Dispute between Cable & Wireless and T-Mobile about mobile termination rates

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Draft determination
and consultation

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Section 1

Summary

1.1 This dispute concerns the termination rate payable by T-Mobile (UK) Ltd (T-Mobile) to Cable & Wireless (C&W) for calls originated on T-Mobile's network and terminated on C&W's network in respect of C&W customers using its fixed to mobile convergence (FMC) service. These payments are known as mobile termination rates (MTR).

1.2 On 8 September 2008, the parties to this dispute agreed an interim MTR of 1.2ppm, subject to this rate being adjusted retrospectively following a determination on the issue by Ofcom.

1.3 On 24 November 2008, we received a submission from C&W requesting that Ofcom handle, consider and determine this dispute. On 26 November 2008, we sent a non-confidential version of C&W's submission to T-Mobile, asking them to comment on the scope of the dispute. On 3 December 2008, T-Mobile provided a response regarding the scope of the dispute.

1.4 Our powers and duties to resolve certain disputes are set out at sections 185-191 of the Communications Act 2003 (the 2003 Act). In accordance with Section 186(4) of the 2003 Act, on 16 December 2008 we decided that it was appropriate for us to handle this dispute, informed the parties to the dispute of our decision and published a Competition Bulletin entry setting out the scope of the dispute.[1]

1.5 In resolving this dispute, we have considered our general statutory duties and Community obligations under sections 3 and 4 of the 2003 Act. In the context of this dispute, we have had particular regard to our primary duty under section 3(1)(b) of the 2003 Act to further the interests of consumers in relevant markets, where appropriate, by promoting competition.

1.6 In provisionally determining the appropriate resolution of the dispute, we considered the 6 principles of pricing and cost recovery established by Ofcom as an appropriate basis for the framework to set a MTR which is reasonable as between the parties and satisfies our general statutory duties and Community obligations. In consequence of that assessment, we provisionally decided that it was appropriate to directly link C&W's MTR to a regulated rate. We considered which rate would be appropriate in this matter and provisionally decided, in the interests of cost minimisation, effective competition and reciprocity, that it should be the lowest regulated rate.

1.7 In summary, based on the submissions of the parties and the evidence gathered in this dispute, for the reasons set out in this draft determination and explanatory statement, our provisional conclusion is that:

1.8 As from [the date of the final determination] and until the implementation of the Competition Commission (CC) Price Control Determination (the "CC Determination")[2], the MTR charged by C&W for the termination of calls originated on T-Mobile's network and terminated on C&W's network in respect of C&W's

[1] See: http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ocases/open_all/cw_01004/
[2] http://www.catribunal.org.uk/files/CC_Determination_1083_H3G_1085_BT_220109.pdf.

customers using its FMC service may not exceed 4.71ppm[3], which is currently our best estimate of the TAC for Vodafone and O2 for 2009/2010, as specified in the CC Determination, converted into nominal terms. However, we recognise that, if the TAC for Vodafone and O2 resulting from the implementation of the CC Determination is different from our current best estimate of it (4.71ppm for 2009/2010) and the parties are unable to reach an agreement, they may refer a further dispute to us.

1.9 The background to this dispute is set out in section 2. The history of this dispute is set out in section 3. Section 4 sets out the statutory obligations and principles which apply in resolving the dispute and the analysis and reasoning underpinning the draft determination is set out in section 5. Ofcom's draft determination is set out in section 6.

1.10 Stakeholders, in particular the parties to this dispute, are invited to comment on our proposed resolution of this dispute by **10:00am on 30 March 2009**. The process for submitting comments is set out at Annex 2 below.

[3] This rate has been converted to nominal terms from 4.4ppm (2006/07 prices) accounting for the three years of relevant inflation as per 16.47(c) of the CC's MTC determination at http://www.catribunal.org.uk/files/CC_Determination_1083_H3G_1085_BT_220109.pdf

Section 2

Background

Mobile voice call termination

2.1 This dispute concerns the termination rate payable by T-Mobile (UK) Ltd (T-Mobile) to Cable & Wireless (C&W) for calls originated on T-Mobile's network and terminated on C&W's network in respect of C&W customers using its fixed to mobile convergence (FMC) service. These payments are known as mobile termination rates (MTR).[4]

2.2 In order for customers of different networks to be able to call each other, telecommunications networks, including mobile networks, need to be connected to each other, either directly or through a transit operator. In practice, network operators conclude interconnection agreements, setting out the terms and conditions on which they will interconnect.

2.3 The parties to this dispute have agreed a direct interconnection agreement.

2.4 According to C&W's submission, T-Mobile has refused to accept the rates proposed by C&W on 15 May 2008 for the termination of calls to customers of C&W's FMC service, equal to the termination rate payable for the "BT Fusion" product,[5] which is 6.418ppm across each time period (i.e., (✂)ppm daytime; (✂)ppm in the evening; and (✂)ppm during the weekend). On 30 May 2008, T-Mobile rejected the MTR proposed by C&W and suggested a MTR equal to 1.2ppm. Despite further negotiations, the parties to this dispute were unable to reach an agreement.

2.5 On 8 September 2008, they agreed an interim MTR of 1.2ppm, subject to this rate being adjusted retrospectively following a determination on the issue by Ofcom.

C&W service

2.6 C&W describe its FMC service as a telephony service that combines the benefits of fixed and mobile telephony. The customer can use a single mobile handset in the office that uses pico cells operating over C&W's DECT guard band spectrum and is connected back into the customers' fixed line network. Away from the office the connectivity is provided over one of the existing mobile networks under a roaming agreement established between C&W and its partner operator (✂).

2.7 We understand that the C&W FMC service will be Global System for Mobile communications (GSM) based and will offer 2G telephone services, short messaging service (SMS), telephone message, general packet radio service (GPRS) and data. C&W is engaging on the rollout of its FMC service with its first customer, Tesco. C&W explained that Tesco will be replacing their fixed telephones with GSM functionality.

[4] T-Mobile acknowledges that the C&W FMC service is a mobile service (see paragraph 3.44).

[5] The "BT Fusion" service uses conventional GSM handsets which route calls via the fixed broadband network while the user is indoors, and hands the call over to the cellular network when the user is outdoors. We note that Orange Unique (http://www.orange.co.uk/unique/) is another example of an unlicensed mobile access service launched in the UK.

2.8 C&W told us that the FMC service is targeting large corporate customers. It is intending to target existing and potential virtual private networks. Its focus is essentially on businesses with 1000 or more devices; which amounts to the largest 3000 companies in the UK. 80% of customers of the FMC service are expected to be existing C&W customers. C&W see this as an opportunity to add to their data connectivity offer; the FMC service is not likely to be sold by itself.

2.9 C&W told us that the service was launched in September 2008. We understand this to be a product launch and that operationally the service is undergoing trials with only a handful of handsets making test calls with no customers using the service on a commercial basis. C&W told us that it is likely that the service will commence operations on a commercial basis later this year.

Description of T-Mobile

2.10 T-Mobile is the UK subsidiary of T-Mobile International AG, which in turn is owned by Deutsche Telecom.

2.11 T-Mobile's main business activities include public mobile communications network operation and the provision of mobile network communications to the public.

Section 3

The dispute

3.1 C&W notified its MTR for the termination of calls to customers of C&W's FMC service to T-Mobile on 15 May 2008. This rate was equivalent to the rate charged by BT for its "BT Fusion" product.[6] T-Mobile rejected this rate on 30 May 2008 and proposed a rate of 1.2ppm. On 1 July 2008, C&W rejected the rate proposed by T-Mobile. On 18 July 2008 T-Mobile responded to C&W's letter and re-iterated its proposal of 1.2ppm. On 22 August 2008 a meeting was held between the parties which included a proposal from T-Mobile to open up C&W's mobile number range on the basis of an interim rate, subject to Ofcom determining the appropriate rates for new mobile entrants.

3.2 On 29 August 2008, T-Mobile wrote to C&W setting out its proposals to open the C&W mobile number range at 1.2ppm, subject to this rate being adjusted retrospectively following a determination on the issue by Ofcom. C&W and T-Mobile reached an agreement on 8 September 2008 that an interim rate of 1.2ppm should apply between the parties until the resolution of this dispute by Ofcom. On 24 November 2008, C&W submitted a submission for Ofcom to handle, consider and determine a dispute.

3.3 Sections 185 to 191 of the 2003 Act set out Ofcom's dispute resolution powers. They apply to disputes relating to the provision of network access and to other disputes relating to the rights and obligations conferred or imposed by or under Part 2 of the Act. Section 186 of the Act requires Ofcom to resolve a dispute referred to it under section 185 once it has decided in accordance with section 186(2) to handle the dispute. Ofcom's remedial powers for resolving disputes are set out in section 190 of the 2003 Act.

3.4 Having considered the parties' submissions and subsequent information, Ofcom was satisfied that the dispute the parties had asked it to resolve is a dispute between communications providers (CPs) relating to network access, and that the matters in dispute would not be resolved through further negotiation between the parties. On 16 December 2008, Ofcom decided that it was appropriate for it to handle this dispute for resolution. Ofcom informed the parties of this decision and published details of the dispute on its website.

Scope of the dispute

3.5 The scope of the dispute was to determine the termination rate payable by T-Mobile for voice calls originating on T-Mobile's network and terminating on C&W's network in respect of C&W customers using the FMC service.

3.6 In line with its standard procedures in disputes, Ofcom invited comments from stakeholders on the scope of the dispute as originally published. T-Mobile provided a response with its views on the scope of this dispute on 3 December 2008.

3.7 This draft determination only applies to the scope of this dispute.

[6] The proposed rates were: Daytime (✂)ppm; Evening (✂)ppm; and Weekend (✂)ppm.

Stakeholders interested in the outcome of the dispute

3.8 Upon opening this dispute for resolution, Ofcom invited interested stakeholders to express an interest in the outcome of this matter. Three stakeholders expressed an interest in the outcome of this dispute:

- Hay Systems Ltd;
- Hutchison 3G; and
- Stour Marine Ltd.

Further information provided by the parties

3.9 Ofcom invited T-Mobile to comment on C&W's submissions. T-Mobile provided a response with its views on the scope of this dispute on 3 December 2008, followed by its initial response to the referred dispute on 9 January 2009.

3.10 On 8 January 2009, Ofcom sent C&W a notice under section 191 of the 2003 Act requiring it to provide documents and information in connection with this dispute. C&W responded to Ofcom's notice on 14 January 2009. A second formal notice was sent to C&W on 2 February 2009. C&W responded to Ofcom's second notice on 4 February 2009.

3.11 We requested further clarification of C&W on 9 February and 19 February 2009. We received this information on 9 February and 2 March 2009 respectively. We held a meeting with C&W on 27 January and two telephone discussions on 6 February and 3 March 2009.

The submissions of the parties

3.12 This section outlines the parties' arguments in detail.

C&W's arguments

3.13 The following paragraphs set out C&W's arguments. For the purpose of summarising C&W's arguments we have adopted the headings used in C&W's submission.

Relevant products or services

3.14 C&W submit that the relevant service is mobile call termination (MCT). C&W describe MCT as the service necessary to connect a caller with the intended recipient of the call on a different network.

3.15 C&W argue that MCT is the relevant service in this dispute because the FMC service to which the rates in this dispute relate is provided using mobile handsets and telephone numbers allocated for use with mobile communication services.

The ex-ante conditions to which this dispute relates

3.16 C&W submit that it does not have significant market power (SMP) and neither party to the dispute has any SMP conditions that relate directly to the dispute. C&W noted that it is not subject to any regulatory obligations to set its rates in accordance with charge control obligations. C&W also note that T-Mobile and the four other MNOs

have SMP in the market for wholesale MCT on their own networks and submit that the background to that regulation is therefore relevant to this dispute.

3.17 C&W outlined the market reviews that have taken place in relation to the provision of MCT. C&W drew our attention in particular to the second review of the mobile termination market contained in Ofcom's "Mobile Call Termination Statement" published on 27 March 2007 (the Mobile Call Termination Statement).[7] C&W observed Ofcom's finding of SMP for each of the five MNOs and the imposition of charge controls for the supply of MCT by each of the five MNOs.

3.18 C&W observed that the Mobile Call Termination Statement did not make a determination of SMP in respect of any provider of MCT services other than the 5 MNOs.

3.19 C&W noted that the Mobile Call Termination Statement included a cost model to identify the costs of providing MTR which could be recoverable as part of the termination charge (the long run incremental cost (LRIC) model). A range of network costs were identified as costs which could be recovered as part of the MTR. C&W submitted that H3G's costs stemming from its national roaming agreements were not included in the LRIC model because at the time of the market review H3G had already significantly extended its network coverage and was relying less on its national roaming agreement to terminate traffic. According to C&W, given the size of the volume of traffic being terminated by means of national roaming, no allowance for the recovery of national roaming costs was granted by Ofcom in setting the termination rates of H3G.

3.20 C&W also referred to the appeals that have been lodged with the Competition Appeal Tribunal (CAT) against a number of determinations of disputes which had previously been referred to Ofcom by BT and various mobile operators relating to termination rates: *T-Mobile (UK) Limited and others v Office of Communications* (the TRD Judgment).[8] In C&W's view, the TRD Judgment was clear that Ofcom must have regard to its overriding duties under sections 3 and 4 of the 2003 Act. C&W submitted that, in deciding what was a fair and reasonable rate, Ofcom should have regard not only to what is fair and reasonable as between the parties, but also must have regard to what is reasonable within the context of carrying out its wider regulatory duties.

Appropriateness of the LRIC model

3.21 C&W submitted that the same LRIC model used for setting termination rates for established operators with SMP is not appropriate for setting rates for a new service such as its FMC product before a market review or a finding of SMP. The basis for this view was because C&W is not subject to an SMP determination and the service in question is nascent, with subscriber take-up and costs uncertain. C&W have suggested that, given that no market failure has been identified, a LRIC model is not required and that imposing such a measure would be disproportionate.

3.22 C&W also indicated that applying a LRIC model to new market entrants would be inconsistent with Ofcom's previous policy regarding the regulation of new services or new entrants. C&W drew comparisons with Ofcom's approach to regulation of 3G

[7] Mobile Call Termination Statement, 27 March 2007: http://www.ofcom.org.uk/consult/condocs/mobile_call_term/statement/statement.pdf

[8] [2008] CAT 12, 20 May 2008, available at: http://www.catribunal.org.uk/files/Judgment_TRDs_200508.pdf.

services when charge controls were not initially imposed on 3G call termination, but after monitoring were imposed, once the market had developed and costs were more certain.

3.23 C&W argued that the determination of charges based upon LRIC cost models would act as a constraint on C&W's ability to recover its start-up costs relating to this service. C&W contended that the ability to recover start-up costs is an essential element of allowing competition and innovation in the market.

3.24 C&W added that, given that the service has been recently launched, it is difficult to calculate the costs of the service as it is new and has uncertain economics. C&W concluded that, even if it were practical to develop a robust LRIC model, it would not be proportionate when set against the small traffic volumes that will be carried in the early phases of the product's life.

The inclusion of national roaming charges within a LRIC model

3.25 C&W utilise a national roaming agreement to provide coverage outside of its network deployed for use within the office. C&W submitted that, whilst it does not agree that LRIC should be applied to the FMC service, in the event that Ofcom does decide, either now or in the future, that it should base FMC termination rates on the cost of the service, it would not be appropriate to exclude roaming charges, as they form a necessary and key cost of providing the service.

3.26 In C&W's view, the fact that national roaming charges were not included in the cost model in the Mobile Call Termination Statement does not mean that such services should not be recoverable as part of the termination rates for its FMC service. C&W explained that national roaming charges were not included in the cost model for H3G because, as the network coverage increased, reliance on 2G roaming was declining. It was anticipated that by the end of the charge control period the number of calls terminating using the partner network would be very small.

3.27 C&W contrast its FMC service against the service provided by H3G, specifying that its FMC service will not be rolled out nationally and that the proportion of national roaming will not reduce as subscriber numbers on the mobile network increase. C&W contend that national roaming is a direct cost of the provision of the FMC service and as such should be recoverable in a cost model in the same way as other direct costs are. C&W add that it is essential that any cost model should take account of different services and the different costs associated with each service.

3.28 C&W have submitted that a MTR which did not allow for recovery of roaming charges would likely mean that C&W would make a loss on a significant number of calls made to its FMC customers. C&W stated that the provision of a service, which for at least a significant period of time results in a considerable loss, would not be commercially viable, resulting in its exit from the market for the provision of the FMC in the long run.

