence

Business Improvement Centre of Excellence, for the development of equivalent processes in discharge of these Undertakings, and as a source of expertise and advice in modelling and process development

Security

The Program offices involved in implementing these Undertakings

And in all cases their:

- a) equivalents working for BTNI;
- b) relevant external advisers, sub-contractors and agents; and
- c) their successor bodies, roles and functional areas from time to time.

Annex 3

Leased lines

1. The leased lines products to which paragraphs 2 to 8 below will apply are the following products offered by BT at the date these Undertakings take effect:
 - 1.1 Netstream private circuits;
 - 1.2 Analogue private circuits;
 - 1.3 Kilostream private circuits;
 - 1.4 Megastream digital private circuits, up to and including 45Mb/s; and
 - 1.5 Variants of the above which are used to provide enhanced resilience.
2. BTS will appoint a senior product manager who will be responsible for ensuring that BTS complies with paragraphs 3 to 8 below of this Annex 3.
3. It will be the responsibility of BTS to develop, manage and offer variants of the leased lines products set out in paragraph 1 above which are intended to meet the reasonable requirements of its customers who are Communications Providers.
4. BT will proactively consult and engage with its customers who are Communications Providers in order to seek out their requirements in relation to leased line products. BT shall ensure that within four months of the coming into force of these Undertakings BT has identified if and how those Communications Providers' customers consider that the current leased lines products offered by BT do not adequately meet their reasonable needs, and the modifications or enhancements they would consider appropriate.
5. Communications Providers will remain free to purchase the variants of BT's leased lines products which are offered by the Downstream Divisions should they so wish.
6. Communications Providers will be eligible to migrate leased lines described in paragraph 1 of this Annex 3 which they have purchased, prior to BTS offering new leased lines variants, through the Downstream Divisions to any new variant of that type of leased line offered by BTS without charge or penalty. For the avoidance of doubt, if, after a Communications Provider has migrated a leased line purchased from the Downstream Divisions into a leased line variant offered by BTS, and prior to the termination of the contract period, it then migrates that BTS supplied leased line product to another leased line product, BT will be entitled to charge a reasonable fee both for the migration to the other leased line product and for the prior migration to the leased line product offered by BTS.
7. It is not BT's intention that any leased lines product variants to be offered by BTS should be any form of intermediate product between Partial Private Circuits and retail leased lines.
8. BTS will undertake a review of the progress it has made towards development of leased lines product variants that meet the reasonable needs of Communications Providers approximately six months after the creation of BTS and shall share the findings of its review both with Ofcom and with those Communications Providers who were consulted in accordance with paragraph 4 of this Annex 3.

Annex 4

Equipment

- a) Access network termination equipment
- b) Broadband servers
- c) Video servers
- d) Aggregation equipment for backhaul
- e) Private circuit termination
- f) Any additional equipment reasonably identified by any other Communications Provider following consultation with the Communications Providers Property Users Group and agreed in writing between BT and Ofcom

Provided that none of the equipment shall be used in the provision of Wireless Telegraphy as defined in the Wireless Telegraphy Act 1949 (as amended or re-enacted). This restriction shall be reviewed from time to time with Ofcom.