3.29 C&W conclude their submissions on national roaming by describing it as an efficiently incurred cost. C&W have stated that the use of a national roaming agreement is the most efficient way to provide the FMC service. C&W submit that its only alternative would be to roll out a national network using its guard band spectrum, which would be impractical and result in significantly higher costs and hence even higher MTR. On that basis, C&W contend that roaming charges are a legitimate and efficiently incurred cost and should be recoverable as part of its MTR.

Benchmarking

3.30 C&W quoted the TRD Judgment, where it stated that:

> "…Benchmarking is a useful tool and Ofcom should consider the value of comparisons put forward by the parties and what they show about the reasonableness of the charges or other terms and conditions" (paragraph 186).

3.31 It is C&W's position that benchmarking will assist Ofcom to determine a fair and reasonable rate in the current dispute. C&W observe that the end user will not perceive any difference between the mobile termination service provided by the FMC service and that provided by the other MNOs. C&W noted that there are a number of different benchmarks that reflect different sizes of operation, different phases in service life cycle and different technologies used.

3.32 C&W observed that some of the most obvious termination rates to be used as benchmarks had been set in accordance with price controls. These price controls, in C&W's view, were set after extensive review of their specific circumstances of the operators concerned and taking into account their ability to drive greater efficiency during the charge control period. C&W distinguished its services in this instance, due to being a new entrant without a price control, and warned of the potential regulatory burdens that would follow from linking a new entrant's rate to a regulated rate, imposed on an operator following a finding of SMP.

3.33 C&W submitted that its proposed MTR (6.418ppm across each time period) is fair and reasonable as it falls within the range of terminations rates that currently exist[9] in the market for wholesale MCT. C&W observes that the four 2G/3G mobile operators are well established and have seen their termination rates fall significantly since the launch of their respective services. C&W contends that the fact that its proposed termination rate is only slightly above the other mobile operators indicates that this proposed MTR is not too high.

3.34 C&W note that the termination rate of H3G is higher in part due to its greater use of expensive 3G spectrum which is not relevant to the FMC service. C&W claims that it is relevant to consider the other factors explaining their higher termination rate, namely that they are comparatively new in the market with smaller market shares than their rivals.

3.35 A particular benchmark that C&W identified is the rate applicable to the "BT Fusion" service provided by BT (identical to the MTR proposed by C&W – i.e. an MTR of 6.418ppm across each time period). C&W observed that the rate has been agreed by other CPs as being fair and reasonable. C&W added that, whilst BT Fusion's termination rate is higher than the 2G/3G MNO rate, it has not necessitated an increase in retail prices for calls to different mobile networks to take into account the cost of calls to the BT Fusion product. C&W suggested that, if this same rate is charged for its FMC service, that similarly it is unlikely to give rise to a need for any changes in retail rates.

Current position

3.36 C&W told us that an agreement on termination rates between the parties to the dispute was required to open up the C&W number range on its network. Additionally,

[9] As of the date of C&W's submission on 24 November 2008.

T-Mobile made the agreement on termination rates a precondition of the mobile number portability (MNP) agreement between T-Mobile and C&W. C&W submitted that, in order to prevent a delay of the FMC service, or launch without connectivity to and from T-Mobile, an interim rate was agreed between T-Mobile and C&W at the level proposed by T-Mobile (1.2ppm). Both parties have agreed that the rate eventually determined by Ofcom will be applied retrospectively from the date the interim rate was agreed.

How the dispute should be resolved

3.37 C&W request that Ofcom resolve the dispute using their powers under section 185 of the 2003 Act to:

- determine that the rates proposed by C&W are fair and reasonable and that they be applied from 8 September 2008 until the date of the determination and thereafter until such time as the parties agree otherwise; or
- in the alternative, determine the proper amount of the charges for termination provided by C&W from the 8 September 2008 to the date of the determination and thereafter until such time as the parties agree otherwise;
- for the purposes of giving effect to that determination, give a direction requiring T-Mobile to pay the termination rates as proposed by C&W, or such other amount as Ofcom may determine, plus interest to C&W by way of an adjustment to the underpayment made by T-Mobile.

T-Mobile's arguments

3.38 The following paragraphs set out T-Mobile's arguments. Note that, for the purpose of summarising T-Mobile's arguments, we have adopted the headings used in T-Mobile's submission.

The scope of the dispute

3.39 T-Mobile suggested that the scope of the dispute be defined as the determination of the level of the termination rate charged for the termination for calls originated on T-Mobile's network and terminated on C&W's network.

Market review

3.40 T-Mobile considered that the dispute relates in principle to the application or otherwise of cost based recovery for termination charges. T-Mobile did not propose that C&W be made subject to an SMP designation or that its termination rates should be assessed according to the strict application of the LRIC model. Rather, T-Mobile contended that termination rates should reflect the costs of termination if they are to be reasonable. T-Mobile referred to the TRD Judgment where the CAT stated that a full SMP review was not required in order to resolve a dispute. T-Mobile submitted that, when it purchases a service, that service should be priced at a reasonable rate and that it should therefore substantially relate to the costs of providing it.

3.41 T-Mobile has not suggested that C&W should set its termination rate in strict compliance with the LRIC model or that its MTR should be subject to a price control regulation through an SMP designation. T-Mobile referred to the European Commission's Recommendation on Market Definition and Ofcom's previous analysis of the market for voice call termination on individual mobile networks (former Market

16, now Market 7)[10]. T-Mobile observed that Ofcom's analysis concluded that there are separate relevant markets for MCT on each MNO's network, regardless of the technology used for termination; and that all MNOs have 100 % share of the market for termination on their own network.

3.42 T-Mobile submitted that it follows that each network, including C&W, prima facie enjoys SMP in respect of call termination on its network.

3.43 T-Mobile did not suggest that Ofcom should conduct a market review and make an SMP determination in respect of C&W, or that such an exercise is required to determine the dispute. T-Mobile submitted that Ofcom's powers of dispute resolution under section 185 of the Act are distinct from its ability to set price controls pursuant to a market review, although each enables it to determine an appropriate MTR.

The nature of the C&W FMC service

3.44 T-Mobile submitted that C&W is not proposing a new or innovative service in that it is a 2G GSM service that utilises the same technology, handsets, cells, etc as existing 2G mobile services. T-Mobile do not characterise the C&W product as a "convergence" of fixed and mobile services, as it uses two mobile networks to provide coverage. T-Mobile also suggests that there is nothing novel about the combination of different networks to provide a service. T-Mobile described the use of pico cells for localised coverage combined with the use of macro cells for wider coverage as an approach that has been adopted by the 5 national MNOs for some time.

3.45 T-Mobile notes that the C&W FMC solution is based on existing technology and that it is aimed at corporate customers, not the general consumer, and is not intended by C&W to be a public consumer service.

Principles that apply to the regulation of new entrants' termination rates

3.46 T-Mobile proposes that Ofcom continue to approach the resolution of disputes regarding the reasonableness of termination rates in a manner that is cost related as per the TRD Judgment.

3.47 T-Mobile rejected the suggestion by C&W that, as a result of their new entrant / innovative service status, there should be some form of regulatory forbearance. T-Mobile suggests that any issues arising from new entrant status can adequately be taken into account by Ofcom.

The costs that are relevant to the determination of termination rates

3.48 T-Mobile outlined its view that allowing asymmetric termination rates must be justified and that the justification can no longer be based on "new entrant" status per se, but

[10] As provided for in the Framework Directive (Directive 2002/21/EC), the European Commission (the "Commission") has adopted a Recommendation on relevant products and services markets ("the Recommendation") which identifies markets within the electronic communications sector, the characteristics of which may be such as to justify the imposition of regulatory obligations. The Recommendation's Market 7 (former Market 16) is the market for voice call termination on individual mobile networks: "Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services" http://eur-lex.europa.eu/LexUriServ/site/en/oj/2007/l_344/l_34420071228en00650069.pdf:.

must be related to differences in costs. T-Mobile referred to a paper of the European Regulators Group (ERG) where the ERG did not support the contention that asymmetry and higher call termination rates should be logically allowed for new entrants or smaller players.[11] T-Mobile also indicated that the paper stated that, if asymmetric rates were imposed, they should only reflect differences in costs.[12]

National roaming

3.49 T-Mobile submitted that the choice to provide a national roaming service outside of their network is a matter for C&W and its customers. T-Mobile contended that "recipient network/its customer pays" (for the additional costs of roaming) is an internationally recognised model in call forwarding for both GSM networks and VoIP operators. T-Mobile argued that this is appropriate because the originating network (i) does not know which network the call is ultimately routed to and (ii) should not be required to pay for the use of two networks, where roaming is involved at the receiving party's/network's election. Put another way, T-Mobile argues that the roaming charge should not be included in C&W's termination charge as this would effectively result in this charge being passed to the caller (not the recipient).

3.50 T-Mobile pointed to the setting of the H3G price control, which takes no account of national or international roaming. T-Mobile highlighted a specific category of "other costs", including roaming and interconnect charges, which was used in Ofcom's analysis of the Mobile Call Termination Statement. T-Mobile explained that Ofcom did not find these costs relevant to the consideration of the cost of call termination, as they were not costs that were incurred in relation to the MNO's own network (at paragraph A6.20).

3.51 T-Mobile considered that it is possible, if the MTR was set at the level of roaming costs as proposed by C&W, for C&W to earn excessive profits on the core service of termination on C&W's spectrum. T-Mobile point to the direct harm to callers of excessive termination charges through higher retail charges contending that the recovery of C&W's roaming costs would risk distortions to competition, such as allowing C&W to cross-subsidise its retail prices in competition with other operators. T-Mobile suggest that this would enable C&W to expand through artificial regulatory advantage rather than from offering better services or better value to customers.

3.52 T-Mobile submitted that C&W appear to make no allowance for the fact that, despite justifying their high termination rate largely on the basis of national roaming, a significant proportion of their traffic will be terminated by themselves, without these roaming costs. T-Mobile suggested that until C&W has been operational for a period of time and can generate robust figures for the amount of traffic terminated on either network, it will be very difficult to attempt to blend the costs of termination on the C&W network and the costs of termination on their partner's 2G network. T-Mobile surmised that the only appropriate method to determine this matter is to pay the cost of calls terminated on C&W's network only.

3.53 T-Mobile concluded that the originating network (i.e. T-Mobile) should not pay the costs of roaming and accordingly these costs should not form part of the assessment of network costs when determining an appropriate termination rate. T-Mobile suggested that a national network is not required by C&W, and that C&W should

[11] "ERG's common position on symmetry of fixed call termination rates and symmetry of mobile call termination rates" (ERG(07)83): http://www.erg.eu.int/doc/publications/erg_07_83_mtr_ftr_cp_12_03_08.pdf
[12] Ibid pages 5 and 85.

charge lower termination rates to reflect the lower costs of network access provision. T-Mobile contend that if the C&W FMC service is indeed innovative and efficient, then C&W must be able to propose retail costs significantly below those of the MNOs, and in that way enjoy a margin to recover the additional associated costs of national roaming, rather than recovering these costs from its competitors.

Benchmarking

3.54 T-Mobile submitted that the CAT does not regard benchmarking against the price control caps of operators such as T-Mobile to be appropriate when determining the reasonableness of termination rates, particularly in situations where this would maintain termination rates significantly above costs and deny purchasers the benefits of potential reductions.

3.55 T-Mobile added that, to the extent that any form of benchmarking is appropriate, the relevant benchmark should not be the current termination rates of the MNOs. T-Mobile submitted that none of these companies provide only localised coverage using a DECT guard band network. T-Mobile stressed that, if benchmarking is used to establish the appropriateness of the C&W rates, then these rates must be benchmarked against those for similar operators.

3.56 T-Mobile rejected comparisons of the C&W FMC service with the BT Fusion service. It argued that comparisons were inappropriate because the technology of BT Fusion never fully functioned and calls to BT Fusion numbers were delivered via BT's roaming partner, Vodafone.

The likely costs of voice call termination on the C&W network

3.57 T-Mobile's assessment of the reasonable costs incurred for the MTR for a DECT guard band operator is 1.2ppm.

<u>Network costs</u>

3.58 T-Mobile indicated that C&W has not invested, nor intends to invest, in a national network on the scale of the established MNOs. C&W has no coverage obligation, but intends to restrict its rollout to specific sites of pre-acquired customers.

3.59 T-Mobile contended that the costs of a network rollout at a local level for a DECT guard band network are not comparable to those of the mainstream MNOs, even accounting for scale/coverage. T-Mobile outlined that the relevant network costs include: site costs, equipment costs, backhaul, buildings and RAN planning.

<u>Share of spectrum licence costs associated with termination</u>

3.60 T-Mobile contended that the GSM licence for DECT guard band spectrum was acquired for relatively little cost by C&W and does not currently attract Administered Incentive Pricing (AIP).

<u>Share of administrative cost associated with termination</u>

3.61 T-Mobile suggested that there are no indicators that C&W's administrative costs should not be compared to that of T-Mobile.

<u>Network externality surcharge</u>

3.62 T-Mobile argued that they and other GSM MNOs are granted inclusion of a network externality surcharge (at the time of T-Mobile's submission). This surcharge aims to rectify the externality that occurs because of the social benefit that occurs when individuals have a mobile phone and other people are able to contact them. According to T-Mobile, Ofcom has explained that the main purpose of their network externality in the UK surcharge is now not to increase the penetration of mobile phones, but rather to help subsidise mobile phones for current subscribers who are unwilling to pay enough to renew their subscription.

3.63 T-Mobile understands that C&W are not aiming to increase the number of mobile phone subscribers in the UK, but rather are aiming to provide a replacement service using the existing mobile subscribers of alternative national operators, using a SIM to be inserted in the subscriber's existing handset. T-Mobile submits that there is no social benefit in the form of a network effect that occurs when C&W increase their subscription base, as these customers are already contactable through their existing providers. T-Mobile therefore do not consider that a network externality surcharge is appropriate for the C&W service and rates this as zero in comparing the two companies' termination costs.

The sustainability of the service

3.64 T-Mobile addressed C&W's assertions that its services will not be sustainable at lower termination rates. T-Mobile disagreed with this argument on the following basis:

- T-Mobile argued that the termination rate suggested by C&W has been set through benchmarking, in which rates are set independently of costs and profitability and are not calculated on the basis of meeting a particular threshold for commercial sustainability.

- According to T-Mobile, this implied that there is no flexibility in C&W's business case for the product (i.e. such as an allowance for an increase in call origination charges). If this is the case, T-Mobile suggested that it may be indicative that the product or service is inefficient, since it is not competitive at marginal costs. T-Mobile stated that it ought not to be required to subsidise an inefficient new service or fund competitors' initial investment.

- C&W asserted that it does not benefit from the scale efficiencies of the incumbent operators. In T-Mobile's view, this overlooks the substantial size of C&W.T-Mobile also submit that C&W's assertion downplays that, although its FMC product is a new product for C&W, it does not require an entirely separate business to be established. T-Mobile argued that, even if it could be established that the FMC service derived no benefit from its place within the C&W group, Ofcom's approach to the initial inefficiency of networks should remain the same and its method of Economic Depreciation should be used to deal with the issue of any under-utilisation of the C&W network.

Number portability

3.65 T-Mobile understood that C&W propose to acquire a significant proportion of their customers through number portability. In the case of each such customer the recipient operator network will receive the termination rate of the donor operator network. T-Mobile does not propose how this revenue is accounted for in its proposed MTR. T-Mobile submitted that Ofcom should account for the expected revenues that would be received by C&W through ported numbers where they

receive regulated terminated rates irrespective of the network that the call terminates on.

Manner of implementation

3.66 If Ofcom's determination adjusted the current agreed interim rate, T-Mobile did not consider that any determination of any balance payment or interest to be necessary or appropriate as the parties have expressly agreed that the interim MTR was subject to the possibility of making a retrospective adjustment payment in the light of Ofcom's determination in due course. Furthermore, T-Mobile submitted that its customers make no calls to C&W numbers and accordingly any adjustment payment is likely to be very low and a retrospective assessment is not a matter that it would be proportionate for Ofcom to determine.

Section 4

Ofcom's statutory obligations and regulatory principles

4.1 The starting point for the resolution of any dispute is for us to consider our dispute resolution powers, statutory obligations and regulatory principles. This section sets out those obligations and principles which are then taken into account in the resolution of this dispute in section 5.

4.2 Sections 185 to 191 of the 2003 Act set out our dispute resolution powers. They apply to disputes relating to the provision of network access and to other disputes relating to the rights and obligations conferred or imposed by or under Part 2 of the 2003 Act. Section 186 of the 2003 Act requires us to resolve a dispute referred which meets the requirements of section 185. Our powers to impose remedies to resolve disputes are set out in section 190 of the 2003 Act.

4.3 Our dispute resolution powers in the 2003 Act derive from the European Common Regulatory Framework, in particular, the Framework Directive and the Access Directive.[13] In accordance with Article 5(4) of the Access Directive, Ofcom is required to resolve disputes in relation to access and interconnection in accordance with the policy objectives of Article 8 of the Framework Directive.

4.4 Article 5(4) of the Access Directive is implemented through the dispute resolution procedures set out in section 185 to 191 of the 2003 Act and Article 8 of the Framework Directive has been implemented in section 4 of the 2003 Act. Under section 4(2) of the 2003 Act, we are required to act in accordance with the six Community requirements when exercising our functions under the 2003 Act in relation to disputes referred to it under section 185. The six Community requirements set out in section 4(3) – (10) give effect, amongst other things, to the requirements of Article 8 of the Framework Directive and are to be read in accordance with them.

4.5 In summary, the Community requirements are requirements:

- to promote competition in communications markets.
- to ensure that Ofcom contributes to the development of the European internal market;
- to promote the interests of all European Union citizens;
- to act in a manner which, so far as practicable, is technology-neutral;
- to encourage, to the extent Ofcom considers it appropriate, the provision of network access and service interoperability for the purposes of securing efficiency and sustainable competition in communications markets and the

[13] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive): http://eur-lex.europa.eu/pri/en/oj/dat/2002/l_108/l_10820020424en00330050.pdf; Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive): http://eur-lex.europa.eu/pri/en/oj/dat/2002/l_108/l_10820020424en00070020.pdf

maximum benefit for the customers of communications network and services providers; and

- to encourage such compliance with certain international standards as is necessary for facilitating service interoperability and securing freedom of choice for the customers of CPs.

4.6 In the context of this dispute, the following aspects of the policy objectives of Article 8 of the Framework Directive are of particular note:

- the promotion of competition is to be achieved by, *inter alia,* ensuring that users derive maximum benefit in terms of choice, price and quality and that there is no distortion or restriction of competition; and

- the contribution to the development of the internal market is to be achieved by, *inter alia*, ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services.

4.7 Section 3 of the 2003 Act sets out our general statutory duties which must be taken into account in carrying out our dispute resolution function under Chapter 3 of Part 2 of the 2003 Act.

4.8 Section 3(1) of the 2003 Act sets out our principal duties to be taken into account in carrying out our functions:

> "(a) to further the interests of citizens in relation to communications matters; and
>
> (b) to further the interests of consumers in relevant markets, where appropriate, by promoting competition."

4.9 The things which, by virtue of its principal obligations, we are required to secure in the carrying out of our functions include, according to section 3(2) of the 2003 Act:

> "(a) the optimal use for wireless telegraphy of the electro-magnetic spectrum;
>
> (b) the availability throughout the United Kingdom of a wide range of electronic communications services;
>
> (c) the availability throughout the United Kingdom of a wide range of television and radio services which (taken as a whole) are both of high quality and calculated to appeal to a variety of tastes and interests;
>
> (d) the maintenance of a sufficient plurality of providers of different television and radio services;
>
> (e) the application, in the case of all television and radio services, of standards that provide adequate protection to members of the public from the inclusion of offensive and harmful material in such services; and

(f) the application, in the case of all television and radio services, of standards that provide adequate protection to members of the public and all other persons from both –

(i) unfair treatment in programmes included in such services; and
(ii) unwarranted infringements of privacy resulting from activities carried on for the purposes of such services."

4.10 Section 3(3) of the 2003 Act provides that in performing our principal duties, we must have regard, in all cases, to:

"(a) the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed; and

(b) any other principles appearing to Ofcom to represent the best regulatory practice."

4.11 Section 3(4) of the 2003 Act sets out a number of principles which we must have regard to in performing our principal duties where it appears to Ofcom that they are relevant, including the desirability of promoting competition in the relevant markets and the desirability of encouraging investment and innovation in the relevant markets.

4.12 In performing the principal duty of furthering the interests of consumers specifically, section 3(5) of the 2003 Act provides that Ofcom must have regard, in particular, to the interests of those consumers in respect of choice, price, quality of service and value for money.

4.13 Where it appears to us that any of our general duties under section 3 of the 2003 Act conflict in a particular case, we must secure that the conflict is resolved in the manner we consider best in the circumstances.[14] Similarly, we must secure that any conflict between the Community requirements set out in section 4 of the 2003 Act is resolved in the manner we consider best in the circumstances.[15] Where it appears that a general duty under section 3 of the 2003 Act conflicts with one or more duties under section 4 of the 2003 Act, priority is given to the duties set out in section 4 of the 2003 Act.[16] .

4.14 We also exercise our regulatory functions according to the following regulatory principles:[17]

- We will regulate with a clearly articulated and publicly reviewed annual plan, with stated policy objectives;
- We will intervene where there is a specific statutory duty to work towards a public policy goal which markets alone cannot achieve;
- We will operate with a bias against intervention, but with a willingness to intervene firmly, promptly and effectively where required;

[14] Section 3(7) of the 2003 Act.
[15] Section 4(11) of the 2003 Act.
[16] Section 3(6) of the 2003 Act.
[17] http://www.ofcom.org.uk/consult/condocs/plan/annual_plan/regulatory_principles.pdf

- We will strive to ensure its interventions will be evidence-based, proportionate, consistent, accountable and transparent in both deliberation and outcome;
- We will always seek the least intrusive regulatory mechanisms to achieve its policy objectives;
- We will research markets constantly and will aim to remain at the forefront of technological understanding; and
- We will consult widely with all relevant stakeholders and assess the impact of regulatory action before imposing regulation upon a market.

Section 5

Ofcom's analysis and proposed decision

Which are the relevant factors to be considered in order for Ofcom to resolve this dispute?

5.1 Having taken account of representations from the parties and our duties as set out in the 2003 Act, we have considered the appropriate means of resolving this dispute. We decided that the 6 principles of pricing and cost recovery established by Ofcom were the most appropriate framework for resolving this dispute because they would allow us to adequately ensure our regulatory objectives by accurately weighing up a number of factors, including costs, distribution of benefits and competitive effects, which are relevant for us to set a MTR that is reasonable as between the parties and satisfies our duties. We noted that these are also important factors to be considered in order to ensure that our determination will further the interests of citizens in relation to communication matters, as well as the interests of consumers in the relevant markets, where appropriate by promoting competition. Furthermore, we noted that the 6 principles provided for an appropriate set of objective criteria against which we could comparatively assess the possible options that we had identified to determine this dispute, including the different MTRs suggested by T-Mobile and C&W respectively. Finally, we also considered that the 6 principles attach some importance to practicability, which is also a relevant factor for us in order to meet our statutory duty to resolve this dispute within 4 months and consider the ease of implementation of the outcome as between the parties.

5.2 From that basis, we have also considered the extent to which any other factors may be relevant to the outcome of the dispute which would more adequately ensure our regulatory objectives. We have then considered the extent to which our proposed outcome is consistent with our statutory duties.

The six principles of pricing and cost recovery

5.3 The six principles of pricing and cost recovery were developed by Oftel in the context of number portability, endorsed by the Monopolies and Mergers Commission[18] and have subsequently been used by Ofcom in analysing various pricing issues[19],

[18] Telephone Number Portability: A Report on a reference under s13 of the Telecommunications Act 1984 (MMC, 1995): http://www.competition-commission.org.uk/rep_pub/reports/1995/374telephone.htm#full

[19] See for example: 'Determination under Section 190 of the Communications Act and Direction under Regulation 6(6) of the Telecommunications (Interconnection) regulations 1997 for resolving a dispute between Orange Personal Communications Services Ltd. ('Orange') and British Telecommunications plc ('BT') concerning the cost sharing arrangements for Customer Sited Interconnect ('CSI') links connection and rental charges', 19 November 2003: http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_663/. See also 'Direction concerning ADSL Broadband Access Migration Services, 13 May 2004: http://www.ofcom.org.uk/consult/condocs/bam/statement/; and a Determination to resolve a dispute between Tiscali, Thus and BT concerning ADSL Broadband Access Migration Services', 9 August 2004: http://www.ofcom.org.uk/consult/condocs/bam/statement/. Determination to resolve a dispute between Opal Telecom and British Telecommunications PLC (Openreach) about LLU bulk migration charges, 2 June 2006:

including setting charges for CPS[20], the 2006 WLR charge setting exercise[21] and the resolution of a dispute between BT and Telewest about the geographic call termination reciprocity agreement[22].

5.4 The six principles of pricing and cost recovery are:

i) *Cost causation*: costs should be recovered from those whose actions cause the costs to be incurred;

ii) *Cost minimisation*: the mechanism for cost recovery should ensure that there are strong incentives to minimise costs;

iii) *Effective competition*: the mechanism for cost recovery should not undermine or weaken the pressures for effective competition;

iv) *Reciprocity*: where services are provided reciprocally, charges should also be reciprocal;

v) *Distribution of benefits*: costs should be recovered from the beneficiaries especially where there are externalities; and

vi) *Practicability*: the mechanism for cost recovery needs to be practicable and relatively easy to implement.

5.5 The application of any one of these principles to the relevant circumstances can sometimes point in a different direction to other principles. But the set of principles provides a framework to identify such trade-offs and to facilitate the use of judgement to strike an appropriate balance in reaching conclusions.

Other factors to be considered

5.6 We have also given consideration to the general guidance provided by the CAT in the TRD Judgment to determine a rate which is reasonable between the parties, in taking into account our statutory duties. We have therefore considered the following in reaching our draft determination:

i) an analysis of each side's argument for a particular rate;

ii) an assessment of costs; and

iii) the relevance of any benchmarks.

5.7 Our approach, as set out below, provides an analysis of the arguments of C&W and T-Mobile for an MTR of 6.418ppm (across each time period) and 1.2ppm respectively. We also conducted an assessment of the relevant costs and considered whether there are any relevant benchmarks which could be applied to this case.

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http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_889/determin/determination.pdf.

[20] Final Determination on costs and charges for the provision of permanent carrier pre selection - 2 September 2002: http://www.ofcom.org.uk/static/archive/oftel/publications/carrier/2002/pcps0902.htm

[21] *Wholesale Line Rental: Reviewing and setting charge ceilings for WLR services*, http://www.ofcom.org.uk/consult/condocs/wlrcharge/statement/statement.pdf

[22] Final determination published on 16 June 2006: http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_890/determination.pdf

Assessment of Costs

5.8 In assessing costs in this case, we have conducted an assessment of C&W's costs and of the likely efficient level of termination costs for an operator such as C&W providing a service similar to the FMC service with national coverage. To gain a better understanding of the costs C&W incurs when a call to its FMC service is terminated, we completed a high level assessment of termination costs based on C&W's business plan. We also assessed the evidence of C&W's costs submitted by T-Mobile. In addition to this, we compared the outcome of our analysis with the efficient unit cost of termination by a national operator as estimated by the MCT cost model (see Annex 1 for further information).

Benchmarks

5.9 With regard to benchmarking, at paragraph 186 of the TRD Judgment the CAT stated that:

> "*Benchmarking is a useful tool and Ofcom should consider the value of comparisons put forward by the parties and what they show about the reasonableness of the charges or other terms and conditions being proposed.*"[23]

5.10 The parties have provided their submissions on the usefulness or otherwise of other termination rates to be used as a benchmark.

5.11 C&W contended that benchmarking will assist Ofcom to determine a fair and reasonable rate in this dispute, encouraging Ofcom to consider useful comparisons – those that reflect different sizes of operation, different phases in service life cycle and different technologies used. A particular benchmark that C&W identified is that of the MTR charged by BT for terminating calls on BT's network in respect of BT customers using its "BT Fusion" service (identical to the MTR proposed by C&W). C&W observed that the rate has been agreed by other CPs as being fair and reasonable. C&W add that whilst BT Fusion's termination rate is higher than the 2G/3G MNO rate, it has not necessitated an increase in retail prices for calls to different mobile networks to take into account the cost of calls to the BT Fusion product. C&W suggest that if this same rate is charged for its FMC service, that similarly it is unlikely to give rise to a need for any changes in retail rates.

5.12 T-Mobile did not consider that a benchmark was appropriate in this matter. T-Mobile added that, to the extent that any form of benchmarking is appropriate, the relevant benchmark should not be the current termination rates of the MNOs. T-Mobile stressed that, if benchmarking is used to establish the appropriateness of the C&W MTRs, then these rates must be benchmarked against those operators using a similar technology. T-Mobile rejected the use of the BT Fusion service as a benchmark due to issues with the functionality of underlying technology (see footnote 4). (✄).

5.13 In order to resolve this dispute, we have considered the relevance of benchmarks for the disputed termination charges. There are many different benchmarks for a MTR, both on a national basis and international basis.

i) National Benchmarks

[23] Ibid.

Fixed termination rate

5.14 We have considered whether a fixed termination rate would be a relevant benchmark in this matter. In this regard, we note that the C&W's FMC service offers greater functionality than a fixed service as it can be used outside of the customers' premises. Additionally, C&W's FMC network inside its customers' premises actually utilises a mobile technology (through its own pico cells and national roaming agreement) which means its traffic-sensitive costs are likely to be higher than those of a fixed network. Whilst some aspects of C&W's FMC service may be seen, and intended, as alternatives to fixed line services, this is also true of some services offered by the established MNOs. As a result, we do not consider a fixed termination rate to be a benchmark that would apply in this case due to the fundamental differences in the nature of the services offered by the C&W FMC service and a fixed network.

BT Fusion rate

5.15 We considered whether the BT Fusion rate (i.e. 6.418ppm across each time period) would be a relevant benchmark. C&W has identified the BT Fusion product as another fixed to mobile convergence solution and in C&W's view a level of MTR which has been agreed by many other CPs as being fair and reasonable.

5.16 We do not regard the BT Fusion termination rate as an appropriate benchmark because it is not subject to any regulatory control or assessment and therefore we have not determined the extent to which it reflects the incurred or efficient costs of the service. Further, we note that to date this product has not achieved commercial significance, which may also bring into question its relevance as a benchmark. We also consider that the underlying technology of the BT Fusion service significantly differs with the FMC offering of C&W. We consider them to be a different commercial proposition. The BT Fusion uses conventional GSM handsets which route calls via the fixed broadband network while the user is indoors, and hands the call over to the cellular network when the user is outdoors, whereas the FMC product uses pico cells operating over DECT guard band spectrum while the user is indoors and connectivity is provided over one of the existing mobile networks under a roaming agreement outside of the office.

5.17 As a result of these considerations, we do not regard the BT Fusion MTR as being an appropriate benchmark in this matter.

A regulated MNO rate

5.18 We then considered the extent to which regulated MTRs may be a relevant benchmark in this case.

5.19 We have taken account of the general guidance provided by the TRD Judgment[24], and have approached with caution the option of benchmarking the MTR for

[24] See paragraph 186: "Benchmarking is a useful tool and Ofcom should consider the value of comparisons put forward by the parties and what they show about the reasonableness of the charges or other terms and conditions being proposed. Nevertheless, the Tribunal considers that benchmarking against a price control cap set as an SMP condition needs to be approached with caution. Price controls are set on the basis of information about costs available at the start of a period to be covered by a market review and such controls will extend over a number of years. The regulatory intention is that such controls encourage undertakings bound by them to reduce their costs over the period so as to maximise profits. Any such reductions in costs will then be taken into account when the controls are reviewed and revised for a subsequent period of years. It is important therefore

terminating calls to customers of the FMC service against the regulated MTRs applying to the established MNOs. In particular, we were mindful to ensure that C&W would retain incentives to minimise costs (see paragraphs 5.71 to 5.84). Our considerations as to whether a regulated MTR is an appropriate benchmark are outlined in the following paragraphs.

5.20 We noted that the regulated rates may be an appropriate benchmark, since there are substantial similarities between the nature of the termination service provided by C&W and the services provided by the established MNOs:

i) it is expected that the C&W FMC service, as a result of its own network investment and utilising its national roaming arrangements, is a fully mobile service allowing its customers to make and receive calls while on the move in the same way as do the services offered by the five incumbent MNOs;

ii) in addition, the underlying technology of the C&W service is a cellular wireless technology like that of the other mobile services;

iii) C&W has obtained a spectrum licence, has been provided with a mobile number range, has undergone a mobile number portability process with the other MNOs; and

iv) in addition, the service is marketed to the consumer as a mobile service and calls are made and received on a mobile handset.

5.21 Since the regulated rates for the MNOs are designed to reflect the efficient costs of termination on a mobile network, they are likely to be relevant benchmarks in determining the appropriate level of MTR for C&W.

5.22 In particular, the Mobile Call Termination Statement concluded a market review into MCT charges which found that each of the 5 incumbent MNOs, namely Vodafone, Orange, T-Mobile, O2 and Hutchison 3G, had significant market power in the market for wholesale mobile voice call termination provided to other CPs by the relevant MNO in the United Kingdom.

5.23 Within the Mobile Call Termination Statement, we used a cost model to derive the cost to a network operator of providing voice termination services, using the cost standard of Long Run Incremental Cost plus mark-up to contribute to common costs recovery (LRIC+). We continue to hold the view that a LRIC+ methodology constitutes the most appropriate means of determining the efficient levels for charges on mobile voice call termination services. The primary objective of the model is to assess the network costs to a single network operator of delivering voice services over 2G and/or 3G mobile networks.

5.24 We therefore imposed SMP conditions on each of the 5 incumbent MNOs, including charge controls on the supply of MCT by each of the MNOs as from 1 April 2007. Those charge controls provided for an annual target average charge (TAC) of 9.1ppm for Hutchison 3G, 5.7ppm for O2 and Vodafone, and 6.2ppm for Orange and T-Mobile during the first year of operation of the controls. Annual TACs for subsequent years were to be reduced according to a glide path such that, by

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not to allow benchmarking against actual or proposed price controls to be used in a way which deprives the undertakings of the benefits of cost reductions and other efficiency savings which such controls were intended to encourage."

2010/11, they would be equal to 5.9ppm for Hutchison 3G and 5.1ppm for each of O2, Vodafone, Orange and T-Mobile.[25]

5.25 In the Mobile Call Termination Statement, Ofcom concluded that the 2G/3G MNOs should be required to reduce their charges in subsequent years in line with a smooth glide path of four equal percentage reductions, the steps to be calculated with reference to the applicable TAC for the final year of the charge control (2010/11), taking the headline level of the charge controls currently in force.

5.26 The Mobile Call Termination Statement concluded that the appropriate MTR for Hutchison 3G should be a substantial charge reduction in 2007/8 followed in subsequent years by a smooth glide path, such that charges in 2010/11 align with the cost-based target for that year. The conclusions of the Mobile Call Termination Statement for the 5 incumbent MNOs are shown in Figure 1.

Figure 1: Table of charge control conclusions following adjustment for notice period in the Mobile Call Termination Statement

	Average regulated charges in 2006/7	**First year (2007/8) target charge (nominal)**	**Second year (2008/9) percentage reduction (i.e. X in RPI-X)**	**Third and fourth year (2009/10 and 2010/11) percentage reduction (i.e. X in RPI-X)**	**Final charge in 2010/11 (real 06/07 prices)**
Vodafone and O2	5.6	5.7	3.2%	2.5%	5.1
T-Mobile and Orange	6.3	6.2	5.8%	5.3%	5.1
H3G	Not regulated	9.1	15.1%	11.8%	5.9

Source: The Mobile Call Termination Statement 2007, Figure 9.6

5.27 We note in this regard that the Mobile Call Termination Statement is currently the subject of appeal proceedings before the CAT brought by Hutchison 3G and BT in May 2007.[26] We recognise therefore that caution must be applied when testing the regulated rates since, in the event that the current appeal proceedings are successful, the target average charges (TACs) may differ from those which Ofcom has determined.

The CC Determination

5.28 As part of the appeal proceedings concerning the Mobile Call Termination Statement, the CAT referred the price control matters related to the appeals to the CC in accordance with section 193 of the 2003 Act.

[25] These charges for 2010/1 are expressed in real terms, 2006/7 prices.
[26] Case 1083/3/3/07 and Case 1085/3/3/07.

5.29 On 22 January 2009, the CC issued the CC Determination, in which it set out its own determination of the price controls for the four years from 1 April 2007. The CC Determination stated that the TACs in 2010/11 should be 4.0ppm for O2, Orange, T-Mobile and Vodafone, and 4.4ppm for H3G in 2006/07 prices and for the preceding years as shown in Table 2.

Table 2: CC Determination revised charges (ppm in real terms, 2006/7 prices)

	2007/08	2008/09	2009/10	2010/11
Vodafone & O2 (900/1800 MHz operators)	5.2	4.7	4.4	4.0
T-Mobile & Orange (1800-MHz-only operators)	5.7	5.0	4.5	4.0
H3G (3G only operator)	8.9	6.8	5.5	4.4

Source: Table 16.1 of the CC Determination.

5.30 We recognise that the CC Determination will not be finalised until the end of the litigation process. However, in considering relevant benchmarks, we consider that, for the purposes of determining the appropriate benchmark rate, the CC Determination represents the best estimate of the level of regulated termination charges. Ofcom is required by statute to resolve the dispute within four months, a period during which it appears unlikely that the process will be resolved definitively and we therefore consider it appropriate, in considering whether regulated rates are appropriate benchmarks, to use the outcome of the CC Determination in resolving this dispute.

5.31 In light of our conclusion that a regulated MTR could be a relevant benchmark in this case, we have therefore considered which rate of the three regulated TACs – the 900/1800 MHz operators; 1800-MHz-only operators; or, a 3G only operator – is the most appropriate benchmark.

The reasons for identifying the lowest regulated rate as the most appropriate benchmark

5.32 In the CC Determination, differences were allowed for a later entrant, H3G, in terms of both costs (reflected in the difference in TACs in 2010/11) and a separate glide path. Whilst C&W is clearly a more recent entrant, still we believe that the CC Determination's reasoning is consistent with the lowest of the three rates being the most relevant benchmark in this case because of the reasons outlined below.

5.33 The differences between the three glide paths reflected primarily differences in the level of charges at the start of the control and the desire to allow "sufficient time for operators and customers to adjust to new levels and structures of mobile charges and take these changes into account in their business plans and planned capital expenditure".[27] C&W's FMC service is yet to commence commercial operations, although it has already made plans and started to acquire customers.

[27] Op. cit paragraph 13.4b.

5.34 In addition, we understand that C&W does not need to incur investment in advance of acquiring a customer because it installs the pico cells in the customer's premises. Given the likelihood that C&W's costs are lower than the proposed regulated rate, we consider that a charge at the level of the lowest of the three rates does not create a risk of undue disruption.

5.35 We also considered that (✂). [This paragraph contains our reasoning for considering that the MTR of a roaming partner is not an appropriate benchmark to resolve this dispute. This is because if the MTR of a roaming partner is not used as a relevant benchmark and there is no "pass-through" (i.e., if MTRs are not directly linked to the MTR charged by the roaming partner) it may provide an incentive to negotiate the cheapest national roaming rates].

5.36 Therefore, we believe that the most relevant benchmark is the lowest of the regulated rates, i.e. the TAC for the 900/1800 MHz operators (applying to Vodafone and O2). We assess whether this rate is in fact an appropriate rate to be applied in this case in the light of Ofcom's six principles of pricing, under paragraphs 5.43 - 5.123). Given the date when we expect to resolve this dispute, the most relevant TAC is that for 2009/10.

5.37 We have not identified any other national benchmarks which might apply in this case.

ii) International Benchmarks

5.38 We have also considered whether any international benchmarks (i.e. MTRs applied in other jurisdictions) may be of relevance.

5.39 The parties did not submit to us that any international benchmarks were appropriate to the determination of this matter.

5.40 We conducted some research as to whether there are any relevant MNOs in other jurisdictions utilising guard band spectrum in the same manner as C&W. We are aware of a non-profit organisation called "Fixed-Mobile Convergence Alliance" which focuses the interests of companies which either deploy, state an intention to roll out, or encourage what is described as an FMC service.[28] It is not clear, however, that there are any immediate similar services that are a useful comparison to the specific C&W FMC service.

5.41 We have maintained awareness of other MTR regimes and MTRs in other jurisdictions through our work on the mobile sector assessment project.[29] There appears to be no immediate international comparisons which might be appropriate for this dispute. Therefore, we do not consider that there are any relevant international benchmarks.

5.42 In light of the above, we have concluded that the most relevant benchmark in the present case is the regulated TAC for 2009/10 in the CC Determination which applies to Vodafone & O2. We have therefore considered this as one of the options for resolving the dispute.

[28] See, for instance, the members of the Fixed-Mobile Convergence Alliance (FMCA) (http://www.thefmca.com/about-us) which has the purpose of encouraging the seamless integration of mobile and fixed-line telephone services. We note that BT is a member of the FMCA.

[29] See further at: Mobile citizens, mobile consumers Adapting regulation for a mobile, wireless world, 28 August 2008: http://www.ofcom.org.uk/consult/condocs/msa08/msa.pdf

Application of the six principles of pricing and cost recovery to this dispute

5.43 The following section considers the application of the six principles of pricing and cost recovery to the four options that we have considered for setting C&W's termination rate in this dispute:

1. the termination rate proposed by C&W, equal to 6.418ppm;

2. T-Mobile's estimate of the cost of termination on a DECT guard band network, equal to 1.2ppm;

3. our best available estimate of C&W's termination cost, between 2.61-4.14ppm[30]; and

4. to benchmark against the MTR set in the CC Determination for Vodafone and O2 in 2009/10 of 4.4ppm (2006/07 prices).

5.44 Options 1 and 2 are based on the parties' arguments which were discussed in section 3. Option 3 is based on our consideration, given the time and evidence available, of C&W's likely termination costs. Option 4 is based on our view of the most appropriate benchmark for this case. Our assessment of all four options against the 6 principles of pricing and cost recovery is outlined below.

Cost causation

5.45 The cost causation principle states that costs should be recovered from those whose actions cause them to be incurred. Since it is generally efficient for charges to reflect costs, it is usual to give most weight to this principle unless there are good reasons for not doing so in a particular case. Additionally, the TRD Judgment stated that Ofcom should consider whether an analysis, however broad brush, of the relationship of prices to costs is necessary.[31]

5.46 In Ofcom's "Determination to resolve a dispute between BT and Telewest about a geographic call termination reciprocity agreement" (June 2006), Ofcom stated:

> *"In this context, BT, as the originating operator (calling party), is causing the costs of termination on Telewest's network to be incurred, and thus should be the party responsible for bearing the costs"*

5.47 Charges for termination which reflect the efficient level of costs incurred when a call is terminated on C&W's network would be consistent with this view of cost causation in that T-Mobile will be responsible for the (efficiently incurred) costs caused by it.

The inclusion of national roaming costs

5.48 For any call terminated outside the coverage of its own network, C&W has entered into a national roaming agreement under which C&W is charged a roaming rate by its roaming provider. Ofcom has considered the arguments of the parties as to whether or not this is a relevant cost to be taken into account in assessing the efficient level of costs for the termination of calls to C&W's customers using its FMC service.

[30] As set out in paragraph A1.11.
[31] See number 2 at paragraph 184.

5.49 In arguing that national roaming costs are irrelevant in determining a termination rate for this dispute, T-Mobile states:

> '..*the rationale for termination rates is to ensure that the terminating network covers the costs of termination on its own network – it is not to enable the terminating network to provide termination on other networks, or additional services for its own customers….*'

5.50 However, without this roaming facility, C&W customers would only be able to make and receive calls when in the area of C&W's own network coverage. Therefore, the roaming agreement and its associated termination costs form an unavoidable component of the cost to C&W of providing a national mobile termination service. For this reason, we believe that it is appropriate to include the national roaming costs in our estimation of the incurred cost of termination of calls received by C&W's customers using its FMC service.[32]

5.51 C&W argued in their submission that, if Ofcom decides to base *'FMC termination rates on the cost of the service then it would not be appropriate to exclude roaming charges in the manner that T-Mobile suggest because:*

- *If the roaming costs are excluded and the rates set as proposed by T-Mobile it would result in the service making a loss and hence being unsustainable. As such the rates would be a barrier to investment and competition;*
- *It would be inconsistent with Ofcom's policy to increase innovation and competition in the mobile market for which the auction of GSM Guardband spectrum was a key component; and*
- *The cost of roaming is an efficiently incurred cost of providing the service. It would be both impractical and more costly for C&W to attempt to provide national coverage using its GSM Guardband licence.'*

5.52 We agree that it is desirable for providers to be able to bring a service to market in the most efficient way possible, and it is important that innovation and competition are not stifled by inflexible charging arrangements. We therefore consider that the cost of national roaming is a relevant factor to be included in the cost analysis, to the extent that it is an efficiently incurred cost of providing the service.

5.53 As illustrated by the parties opposing views above, in the case of national roaming, two interpretations of cost causation seem possible. It could be argued that the incremental cost of termination of a call to C&W's FMC service via roaming is caused

[32] In its submission, T-Mobile also argued that Ofcom's decision not to take account of national roaming in the setting of H3G's price control (see A9.30 at http://www.ofcom.org.uk/consult/condocs/mobile_call_term/statement/statement.pdf) indicated that Ofcom does not consider national roaming to be relevant to the consideration of the cost of call termination generally. However, in setting H3G's price control, Ofcom chose to exclude roaming costs from the cost model because the volume of traffic that would be terminated whilst roaming would be small (H3G stated in March 2006 that its 3G network provided 88% population coverage) and the inclusion of this cost in the model would have made no difference to the assessment of the average cost of termination on H3G's mobile service. In contrast, C&W's expects between (✂)% and (✂)% of calls to be terminated whilst roaming, and the inclusion of national roaming costs makes a substantial difference to the assessment of the average cost of termination on C&W's FMC service. Therefore, the factors which made national roaming irrelevant to the setting of H3G's price control do not apply to the determination of a termination rate in this case.

by the caller's decision to make the call, and that they should therefore bear the cost of this decision. Alternatively, it could be argued that the roaming charge is caused by the decision of the C&W customer to roam outside the coverage area, and that they should therefore bear the cost of this decision.

5.54 We believe that callers should bear the cost of their decision to make a call to a mobile phone, as they do to all other UK mobile services, up to the point where the call recipient's actions cause the call termination cost to rise above what a caller would expect to pay for termination on an efficient national network. In other words, a provider should be free to determine the balance between (i) building their own infrastructure and (ii) paying for the use of existing infrastructure of their roaming partners, and should be able to benefit from any cost savings they are able to make, but should not be able to charge more than the efficient termination rate if this balance results in costs which are higher than an efficient national operator.

5.55 Therefore, as indicated in paragraph 5.50, we believe that the cost of national roaming should be accounted for in C&W's termination charge to the extent that it does not increase the termination charge above that of an efficient national mobile operator.

5.56 T-Mobile go on to argue in their submission that:

> *'...even if it is appropriate to pass on the costs of termination on another network, C&W can only do so in respect of the traffic that is in fact so terminated, and so either (i) not apply the same charge to all traffic [or] (ii) significantly reduce its termination charge to reflect the proportion of traffic terminated on its own network.'*

5.57 As regards the analysis of C&W's costs, we agree that the proportions of traffic terminated on its own network and under the national roaming agreement are relevant. T-Mobile's suggestion in point (ii) is likely to be more practicable than the suggestion in point (i) and also more consistent with the termination rates of the other MNOs, which do not reflect variations in the costs of terminating individual calls. Accordingly, we have based our cost analysis on the calculation of a range of cost estimates which take into account C&W's view of the likely proportion of calls to be terminated via its roaming agreement (see table A1 in Annex 1).

The efficient cost of a national operator

5.58 Although C&W's own network infrastructure alone does not provide national coverage, FMC customers are provided national coverage through C&W's roaming agreement. As the end users (both callers and call recipients) receive the same benefits regardless of whether national coverage is provided by an operators own network or through national roaming, we believe that the efficient cost of providing national coverage is the relevant basis for analysis in this case.

5.59 Therefore, to inform our analysis of the likely efficient costs of termination on a national network, we considered output from Ofcom's MCT cost model which suggests that the average network unit cost of an efficient national operator is 3.7ppm. [33] This figure refers to network costs only. An additional allowance should also be made for non-network costs in order to be consistent with the MCT charge

[33] The MCT cost model uses 2006/07 as its base year, therefore all numbers in this section are expressed in 2006/07 amounts and need to be inflated to 2007/08 numbers for comparison with the results from C&W's business plan.

control. Ofcom used a mark-up for non-network costs of 0.3ppm for 2G/3G operators in the charge control. Therefore, the estimated efficient total termination cost for 2G/3G MNOs is 4.0ppm (in 2006/07 prices).[34]

5.60 However, we note that a number of factors make the applicability of the MCT cost model to C&W's operations uncertain:

- C&W's network rollout will cover only its clients' premises and coverage on the FMC service will be provided through its national roaming provider's network in all other areas. Therefore, because C&W's FMC business model allows it to invest in infrastructure only when it is certain it will be needed, it is likely to have lower fixed costs than existing MNOs.

- However, because C&W pays a charge for national roaming, its variable costs could be higher than those experienced by MNOs (see table A1 in Annex 1). The creation of a national service which relies on national roaming adds uncertainty to C&W's FMC business proposition because (i) the average cost of service provision is determined by the proportion of calls terminated by roaming, which C&W cannot predict with certainty and (ii) their business proposition relies on C&W's ability to gain and retain a national roaming agreement with one of the MNOs on suitable terms.

- The efficient costs of termination as estimated by Ofcom's MCT cost model are based on the qualities of an efficient MNO, and thus assume access to identical technology. Although there are substantial similarities in the services, there are some differences of detail in the technology employed by C&W.

Our best available estimate of C&W's termination cost

5.61 As set out at paragraph A1.11, a rate based solely on our estimate of costs, most consistent with the cost causation criterion, would lie between 2.61ppm – 4.14ppm (in 2007/2008 prices).

5.62 Our estimate of the cost to C&W of terminating a call on its own network is significantly smaller than the cost to C&W of terminating a call via its roaming agreement. Therefore, as well as being sensitive to C&W's projections of their future call volumes, [35] our estimate is also sensitive to C&W's assumption of the balance between FMC calls terminated on the C&W network and calls terminated on the network of C&W's roaming partner. The range of our estimates of C&W's termination costs in relation to the FMC service, 2.61ppm – 4.14ppm, is based on C&W's

[34] As explained in the section on benchmarking (see paragraphs 5.28 - 5.29), the CC Determination determined that the TACs in 2010/11 should be 4.0ppm for O2, Orange, T-Mobile and Vodafone. The 4.4ppm determined for Vodafone and O2 in 2009/10 represents a glide path towards this efficient rate. As discussed under the effective competition heading, we believe that it would unfairly disadvantage C&W to be awarded a lower termination charge than that awarded to efficient MNO providers. Therefore, as previously stated, we believe the MTR set in the CC Determination for Vodafone and O2 in 2009/10 of 4.4ppm (2006/07 prices) is an appropriate benchmark to consider for resolving this case.

[35] For example, holding the assumed proportion of FMC calls terminated on the C&W network constant at 50%, if the projected number of calls terminating on C&W's FMC service were halved the resulting constant estimate would be 4.50ppm (assuming a decrease in call volume will not decrease C&W's own network costs, but will proportionately decrease roaming costs). If the projected number of calls were to be increased by 50% the resulting revised constant estimate would be 3.25 (assuming an increase in call volume will not increase C&W's network costs, but will proportionately increase roaming costs).

projection that the proportion of calls to their FMC service that would be terminated via national roaming would be between (✂)% and (✂)%.

5.63 For completeness, it should be noted that, if we based the cost estimate on the assumption that C&W used in their business plan, that (✂)% of calls to the FMC service would be terminated via roaming, the result would be (✂)ppm (see A1.11). However, given the uncertainty about the amount of traffic terminated via roaming (as acknowledged by C&W), we believe that it would be prudent to consider our range of estimates based on the more flexible assumption of the (✂)% and (✂)% traffic volume terminated via roaming provided by C&W.

5.64 C&W's proposed termination rate, 6.418ppm, falls significantly above our cost estimate range. Even if 100% of calls to C&W's FMC service are terminated via roaming, our estimate would still be lower than this rate.

5.65 On the other hand, our estimated range is significantly higher than the cost estimate provided by T-Mobile (1.2ppm). In fact, our sensitivity analysis shows that, even if all calls to C&W's FMC service were terminated on C&W's own network, the resulting estimate (✂)ppm would be higher than T-Mobile's proposed rate.

5.66 The estimate of the efficient cost of termination on a national network provided by the MCT cost model, 4.2ppm in 2008/09 prices (or 4.0ppm in 2006/07 prices), [36] is slightly higher than the top of our range of estimates for the likely average cost to C&W of terminating a call on its network (2.61ppm – 4.14ppm). Our estimate of the cost of termination of calls to C&W's FMC service is equal to 4.2ppm at the point in our estimate range where the proportion of calls terminated via roaming is assumed to be (✂)%.[37] We believe that it is unlikely that such a high proportion of calls would be terminated via roaming, given the incentive C&W has to minimise the proportion of calls to its FMC service that are terminated via roaming.

5.67 We have also considered relevant benchmarks. A particularly relevant benchmark is provided by the regulated rates for termination on the networks of the MNOs. The lower of these rates, which is the regulated Vodafone and O2 termination rate as determined by the CC, equal to 4.4ppm in 2006/07 prices[38] (or 4.58ppm in 2007/08 prices), will approximate closely to the efficient costs of a national mobile operator (4.0ppm in 2006/07 prices), as it is itself based on the output of the MCT cost model. This lower rate corresponds to our estimate at the point where (✂)% of calls to C&W's FMC service are terminated via roaming. C&W's costs can amount to a figure above the regulated rate with the addition of fixed network and other costs.

5.68 Therefore, while T-Mobile's estimate (1.2ppm) is likely to underestimate the cost of termination of calls to C&W's FMC service, both the rate proposed by C&W (6.418ppm) and the MTR set in the CC Determination for Vodafone and O2 in 2009/10 of 4.4ppm in 2006/07 prices (or 4.58ppm in 2007/08 prices) are likely to over estimate the cost of terminating a call to C&W's FMC service.

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[36] The MCT model uses 2006/07 as its base year, therefore all outputs from the MCT model are expressed in 2006/07 prices and need to be inflated to 2007/08 prices for comparison with the results from C&W's business plan, which uses 2007/08 as its base year.

[37] Due to the existence of certain fixed costs in the provision C&W's own network infrastructure, the average unit cost of termination of calls to C&W's FMC service is assumed to increase above the roaming termination rate in instances where very high proportions of calls are terminated via roaming.

[38] See 16.22 at http://www.catribunal.org.uk/files/CC_Determination_1083_H3G_1085_BT_220109.pdf.

5.69 Additionally, our range of cost estimates is sensitive to the cost allocation assumptions we have used as well as to the numbers provided by C&W's business plan, which are particularly uncertain given that the service is not yet fully established. Therefore, these cost estimates should not be thought of as particularly robust or precise.

5.70 Furthermore, we need to balance cost considerations with other factors when resolving a termination rate dispute consistent with our duties. Therefore, we have considered it prudent not to rely on our cost assessment in isolation, and have considered a number of additional relevant factors, as described below, in establishing this draft determination.

Cost minimisation

5.71 In the context of this dispute, the principle of cost minimisation implies that the termination rate set should facilitate productive efficiency by providing an incentive for costs to be minimised.

5.72 Setting a termination rate higher than efficient costs could risk encouraging (inefficient) entry by operators whose costs are higher than those of (efficient) existing operators; this would reduce static efficiency.[39] On the other hand, setting a rate that is lower than efficient costs could risk discouraging entry by operators whose costs are efficient, which would reduce dynamic efficiency. In addition, if there are entry barriers, entry may not occur even if charges are above efficient costs.

5.73 In this case, while we are uncertain what the average cost of termination will be for calls received by C&W's customers using the FMC service specifically, we believe that the MCT cost model gives a robust estimate for the efficient cost of termination for an established MNO offering national coverage.

5.74 If a new entrant (or established firm) is able to charge the industry regulated rate regardless of the technology and business strategy it chooses to adopt, it will benefit if it is able to lower its costs below those of its competitors. This allows participants in regulated markets to retain an incentive to carry out the investment, innovation and market research, and adopt new technology, that could result in long-term industry cost reductions and product improvements. The importance of retaining these incentives was highlighted in the TRD Judgment:

> "*It is important therefore not to allow benchmarking against actual or proposed price controls to be used in a way which deprives the undertakings of the benefits of cost reductions and other efficiency savings which such controls were intended to encourage.*"[40]

5.75 Consequently, it could be argued that setting a new entrant's (or existing firm's) charges equal to their costs, even when their costs are lower than that of other operators, might weaken the incentive for long term cost minimisation because lower cost operators would not benefit from the cost savings they make.

[39] Static efficiency refers to maximising output with a given amount of resources, while dynamic efficiency allows consideration of the potential for increasing resources over the long term through innovation and investment. A competitive market is more likely to encourage investment and innovation, thus there is a relationship between increases in competitive pressure and increases in dynamic efficiency.

[40] See number 11 at paragraph 186.

5.76 Likewise, if a firm is able to charge the actual cost of termination regardless of its relationship to the industry regulated rate or to the industry's efficient costs, the incentive to minimise costs in the long term through investment, innovation and creativity in serving consumers could also be jeopardised, as the firm does not benefit from reducing its costs nor suffer detriment from incurring inefficient costs. Such a charging strategy could in turn harm consumers by allowing inefficient costs to be passed on into call prices.

5.77 Therefore, even though we consider it likely that C&W's termination costs are lower than the MTR set in the CC Determination for Vodafone and O2 in 2009/10 of 4.4ppm (in 2006/07 prices), we believe it is desirable from a cost minimisation perspective to set C&W's charges equal to this benchmark, rather than to C&W's actual costs.

5.78 This reasoning is supported by the ERG's 'Common position on symmetry of fixed call termination rates and symmetry of mobile call termination rates', which states that:

> *'Unlike a unique efficient termination rate level, asymmetric TR pricing does a priori not favour productive efficiency. In particular, even if it ensures every type of operators (efficient or not) to recover their incurred costs, it imposes a constraint on more efficient operators to subsidize the relative in efficiencies of their competitors. Consequently, incentives to deal with inefficiencies may be reduced and passed on to down stream markets…'* [41]

5.79 In paragraphs 5.80 – 5.84 below, we assess the four options that we have identified to resolve the dispute against the principle of cost minimisation.

5.80 Option 1 - T-Mobile's cost estimate, 1.2ppm, is below the output of the MCT cost model for an estimation of the efficient cost of termination for a national operator (i.e. 4.2ppm in 2007/08 prices), and is also likely to be below the average cost of termination for C&W's FMC service (2.61ppm – 4.14ppm), even when we completely exclude the impact of national roaming from the cost analysis (see paragraph 5.89). Therefore, the rate proposed by T-Mobile would not provide a sufficient price signal to encourage firms who are able to provide termination services at a cost lower than, or equal to, existing firms to enter the market. Additionally, this rate would not allow firms such as C&W to benefit from any cost reductions it might be able to achieve relative to its competitors due to adopting an innovative technology or business strategy.

5.81 Option 2 - Since the termination rate proposed by C&W, 6.418ppm, is significantly above the MCT cost model's estimate of the efficient cost of termination for a national operator (4.2ppm in 2007/08 prices) as well as the regulated industry termination rates (between 4.4ppm and 5.5ppm in 2006/07 prices)[42] this rate might not provide a sufficient price signal to ensure that new entrants only enter the market if they are able to provide termination services at equal or lower cost than existing firms. In other words, it might allow some inefficient entry.

5.82 Option 3 - The wide range between the upper and lower bounds of our estimate of the cost of terminating calls to customers of C&W's FMC service (2.61ppm –

[41] See page 5 at http://www.erg.eu.int/doc/publications/erg_07_83_mtr_ftr_cp_12_03_08.pdf.
[42] See 16.22 at http://www.catribunal.org.uk/files/CC_Determination_1083_H3G_1085_BT_220109.pdf

4.14ppm) arises because of the uncertainty surrounding the proportion of calls to C&W's FMC customers that will be terminated via national roaming. This would make it difficult to determine an appropriate cost based termination charge for C&W's FMC service. Additionally, as discussed above, setting a new entrant's (or existing firm's) charges equal to their costs, even when their costs are lower than that of other operators, might weaken the incentive for long term cost minimisation because lower cost operators would not benefit from the cost savings they make.

5.83 As the proportion of calls terminated via national roaming has such a significant impact on the average unit cost of providing termination services (see paragraph A1.9), it is reasonable to expect that C&W will seek to minimise the use of national roaming (given any of the termination charge options under consideration). It may therefore structure its retail prices to discourage customers from receiving large numbers of calls while roaming. As a result, it is not unreasonable to expect that C&W will work to keep the percentage of calls terminated via national roaming (✂).

5.84 Option 4 - According to our cost estimates, the fourth option set out above – to set C&W's termination charge equal to the CC Determination for Vodafone and O2, 4.4ppm in 2006/07 prices (or 4.58ppm in 2007/08 prices) – would allow C&W to make a profit on termination if it is able to keep the percentage of calls terminated via national roaming below (✂)%. This option would provide C&W with an incentive to minimise termination costs and allow it to retain any benefits resulting from its choice to adopt cheaper technology and to differentiate its service, should it be able to lower its termination costs below those of its competitors. Therefore, this option seems to be the most desirable from a cost minimisation perspective.

Effective competition

5.85 Consistency with this principle requires that the mobile termination rate set does not undermine the pressure for effective competition.

5.86 In the section on cost minimisation above, we discussed how the level of the determined rate will affect the prospects for entry. A rate set below the average cost of termination of calls received by C&W's customers using the FMC service might jeopardise the ability of C&W to enter the market. However, setting a rate above the industry's efficient costs would increase the risk of allowing inefficient entry.

5.87 In this section, we consider the possible competitive effects of our four stated options for resolving this dispute, including any competitive distortions that could arise if C&W's termination rate was set significantly below or above its efficient costs.

New entry

5.88 As described in paragraph 2.6, C&W's FMC service utilises the DECT guard band spectrum which it acquired in Ofcom's 2006 auction. Our attitude to competitive entry through the auction of DECT guard band spectrum reflects the principles of Ofcom's "Awards Programme Approach"[43]. Our general approach is to allow the market to determine how spectrum is used, taking account of the benefits of competition and the development of innovative services.

5.89 In general, we consider that there is scope for benefits to consumers from further competition in mobile services (recognising the extent of competition that already exists). The entry of C&W is one possible example of such further competition.

[43] http://www.ofcom.org.uk/radiocomms/spectrumawards/awardsapproach/

5.90 In its submission, C&W explains that:

> '*The FMC service is a telephony service that combines the benefits of fixed and mobile telephony. The customer can use a single mobile handset that will operate over the fixed network whilst in their office location, but then seamlessly switches to a mobile network when the customer is away from their office location.'*

5.91 Through the provision of a service which allows business customers to gain from a single phone the functionality which previously required two phone contracts and two handsets (one fixed and one mobile), the introduction of C&W's service could increase the convenience of business communication services for its customers and increase choice for consumers more generally. Whilst we make no judgement on the extent to which C&W's service is beneficial for competition and consumers other than through the addition of a further operator, the approach adopted by us in the resolution of this dispute should not act as a deterrent to entry.

Potential distortion of competition through non- cost reflective and non-reciprocal charges

5.92 T-Mobile argues that the current C&W MTR does not reflect the efficient costs of termination of calls for a DECT guard band network operator and thus would potentially distort competition in the retail market.

5.93 In retail mobile markets, operators typically compete by offering relatively low subscription prices which might be financed by termination rates which are above cost.[44] Therefore, if an operator is able to charge a termination rate significantly higher than its costs of termination and in doing so earns larger profits on termination than its competitors, it could profitably undercut them on prices in the retail market. This could distort competition, to the extent that the ability to offer lower retail prices reflects a termination charge above efficient cost, and above those of its rivals who are providing an equivalent service, rather than competition on the merits (such as more efficient costs for providing a similar service).

5.94 Likewise, if an operator is forced to charge a termination rate significantly lower than its costs of termination and in doing so makes a loss or earns lower profits on termination than its competitors, it could be undercut by them on prices in the retail market. This could distort competition to the extent that the inability to match retail prices reflects a termination charge below efficient costs, and below those of its rivals who are providing an equivalent service, rather than competition on the merits by incumbent firms.

5.95 Therefore we are mindful of the fact that, in general, setting a termination rate as close as possible to the efficient costs of termination, and setting the same rate for operators providing the same service, would minimise the potential for distortion of competition.

[44] The interaction between the two sides of the market for mobile calls (callers and call recipients) will generally lead a substantial portion of excess termination profits to be competed away in the retail mobile market through, for example, lowering prices to attract more mobile customers. This phenomenon is referred to as the waterbed effect. The control on mobile termination charges was set so as to prevent termination charges being set at excessive levels in order to fund low retail prices, which would have resulted in an inefficient structure of prices even if no excess profits were made overall.

5.96 We considered whether setting C&W's termination rate at a level significantly different from its average costs would give rise to any distortions of competition in the retail mobile market between C&W and other mobile service providers and have reached the following conclusions:

- Setting a termination rate which is below C&W's average termination costs and below the regulated rate, such as the rate suggested by T-Mobile, 1.2ppm, would distort competition against C&W (see paragraph 5.94);
- Setting a termination rate which is above the regulated rate and above C&W's average termination costs, as is likely to be the case if the rate was set at 6.418ppm as proposed by C&W, would distort competition in favour of C&W (see paragraph 5.93); and
- According to our cost analysis, C&W's actual termination cost is likely to be lower than the regulated rate, 4.4ppm in 2006/07 prices (or 4.58ppm in 2007/08 prices), which we are proposing to use as a relevant benchmark. Setting a termination rate which is above C&W's average termination cost but equal to the regulated rate would advantage C&W but would avoid callers to C&W's FMC service paying a higher underlying wholesale termination rate than to call other mobile services. This would not distort competition, since there would be competition "on the merits". Other MNOs that are as efficient as C&W would have the ability to competitively respond, since they receive the regulated rate. In other words, C&W would be advantaged only if its costs of providing a national mobile service are lower than its competitors, not because of any favourable treatment in the regulation of termination charges.

5.97 We have also considered whether there is a risk of "cherry picking" by C&W. In general, cherry picking occurs when new entrant operators choose to compete against incumbents, who are constrained to offer uniform national tariffs, only in (generally urban) areas which can be served at relatively low cost. The cost of C&W's own mobile infrastructure is relatively low and, in theory, C&W could reduce its total costs by targeting customers who are unlikely to roam very much, and/or by tariffing in a way which discourages roaming. If C&W then received the regulated charge for termination, this could then enable it to undercut the MNOs in retail markets.

5.98 However, the marginal profit which an incumbent MNO would earn from terminating an additional call made within a particular coverage area is equal to the difference between its own regulated termination rate and its own costs of termination in that area. Therefore, even if C&W's customers are concentrated in low cost areas, should they choose to, the MNOs have the ability to put themselves in a similar position to C&W. Even short of matching C&W's FMC service, the incumbent MNOs have the ability to respond to competition from C&W, such as through using price discrimination or through targeting their marketing activities, to attract a similar customer base.

5.99 The C&W FMC proposition is currently targeted at business users, and offers both the opportunity to reduce costs by replacing the fixed line infrastructure of the customer and to increase functionality of their telephone systems. By converging the two connections (fixed and mobile), a business user can in effect take their desk phone, with all its functionality, with them wherever they go. However, the MNOs already offer similar benefits via different technological approaches. For example, the MNOs have for many years provided mobile packages designed for corporate enterprises. For example, Vodafone provides Blackberry handsets and the back

office systems that facilitate linkages into corporate email and corporate directories, with calling and data packages customised to maximise the value to the enterprise, while minimising costs.

5.100 This reasoning suggests that C&W could be disadvantaged relative to T-Mobile and the other MNOs in serving its targeted customer base, were we to set C&W's termination rate according to option 3, i.e. our best estimate of C&W's efficient termination cost, which is below the MTRs of the incumbent MNOs. This is because, if the incumbent MNOs matched or otherwise responded to C&W's service (as indeed they might already do), they would be receiving a higher termination rate than C&W. Linking C&W's MTR to our best estimate of C&W's termination costs might enable the MNOs to profitably offer retail prices that C&W would be unable to match, not because of inferior performance but because of the disparity in termination rates. Overall, we consider that there is a risk of a distortion of competition against C&W under option 3.

5.101 The ability of the MNOs to match or otherwise respond to C&W's FMC service, if they and C&W receive a similar termination rate, substantially reduces the potential concern about cherry picking.[45] Overall, we consider that the risk of an anti-competitive distortion of competition through cherry picking in such circumstances would be low.

Potential distortion of competition through charges at C&W's incurred costs

5.102 We also considered whether setting C&W's termination rate at a level equal to its average costs would give rise to any distortions of competition in the retail mobile market between C&W and other mobile service providers. As mentioned before, the average cost to C&W of terminating a call received by one of its customers using the FMC service is uncertain, since it will depend, among other things, on the actual amount of traffic terminated on C&W's own network or via roaming.

5.103 The approach in Ofcom's 2006 "Determination to resolve a dispute between BT and Telewest about geographic call termination reciprocity agreement" supports the determination of equivalent termination rates. In that decision, we said:

> *"Ofcom considers that…if all call termination charges were based strictly on incurred costs, there would be a distortion of competition. If one CP, through being more efficient, were able to deliver calls more cheaply than another, the CP benefiting from this efficiency and lower cost would not be the more efficient CP which has reduced termination costs, but the less efficient CP since it is buying the cheaper call termination service. The less efficient CP would therefore gain a competitive advantage, in the sense that it would make smaller outpayments to the more efficient CP and would be able to offer its own customers cheaper calls (than if its prices were based only on its own network costs)".* [46]

5.104 Setting a termination rate equal to that of C&W's competitors will not distort competition between C&W and the MNOs, because competition would be "on the

[45] The ability to match is an important feature that distinguishes the circumstances in this dispute from some other considerations of the effects on competition of above-cost termination charges, such as in relation to H3G.

[46] See Ofcom's 2006 determination to resolve a dispute between BT and Telewest about geographic call termination reciprocity agreement.

merits" between providers of a mobile service with national coverage. In other words, as providers would receive matching conditions, they would all be able to benefit if they were able to reduce cost below that of their competitors.

5.105 Additionally, as discussed at paragraph 5.100 above, if we were to set C&W's termination rate to reflect our best estimate of C&W's efficient termination cost, which is below the MTRs of the incumbent MNOs, competition would be distorted against C&W, as they would be receiving a lower charge for an equivalent service and might therefore be unable to match the MNO's retail prices.

Summary of competitive effects of the four options

5.106 **Option 1** - The rate proposed by C&W of 6.418ppm is above the industry's efficient termination costs (4.2ppm in 2007/08 prices) and the future regulated MTRs of the incumbent MNOs. As such, it would likely allow inefficient (as well as efficient) entry and runs a risk of some distortion of competition in favour of C&W in mobile retail markets.

5.107 **Option 2** - We are also concerned about the distortion of competition that could result if we were to set C&W's termination rate to 1.2ppm, which is likely to be an underestimation of C&W's average termination cost as well as the efficient cost of termination by a national operator. This outcome could cause detriment to consumers by forcing C&W to charge higher retail prices than it otherwise would have or deter C&W's entry into the market altogether. Therefore, setting C&W's termination rate at the rate proposed by T-Mobile would distort competition against C&W and thus be inconsistent with the promotion of effective competition.

5.108 **Option 3** – Setting a rate equal to our best estimate of C&W's average termination costs, between 2.61ppm and 4.14ppm, would mean setting a termination rate for C&W which is lower than the regulated MNO termination rates. Therefore, setting C&W's termination rate according to this option could give rise to a distortion of competition against C&W and thus be inconsistent with the principle of effective competition (see paragraphs 5.99 and 5.104).

5.109 **Option 4** – Setting a rate equal to the benchmark of the CC Determination for 900/1800MHz operators in 2009/10 of 4.58ppm (4.4ppm in 2006/07 prices) could favour C&W, as this rate is likely to be higher than the cost of termination of calls to C&W's FMC service. However, we consider that this option allows competition on the merits, and retains incentives for cost minimisation and efficient entry by allowing C&W to benefit if it is able to reduce its termination costs below that of its competitors. Therefore, on balance, we consider that option 4 is the most consistent with the principle of effective competition.

Reciprocity

5.110 The principle of reciprocity requires that, where services are provided reciprocally, charges should also be reciprocal. As both parties to this dispute supply a national mobile service, and therefore offer a termination service which appears identical to end users, there is a strong argument that their termination charges should be equal.

5.111 For the reasons set out by Ofcom in its determination to resolve a dispute between BT and Telewest about geographic call termination reciprocity agreement (2006), when charges are based on each operator's own costs rather than on reciprocity, higher cost providers are effectively subsidised by lower cost providers. This is

because the costs of the higher termination cost network would be passed to the subscribers of the lower cost network when they call subscribers of the former.

5.112 The range of estimates for the average costs of termination on calls received by a C&W's customer using the FMC service are related to certain components of its current business strategy and its business plan projections, including its current roaming arrangement and the projected proportion of calls terminated via this agreement.

5.113 In general, it seems reasonable for the termination rate to be independent of the operator's business strategy. For example, it would seem unreasonable to reward greater reliance on roaming or a higher cost roaming agreement with a higher termination rate or penalise it through a lower rate. Incentives to adopt an efficient mix between own network expansion and the purchase of roaming services are promoted by setting charges on the basis of an exogenous benchmark.

5.114 We are aware that, historically, there have not always been reciprocal termination charges for mobile termination. However, we stated in the Mobile Call Termination Statement that, without fettering our discretion, in the event of imposing price controls for new entrants, we are of the view that it is desirable for new entrants' MCT charges to be aligned with those of incumbent suppliers.[47] We also noted in the Mobile Call Termination Statement that we would anticipate further convergence in MNOs' mobile termination rates.

5.115 We note that the ERG's '*Common position on symmetry of fixed call termination rates* and *symmetry of mobile call termination rates*' states that asymmetric termination rates may be justified:

- *'to take into account differentiated conditions of spectrum allocation';*
- *to encourage the development of a new entrant on the market, which suffers from a lack of scale due to late market entry. Indeed, this allows higher expected profits in the short term and induces a more intense competition in the long term to the benefit of end users. In other words, a regulator may allow asymmetric rates for a limited time period – thus trading off short-term inefficiency for long-term objectives (i.e. dynamic efficiency).'*

5.116 However, we do not believe that either of these conditions apply to this case because of the following reasons:

1) the DECT guard band spectrum used by C&W was bought at a lower cost than the spectrum used by their competitors;

2) the UK mobile market is sufficiently competitive so as not to require entry assistance in order to promote dynamic efficiency;

3) we believe that C&W's termination costs are likely to be lower than the lowest regulated rate as determined by the CC, 4.4ppm (in 2006/07 prices) and,

4) the unique nature of C&W's service is such that its network costs do not suffer from its lack of scale – as it provides network infrastructure only for customers it has already acquired and the unit cost of its coverage outside its own network does not vary with call volumes.

[47] See number 6, at page 158.

5.117 Option 4 – benchmarking against the MTR set in the CC Determination for Vodafone and O2 in 2009/10 of 4.4ppm (2006/07 prices) is the option most closely aligned with the principle of reciprocity because T-Mobile is also subject to a regulated rate which is itself very close to this option.[48]

Distribution of benefits

5.118 If, as asserted by T-Mobile and as indicated by our cost analysis, C&W's termination costs are lower than those of T-Mobile and the other MNOs, there is a question of how the benefits from these lower costs should be distributed.

5.119 In arriving at our proposed determination, we considered the possible impact – on the distribution of benefits between T-Mobile, C&W and their respective customers - of setting C&W's MTR under each of the four options identified:

Option 1

- Option 1, which would provide the highest termination rate for C&W of the four options (6.4ppm), will distribute the benefits of C&W's lower termination cost to C&W. As this rate is above the MNO's termination rates, it could also lead to some redistribution of profits to C&W from the operators purchasing termination from C&W, which includes its competitors. Customers of C&W's FMC would benefit, since we would expect a significant proportion of C&W's termination profit to be passed through to them. However, callers to C&W might face high prices caused by the termination charge (which would be high relative to the termination charges of the incumbent MNOs after implementation of the CC's determination).

Option 2

- Option 2, which would provide C&W with the lowest termination rate of the four options (1.2ppm), would distribute the benefits to T-Mobile and the other operators purchasing termination from C&W. As this rate is likely to be below C&W's average termination cost, it could lead to some redistribution of profits from C&W to the operators purchasing termination from C&W, which includes its competitors. Customers of C&W's FMC would suffer relative to other options. But callers to C&W might benefit from lower prices (to the extent that retail prices charged by originating operators reflected differences in termination rates).

Option 3

- The adoption of option 3 would involve setting C&W's termination charge to exactly reflect the cost of terminating a call received by C&W's customers using the FMC service. Assuming we had adequate information to accurately set such a rate, this option would likely set a termination rate for C&W that is below the termination rates of its competitors. Callers to C&W might benefit from lower prices (to the extent that retail prices charged by originating operators reflected differences in termination rates). But this option would distribute all the benefits of any differential between the termination costs of C&W and its competitors to C&W's competitors and their customers. In other words, C&W and its

[48] The CC's Determination allowed T-Mobile and Orange of 4.5ppm (in 2006/07 prices) for 2009/10 and a rate of 4.0ppm (in 2006/07 prices) for 2010/11, which will be equal to that of Vodafone and O2 in that year.

customers would not receive any of the benefits, should it be able to reduce its costs below those of its competitors.

Option 4

- If the average cost to C&W of call termination in relation to its FMC service is lower than the regulated rate (which according to our cost analysis would be the case as long as less than (✂)% of calls to the FMC service are terminated via roaming), option 4 would distribute all the benefits to C&W and its customers of any cost differential between its termination cost and the termination cost of its competitors. Callers to C&W might pay higher prices than under Options 2 and 3 (to the extent that retail prices charged by originating operators reflected differences in termination rates). However, under this option, callers to C&W would pay no more for the underlying wholesale termination rate than for calls to other mobile networks.

5.120 C&W, as a provider of a new service in an effectively competitive market, is likely to a significant extent to use higher termination profits, such as those it might receive under options 1 and 4, to offer lower retail prices to its customers. Therefore, any termination rate higher than C&W's costs are likely to ultimately distribute the benefits to C&W's customers. Likewise, any options suggesting a termination rate lower than C&W's costs are likely to ultimately impose costs on C&W's customers.

5.121 To the extent that T-Mobile and the other operators will pass the lower termination rates they pay to C&W under options 2 and 3 onto their customers, in the form of lower retail prices for calls to C&W, these options will distribute the benefits from C&W's lower cost structure to callers to C&W. It is also possible that T-Mobile and other operators would pass these benefits on to their customers in ways other than reducing the cost of calls to C&W customers. To the extent that T-Mobile and the other operators will not pass on lower termination rates into lower prices, they will benefit rather than consumers.

5.122 In summary, a termination rate for C&W which is higher than the industry's efficient costs is likely to benefit C&W's customers, but may result in higher prices for callers to C&W. Using the benchmark (i.e. option 4) seems desirable from a distribution of benefits perspective because it would allow C&W's customers to benefit from any lower costs but would avoid callers to C&W paying more than to call other mobile networks (to the extent that originating operators reflect relative termination rates in their retail prices for calls). Lower termination rates could alter this distribution of benefits, increasing benefits to callers to C&W (to the extent that originating operators reflect lower C&W termination rates in lower retail call prices) and reducing the benefits to C&W's own customers.

Practicability

5.123 Consistency with the final pricing principle requires that the termination rate determined is practicable and relatively easy to implement. In arriving at our proposed determination, we considered the practicality of implementing the four options for C&W's termination rate:

- Adoption of the termination rate proposed by C&W, 6.418ppm, would be practicable to determine and easy to implement as it would set the termination rate payable by T-Mobile to C&W equal to that rate currently agreed between C&W and the majority of the other operators.

- Setting C&W's termination rate to the cost of termination on a DECT guard band network as estimated by T-Mobile, 1.2ppm, would be practicable to determine and the easiest of all the options to implement, as it would simply involve retaining the status quo.

- Setting C&W's termination rate to the benchmark of the CC Determination for 900/1800MHz operators in 2009/10 of 4.4ppm (2006/07 prices) would be practicable to determine and reasonably simple to implement.

- Due, in part, to the practical difficulties in deriving a specific robust estimate of C&W's costs, setting C&W's termination rate equal to its costs is the least practicable to determine and most difficult option to implement. Additionally, as explained above, this option is not robust to changes in C&W's strategy, as the basis for the cost calculation would fall away should C&W alter its roaming agreement and/or expand its own network. We consider a solution that necessitates re-determining and/or re-negotiating a termination rate every time an operator changes it business strategy to have significant practical disadvantages.

Summary of the application of Ofcom's principles of pricing and cost recovery

5.124 The outcome of our analysis, which applied the six principles of pricing and cost recovery to the four options for setting C&W's termination rate in this dispute, is summarised below.

Option 1: The termination rate as proposed by C&W, 6.418ppm

5.125 The charge proposed by C&W is likely to exceed its average termination costs (and so is not supported by the principle of cost causation). As this rate is higher than those of C&W's competitors, and the efficient termination cost of a national operator as estimated by the MCT cost model, it entails the highest risk of inefficient entry and distortion of competition in favour of C&W (and is therefore contrary to the principles of cost minimisation, effective competition and reciprocity).This rate would result in distribution of all the benefits of any lower termination costs to C&W and its customers.

Option 2: T-Mobile's estimation of the cost of termination on a DECT guard band network, 1.2ppm

5.126 It is likely that T-Mobile's suggested rate underestimates C&W's efficient termination costs (and so is not supported by the principle of cost causation). This rate would also be lower than the MTRs of all C&W's competitors (contrary to the principle of reciprocity). The implementation of a rate below the industry's efficient termination cost would not provide a sufficient price signal to encourage firms who are able to provide termination services at lower cost than existing firms to enter the market (contrary to the principles of cost minimisation and effective competition). Setting C&W's rate at such a low level would distribute the benefits of any lower costs to T-Mobile and the other operators purchasing termination from C&W and could cause detriment to consumers by forcing C&W to charge higher retail prices or deterring C&W's entry into the market altogether (distribution of benefits, effective competition).

Option 3: Our best available estimate of C&W's termination cost, between 2.61ppm – 4.14ppm

5.127 In theory, this option would send the most cost reflective price signals and is the most consistent with Ofcom's cost causation principle.

5.128 However, the cost evidence considered in our analysis has significant limitations in providing a robust cost estimate. Therefore, the theoretical support for this option from the principle of cost causation is less strong in practice and faces significant concerns about practicability.

5.129 Furthermore, setting a new entrant's (or existing firm's) charges equal to their costs, even when their costs are lower than that of other operators, might deter investment, innovation and creativity in serving consumers (which would be counter to cost minimisation).

5.130 Setting C&W's termination rate equal to cost would (assuming we could arrive at an accurate cost estimate) distribute all of the benefits of C&W's likely lower cost structure to T-Mobile and other operators, and callers to C&W to the extent that such operators passed on lower termination rates into lower retail prices (distribution of benefits).

5.131 As there is significant potential for error in our cost analysis, the consequences for competition of setting C&W's termination rate equal to our estimate of costs depend on the rate selected. However, even if we could be sure that our estimate of C&W's termination costs is accurate, setting C&W's MTR lower than those of all the incumbent MNOs would risk a distortion of competition against C&W and allow C&W's competitors an advantage because of their higher termination rates (effective competition). Additionally, this option is not robust to changes in C&W's business strategy, particularly the terms of its roaming agreement (and impacts on the following principles of pricing: practicability, reciprocity, effective competition).

Option 4: the benchmark of the CC Determination for 900/1800MHz operators in 2009/10 of 4.4ppm (2006/07 prices)

5.132 This benchmark appears to be higher than the likely cost of termination for C&W's FMC service. This option would distribute all the benefits to C&W and its customers if C&W is able to reduce its termination cost below that of its competitors (distribution of benefits, cost minimisation).

5.133 A lower termination rate than under this option might allow callers to C&W to benefit, to the extent that originating operators reflected a lower termination rate in a lower retail price for calls to C&W. Nevertheless, under this option, the termination rate would not cause callers to C&W to pay more than for calls to other mobile networks, to the extent that originating operators reflect relative termination rates in their retail prices for calls (distribution of benefits).

5.134 We have considered whether a termination rate above efficient costs could create a potential risk of distorting competition in favour of C&W. However, incumbent MNOs have the ability to match or otherwise respond to C&W's service. Additionally, as C&W provide a mobile service with national coverage, this represents competition on the merits because it provides a comparable service to the incumbent MNOs. Therefore, we consider the risk of detrimental distortion to competition to be low under this option. However, a cost based termination rate that is below the rate received by operators providing an equivalent service would create a risk of distorting competition against C&W.

5.135 This option reduces the risk of distortion of competition against an efficient provider and avoids distorting incentives to C&W to alter its business strategy. Under this option, like charges for like services are applied and therefore the principle of reciprocity is met.

The preferred option

5.136 Our preferred option is option 4, that is to determine that the MTR charged by C&W for the termination of calls originated on T-Mobile's network and terminated on the C&W's network in respect of C&W's customers using the FMC service may not exceed our current best estimate of the target average charge (TAC) for Vodafone and O2 (this being the lowest regulated MTR),.

5.137 We consider that this option would be reasonable and fair between the parties since it allows efficient costs to be borne by those responsible for incurring them, whilst also providing incentives for those costs to be minimised. Cost minimisation relates to the signals for efficient entry and the ability of more efficient providers to benefit from their greater efficiency.

5.138 We regard this option as being likely to enhance effective competition as it relates to competition on the merits; because operators receive the same (or similar) termination rates, there is an advantage to a lower cost operator and a disadvantage to a higher cost operator. Therefore, we consider that this option reduces the risk of distortion of competition against an efficient provider and avoids distorting incentives to C&W to alter its business strategy.

5.139 Our preferred option is consistent with the principle of reciprocity, which is relevant to this case as the C&W FMC service, like the incumbent MNOs, provides a termination service on a national basis. From the perspective of the end-user of termination (i.e. callers to the C&W FMC service and incumbent MNOs), these services are reciprocal.

5.140 Additionally, our range of cost estimates is sensitive to the cost allocation assumptions we have used as well as to the numbers provided by C&W's business plan, which are particularly uncertain given that the service is not yet fully established. Therefore, as these costs should not be thought of as particularly robust or precise, we have not sought to rely on our estimate of cost in determining this matter.

5.141 Furthermore, our preferred option seems desirable from a distribution of benefits perspective because it would allow C&W's customers to benefit from any lower costs but would avoid callers to C&W paying more than to call other mobile networks (to the extent that originating operators reflect relative termination rates in their retail prices). We also believe that this option is practical to implement as between the parties.

5.142 We believe that the interests of consumers are better served overall by this option compared to the others for the following reasons:

- It furthers the interests of consumers through the promotion of competition and the availability of a wide range of electronic communications services by facilitating efficient entry into the mobile market, without encouraging inefficient entry;

- It allows C&W's customers to benefit if C&W is able to lower its average termination cost below the regulated rate, without causing callers to pay more than to call other mobile networks; and

- It reduces the risk that any party with efficient costs is placed at a competitive disadvantage because of a difference in termination rates.

5.143 Ofcom therefore proposes to resolve the dispute by determining that the MTR charged by C&W for the termination of calls originated on the T-Mobile network and terminated on C&W's network in respect of C&W's customers of its FMC service may not exceed the TAC for Vodafone and O2, this being the lowest regulated MTR.

5.144 As explained in paragraph 5.30 above, we recognise that the TAC for Vodafone and O2, as set out in the CC Determination, may be the subject of review by the CAT on judicial review grounds and will not be finalised until the end of the litigation process. However, since we are required by statute to resolve this dispute within four months, we have referred to the MTRs set out in the CC Determination as our current best estimate of the regulated MTRs.

5.145 In particular, we noted that the TAC for Vodafone and O2 in 2009/10, as specified in the CC Determination, is 4.4ppm (in 2006/07 prices).

5.146 An adjustment was required to convert this option into nominal terms to account for three years of relevant inflation. We consider that the methodology for converting the regulated MTRs into nominal terms should follow that used in implementing the CC Determination. Our indicative calculations are attached at Annex 3.[49] This shows that 4.4ppm (in 2006/07 prices) converts into 4.71ppm in nominal terms. Therefore, we propose to resolve the dispute by determining the MTR applicable between C&W and T-Mobile in respect of C&W's customers of its FMC service to be our current best estimate of the lowest regulated rate, which is 4.71ppm.

5.147 Once the CC Determination has been implemented following the ongoing litigation, we would expect the parties to apply the final TAC for Vodafone and O2 and make any necessary adjustment. However, we also recognise that, if the TAC for Vodafone and O2 resulting from the implementation of the CC Determination is different from our current best estimate of it (4.71ppm for 2009/2010) and the parties are unable to reach an agreement, they may refer a further dispute to us.

Assessment of the preferred option against Ofcom's statutory duties and Community requirements

5.148 We have carefully considered the powers, obligations and duties detailed in section 4 in deciding on the appropriate means of resolving this dispute. In particular, we have considered the relevance of our primary duties and of the Community requirements to this dispute.

5.149 We consider that the following duties are of relevance to this dispute:

(i) the duty to further the interests of citizens (i.e., all members of the public in the United Kingdom) in relation to communication matters (section 3(1)(a));

(ii) the duty to further the interests of consumers in the relevant markets, where appropriate by promoting competition (section 3(1)(b));

[49] See Annex 3 for "Indicative calculations requested by the Tribunal at CMC on 2 February 2009".

(iii) the duty to secure the availability throughout the United Kingdom of a wide range of electronic communications services (section 3(2)(b));

(iv) the duty to have regard to the desirability of promoting competition in relevant markets (section 3(4)(b));

(v) the duty to have regard to the different interests of persons in the different parts of the United Kingdom, of the different ethnic communities within the United Kingdom and of persons living in rural and in urban areas (section 3(4)(l));

(vi) the duty to have regard, in particular, to the interests of consumers in respect of choice, price, quality of service and value for money (section 3(5));

(vii) the duty to promote competition (section 4(3), setting out the first Community requirement).

(viii) the duty to secure that Ofcom's activities contribute to the development of the European internal market (section 4(4));

(ix) the duty to promote the interests of all persons who are citizens of the European Union (section 4(5));

(x) the duty to ensure technology neutrality (section 4(6)).

5.150 We consider that the duties set out at (ii), (iii), (iv), (vi), (vii) and (x) are of particular relevance for resolving this dispute since both the parties have recognised that the resolution of this dispute would have an impact on competition and, therefore, on the offer of electronic communications services to consumers in terms of choice, price, quality of service and value for money. The preferred option gives rise to the lowest risk of a detrimental distortion of competition. Additionally, we consider it highly likely that, as a new entrant in an effectively competitive market, C&W will pass on a significant proportion of any cost savings it is able to achieve to its customers in the form of lower prices. Therefore, in this case, we consider that the potential for customer benefit from this option outweighs the risk of any detriment to competition. Callers to mobile would pay no more for the underlying wholesale termination rate than for calls to other mobile networks.

5.151 We recognise that through the provision of a service which allows business customers to gain the functionality – which previously required two phone lines and two handsets (one fixed and one mobile) – from one phone line and handset, the introduction of C&W's service has the potential to increase the convenience of business communication services for its customers and increase choice for consumers more generally.

5.152 In developing our approach, we have also retained an approach which is competitively neutral to ensure a level playing field for the provision of services whilst ensuring that our approach promotes competition through the development of new and innovative services. Part of the C&W FMC proposition uses DECT guard band spectrum which was awarded to C&W, alongside 11 others, following Ofcom's auction in May 2006. We have an interest in ensuring that the determination in this matter does not deter the use of the recently auctioned guard band spectrum through efficient and innovative entry into the market.

5.153 In general, we consider that there is scope for benefits to consumers from further competition in mobile services (recognising the extent of competition that already exists). The entry of C&W is one possible example of such further competition.

5.154 We have also sought to adopt a technology neutral approach which does not favour the use of any particular technology (whether that used in T-Mobile's network or C&W's network). In doing so, we have ensured, to the greatest extent possible, that our approach does not favour the technology of either C&W or T-Mobile. We have approached the resolution of this dispute from the perspective of consumers with respect to the services being offered rather than the underlying technologies.

5.155 We consider the duties set out at (i), (v) and (ix) are of relevance to this dispute given that the introduction of the C&W FMC service would be consistent with promoting the interests of citizens by encouraging a variety of services which may lead to cost benefits to consumers in the long run. It furthers the interests of consumers through the promotion of competition and the availability of a wide range of electronic communications services by facilitating efficient entry into the mobile market, without encouraging inefficient entry.

5.156 We further consider that the duty set out at (viii) above will also be fulfilled in this case since our approach may encourage new entry into markets in the United Kingdom which potentially could allow operators from other Member States to enter the UK market.

5.157 In addition, we consider that the duties set out in section 4(7) and (8)of the 2003 Act is also relevant, namely the duty to encourage the provision of network access and service interoperability for the purposes of securing efficiency and sustainable competition in communications markets and the maximum benefit for the customers of communications network and services providers. We consider this duty to be of relevance for resolving this dispute since this dispute concerns the service of call termination, which is essential for encouraging interoperability between different networks, so that the customers of one network can call, and receive calls from, the customers of other networks. Further, given that the service of call termination facilitates the development of communications between customers of different networks, we consider it relevant also for the purpose of development of the European internal market.

5.158 We also consider that our duties set out in sections 3(2)(a), 3(4)(d), 3(4)(f) and 4(6)of the 2003 Act may be relevant to the resolution of this dispute, namely those to:

(i) secure the optimal use for wireless telegraphy of the electromagnetic spectrum (section 3(2)(a));

(ii) have regard to the desirability of encouraging investment and innovation in relevant markets (section 3(4)(d)); and

(iii) have regard to the different needs and interest, so far as the use of the electromagnetic spectrum for wireless telegraphy is concerned, of all persons who may wish to make use of it (section 3(4)(f)).

5.159 We consider these duties to be of relevance for resolving this dispute since C&W is in the process of investing in the development of a network to offer mobile services by using the DECT guard band spectrum licence granted by Ofcom in May 2006. Our approach ensures that operators holding a DECT guard band spectrum licence will not suffer from disincentives to enter the market by rolling out networks, thus

ensuring that their interests are supported. As a result, those holding licences will be encouraged to make use of those licences, ensuring optimal use of the spectrum. This in turn will encourage investment and innovation as operators roll out network in competition with existing networks.

5.160 Finally, we consider our duties set out in section 3(3) of the 2003 Act to be relevant, namely to have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed, as well as any other principles appearing to us to represent the best regulatory practice. In developing our approach, we have considered all relevant previous decisions made by Ofcom, the CAT and other relevant bodies in order to ensure that the proposed approach is consistent with previous regulatory practice.

5.161 Ofcom considers that this document clearly sets out the parties' arguments and Ofcom's reasoning that leads to this proposed conclusion, and notes that the parties will have an opportunity to comment on Ofcom's proposals, and that this supports Ofcom's duty to ensure that its regulatory activities are transparent, accountable, proportionate, consistent and targeted. Our resolution is targeted in that it seeks to resolve the dispute as between the parties only (indeed Ofcom's powers in dispute resolution may not go beyond this).

5.162 We do not consider that the duties set out in the following sections are of relevance to the resolution of this dispute since they relate to matters which are not covered by this dispute:

(i) sections 3(2)(c) to (f);

(ii) sections 3(4)(a), (c), (e), (g) to (k) and (m); and

(iii) section 4(9).

How to implement the proposed outcome

5.163 Ofcom's powers in order to resolve disputes are set out under section 190 of the 2003 Act and include a power to make a declaration setting out the rights and obligations of the parties to the dispute and to direct the parties to enter into a transaction between themselves on such terms and conditions as Ofcom may determine.

5.164 Ofcom's powers to resolve disputes are limited to imposing obligations on the parties to the disputes only. Ofcom therefore propose to use Ofcom's powers under Section 190(2)(c) of the 2003 Act to give a direction that, until the implementation of the CC Determination, C&W is not entitled to charge for the termination of calls originated on T-Mobile's network and terminated on C&W's network in respect of C&W's customers of the FMC service an amount in excess of 4.71ppm, which is our current best estimate of the TAC for Vodafone and O2 for 2009/2010, as specified in the CC Determination, converted into nominal terms.

5.165 Once the CC Determination has been implemented following the ongoing litigation, we would expect the parties to apply the final TAC for Vodafone and O2 and make any necessary adjustment. However, we also recognise that, if the TAC for Vodafone and O2 resulting from the implementation of the CC Determination is different from our current best estimate of it (4.71ppm for 2009/2010) and the parties are unable to reach an agreement, they may refer a further dispute to us

5.166 In determining the dispute, we will also need to decide the date from which the final determination should apply. Given that the parties have an agreement to an interim rate subject to retrospective adjustment and the likely small levels of traffic on this service to date, we consider that the determination should apply from the date of the final determination in this matter.

Proposed resolution

5.167 Based on the analysis set out at in this section, our proposed resolution is:

i) As from [the date of the final determination] and until the implementation of the CC Determination, C&W is not entitled to charge for the termination of calls originated on T-Mobile's network and terminated on C&W's network in relation to C&W customers using its FMC service an amount in excess of 4.71ppm, which is our current best estimate of the TAC for Vodafone and O2 for 2009/2010, as specified in the CC Determination, converted into nominal terms; and

ii) That this resolution shall apply from the date of the final determination.

5.168 Once the CC Determination has been implemented following the ongoing litigation, we would expect the parties to apply the final TAC for Vodafone and O2 and make any necessary adjustment. However, we also recognise that, if the TAC for Vodafone and O2 resulting from the implementation of the CC Determination is different from our current best estimate of it (4.71ppm for 2009/2010) and the parties are unable to reach an agreement, they may refer a further dispute to us.

5.169 Ofcom proposes to adopt the draft determination that accompanies this explanatory statement by the statutory deadline for resolving this dispute which is 15 April 2009.

Next steps

5.170 Stakeholders are invited to comment on Ofcom's proposed resolution of this dispute by **10:00am on 30 March 2009.**

5.171 Annex 2 below explains how stakeholders can submit comments on Ofcom's proposed resolution of this dispute. Ofcom's consultation principles are set out at Annex 3 below, while Ofcom's standard coversheet for consultation responses is included at Annex 4 below.

Section 6

The Draft Determination

Determination under sections 188 and 190 of the Communications Act 2003 ("the 2003 Act") for resolving a dispute between Cable & Wireless UK ("C&W") and T-Mobile (UK) Ltd ("T-Mobile") concerning the termination rate payable by T-Mobile for calls originated on T-Mobile's network and terminated on C&W's network.

WHEREAS

(A) section 188(2) of the 2003 Act provides that, where Ofcom has decided pursuant to section 186(2) of the 2003 Act that it is appropriate for it to handle a dispute, Ofcom must consider the dispute and make a determination for resolving it. The determination that Ofcom makes for resolving the dispute must be notified to the parties in accordance with section 188(7) of the 2003 Act, together with a full statement of the reasons on which the determination is based, and publish so much of its determination as (having regard, in particular, to the need to preserve commercial confidentiality) they consider appropriate to publish for bringing it to the attention of the members of the public, including to the extent that Ofcom considers pursuant to section 393(2)(a) of the 2003 Act that any such disclosure is made for the purpose of facilitating the carrying out by Ofcom of any of its functions;

(B) section 190 of the 2003 Act sets out the scope of Ofcom's powers in resolving a dispute which may, in accordance with section 190(2) of the 2003 Act, include:

a) making a declaration setting out the rights and obligations of the parties to the dispute;

b) giving a direction fixing the terms or conditions of transactions between the parties to the dispute;

c) giving a direction imposing an obligation, enforceable by the parties to the dispute, to enter into a transaction between themselves on the terms and conditions fixed by Ofcom; and

d) for the purpose of giving effect to a determination by Ofcom of the proper amount of a charge in respect of which amounts have been paid by one of the parties to the dispute to the other, giving a direction, enforceable by the party to whom sums are to be paid, requiring the payment of sums by way of adjustment of an underpayment or overpayment;

(C) on 24 November 2008 C&W submitted a dispute with T-Mobile to Ofcom for resolution;

(D) on 16 December 2008 Ofcom decided that it was appropriate for it to handle the dispute, and informed the parties of this decision;

(E) on 16 December 2008 Ofcom published details of the dispute on its website and invited comments from stakeholders on the scope of the dispute;

(F) on 16 December 2008 Ofcom set the scope of the dispute to be resolved as to determine the termination rate payable by T-Mobile for voice calls originating on T-Mobile's network and terminated on C&W's network in respect of C&W customers using its fixed to mobile convergence ("FMC") service;

(G) a non-confidential draft determination was sent to the parties on 20 March 2009 January 2009 and published on Ofcom's website on 20 March 2009;

(H) in order to resolve this dispute, Ofcom has considered (among other things) the information provided by the parties and Ofcom has further acted in accordance with its general duties set out in section 3 of, and the six Community requirements set out in section 4 of the 2003 Act;

(I) a fuller explanation of the background to the dispute and Ofcom's reasons for making this determination are set out in the explanatory statement accompanying this determination; and

NOW, therefore, Ofcom makes, for the reasons set out in the accompanying explanatory statement, this determination for resolving this dispute:

Declaration of rights and obligations, etc

1 As from [the date of the final determination] and until the implementation of the CC Determination, C&W is not entitled to charge for the termination of calls originated on T-Mobile's network and terminated on C&W's network in relation to C&W's customers using its FMC service an amount in excess of 4.71ppm, which is our current best estimate of the TAC for Vodafone and O2 for 2009/2010, as specified in the CC Determination, converted into nominal terms.

Binding nature and effective date

2 This determination is binding on C&W and T-Mobile in accordance with section 190(8) of the 2003 Act;

3 This determination takes effect on [date of final determination];

Interpretation

4 For the purpose of interpreting this Determination—

a) headings and titles shall be disregarded; and

b) the Interpretation Act 1978 shall apply as if this Determination were an Act of Parliament.

5 In this Determination:

a) **'2003 Act'** means the Communications Act 2003 (c.21);

b) '**C&W**' means Cable & Wireless UK whose registered company number is 1541957, and 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;

a) '**T-Mobile**' means T-Mobile (UK) Ltd whose registered company number is 02382161, and 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;

b) **'MTR'** means mobile termination rate**;**

c) **'Ofcom'** means the Office of Communications.

Neil Buckley

Director of Investigations

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2003

[ ] 2009

Annex 1

Cost Annex

Assessment of C&W's costs

A1.1 To gain a better understanding of the costs C&W incurs when a call to its FMC service is terminated, we completed a high level assessment of termination costs based on C&W's business plan. We also assessed the evidence of C&W's costs submitted by T-Mobile. In addition to this, we compared the outcome of our analysis with the efficient unit cost of termination by a national operator as estimated by the MCT cost model.

A1.2 This annex describes the following analysis of C&W's costs in relation to the termination of a call to its FMC service:

a) An estimate of the cost of termination which combines:

- the call volume estimates and mobile business plan cost projections included in C&W's business plan;
- a proxy for the cost of existing fixed line infrastructure and operating costs that will be used for the FMC service, but have not been included in the mobile business plan; and
- the cost to C&W when a call is terminated via its roaming agreement.

b) Evaluation of the cost evidence submitted by T-Mobile.

c) A comparison of the estimates under a) and b) with the estimated unit termination cost of an efficient national operator.

Estimated cost of termination on C&W's Network

A1.3 The first eight rows of table A1 contain estimates of FMC termination costs on C&W's own network. The last row contains estimates of the full cost to C&W of the termination of a call to its FMC service (i.e. the weighted average of the cost of termination on C&W's network and the cost of termination via C&W's roaming agreement).

Table A1: Estimated cost of termination (ppm)[50]

	Notes	Year 1	Year 2	Year 3	Year 4	Year 5	Constant rate[1]
Opex estimate		(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Depreciation estimate	2	(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Cost of capital estimate	3	(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Fixed network proxy	4	(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Network costs estimate	5	(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Non-network cost estimate	6	(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Spectrum cost estimate	7	(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Cost estimate – C&W network only		(✂)	(✂)	(✂)	(✂)	(✂)	(✂)
Cost estimate – including roaming	8	(✂)	(✂)	(✂)	(✂)	(✂)	(✂)

1. In using the MCT cost model to assess the costs of termination for the regulated charges of the 5 incumbent MNOs, Ofcom used economic depreciation[51], which provides a more stable termination cost per call minute over the lifetime of a network. This technique is difficult to apply to C&W's business plan, which covers a shorter period of time than the lifetime of the network. Therefore, for simplicity, to provide a rough proxy for the unit cost implied by C&W's business plan under the economic depreciation methodology, we derived the constant ppm rate over the five-year period of C&W's business plan (which, given the forecast volumes, is projected to recover the same amount of cost over the 5 years as the straight-line depreciation figures in NPV terms).
2. The CTM methodology provides for a variety of asset lives for over 60 assets. C&W's balance sheet is not disaggregated to this level. However, it is likely that the majority of the C&W's mobile business asset types would fit into categories that the CTM methodology would depreciate over at least 5 years. Therefore, this figure has been calculated assuming 5 year asset lives.
3. This figure has been calculated using the CTM allowance of 11.5% for cost of capital.
4. This price of 'Inter-Tandem Conveyance (Medium distance) on BT's carrier price list.[52]
5. 25% of network costs have been allocated to voice termination.
6. The figure in C&W's FMC business plan includes the incremental administration costs of providing the mobile component of the FMC service only. Therefore, because that figure is an underestimation of the actual non-network costs of providing the FMC service, we have used the unit cost allowance included in the CTM methodology as a proxy for the total non-network component of the unit cost of termination for C&W's FMC service here.[53]
7. This figure is very close to zero due to the low average price of spectrum sold at the 2006 auction. The allocation for the 2G spectrum cost in the incumbent 2G/3G MNO's costs of 2G termination is 0.16ppm.
8. C&W informed us that they have projected that (✂)% to (✂)% of their calls will be terminated via their roaming agreement. Therefore, the overall cost estimate has used the centre point of this assumption and attributed roaming costs to 50% of the projected calls and C&W's own mobile business cost estimates (plus a proxy for the existing fixed component of their network as well as a proxy for administration costs) to the other 50% of projected calls.

[50] Cost and call volume estimates are based on C&W's business plan. All amounts are expressed in 2007/2008 prices.
[51] The timing of cost recovery under economic depreciation generally varies from that under accounting depreciation: typically, accounting methods take the actual price paid for equipment (or its replacement cost) and divides this by the expected equipment life to reach a depreciation charge for the year. Economic depreciation seeks to smooth the path of an assets cost recovery over time by linking it to the use or extraction of value from that asset.
[52] See http://www.btwholesale.com/pages/downloads/service_and_support/pricing_information/carrier_price_list_browsable/C1.rtf
[53] See 9.64 at http://www.ofcom.org.uk/consult/condocs/mobile_call_term/statement/statement.pdf

A1.4 Care is required with the interpretation of these figures. In calculating the above cost estimates, we used a number of assumptions based on Ofcom's view of the termination costs of MNOs. It is unclear whether these assumptions are appropriate in estimating the cost of termination on C&W's network.

A1.5 Additionally, because C&W were only able to provide us with the incremental costs of the mobile section of their business, the cost information we were provided does not include any allowance for the cost of conveying calls over C&W's fixed network for termination. Therefore, we sought to estimate this cost by using BT's published wholesale charges for conveyance over its network as a proxy. As the inter-tandem conveyance market is effectively competitive, we believe these charges to be a reasonable proxy for the cost of conveyance over an efficient network.

A1.6 In order to identify which of BT's wholesale charges would be an appropriate proxy, we discussed with C&W the way in which calls to FMC customers are routed over its network. C&W told us that calls to its FMC customers from customers of other networks will be handed over to C&W on a "near-end handover" basis and will in all cases be routed via C&W's MSC in Birmingham. From there calls will be routed onto the customer IP-VPN and then terminated on a mobile handset. C&W also told us that, because of the limited number of its switches which are connected directly to its FMC network, the "vast majority" of calls will be routed over more than two switches in its fixed core network.

A1.7 The relevant portion of the call is from the point of handover to C&W (near to the point of origination) to the MSC in Birmingham. The BT wholesale service which seems to us to be the closest approximation to this is inter-tandem conveyance. Due to the unavoidable absence of any information on the actual routing patterns of calls to C&W's FMC service, we have assumed that all calls use "inter-tandem conveyance medium".

A1.8 C&W's FMC business plan includes only the incremental administration costs of providing the mobile component of the FMC service. Relying on this figure would have led us to underestimate the actual non-network costs of providing the FMC service. Therefore, we have used the unit cost allowance included in the CTM methodology as a proxy for the non-network component of the unit cost of termination for C&W's FMC service.

A1.9 Additionally, our estimates are sensitive to C&W's projections of their future call volumes. [54] Given that C&W's FMC service is still in its testing phase, we cannot determine the accuracy of these projections.

A1.10 We estimated the cost to C&W of terminating a call on its own network to be lower than the cost of terminating a call via its roaming agreement. Therefore, the unit cost estimates are sensitive to C&W's assumption of the balance between FMC calls terminated on the C&W network and calls terminated on the network of C&W's roaming partner. Figure A1 shows the effect of varying this assumption on the constant termination cost estimate.

[54] For example, holding the assumed proportion of FMC calls terminated on the C&W network constant at 50%, if the projected number of calls terminating on C&W's FMC service were halved the resulting constant estimate would be 4.50ppm (assuming a decrease in call volume will not decrease C&W's own network costs, but will proportionately decrease roaming costs). If the projected number of calls were to be increased by 50% the resulting revised constant estimate would be 3.25 (assuming an increase in call volume will not increase C&W's network costs, but will proportionately increase roaming costs).

A1.11 Table A1 above presents a constant rate termination cost estimate of (✂)ppm. However, C&W told us that they expect between (✂)% and (✂)% of their traffic to be terminated via their roaming agreement but used the central 50/50 split for the purpose of their business plan calculations. Therefore, it would be more accurate to consider that the cost of terminating a call to C&W's FMC service is in the range between 2.6ppm and 4.1ppm (see figure A1).[55]

Figure A1: Sensitivity of result to roaming proportion estimates[1]

(✂)

1. This sensitivity analysis assumes that a decrease in the volume of calls terminated on C&W's own network will not decrease its own network costs. If C&W's own network costs vary with volume, the unit costs when the roaming proportion is between 0% and 50% would be underestimated, and the unit costs when roaming is between 50% and 100% would be overestimated.

Evaluation of cost evidence submitted by T-Mobile

A1.12 T-Mobile included its own assessment of C&W's likely costs in its submission. T-Mobile based this assessment on a comparison with the components of its own termination rate.

A1.13 T-Mobile referred to the following estimate of the likely cost of termination on a DECT guard band network, which they originally provided in their submission to the current MCom/T-Mobile dispute.

Table A2: T-Mobile's detailed termination rate assessment

Termination rate breakdown (all in ppm)	**T-Mobile**	**Guard band**
Network costs	3.08	0.5
Spectrum costs	1.45	0.00011455
Network externality	0.3	0
Admin costs	0.3	0.3
	5.13	0.80011455
	50% uplift:	1.200171825
	T-Mobile offer	**1.2**

Network costs

A1.14 C&W's network rollout will cover only its clients' premises. Coverage on the FMC service will be provided through its national roaming provider's network in all other areas. Therefore, because it has not invested in a national network on the scale of the established UK GSM network operators, T-Mobile argue that C&W's network costs would be significantly lower than its own.

A1.15 T-Mobile's submission outlines that the relevant network costs, including site costs, equipment costs, backhaul, buildings and RAN planning, would all be significantly

[55] We note that C&W will have an incentive to keep their roaming costs as low as possible, and that they could influence this though choice of customer as well as through their retail pricing strategy. Therefore, it is possible that the proportion of calls terminated on C&W's FMC network via roaming (✂).

lower for C&W than that of full power 2G/3G networks, even accounting for scale/coverage.

A1.16 T-Mobile estimates that the equipment costs of a local DECT guard band network would be 0.25ppm but their submission does not disaggregate this estimate between the components of network costs. T-Mobile adds 0.25ppm for the BT single tandem charge (their estimate of backhaul cost) to get a final network cost estimate of 0.5.

A1.17 Our analysis of C&W's business plan indicates that its network costs are likely to be significantly higher than the 0.5ppm estimated by T-Mobile (see table A1). However, our analysis does support T-Mobile's assertion that C&W's network costs are likely to be lower than T-Mobile's (and the other MNOs).

Spectrum licence costs

A1.18 T-Mobile points out that C&W's GSM licence for DECT guard band spectrum was acquired at relatively little cost and does not currently attract administered incentive pricing (i.e. a methodology to set licence fees based on opportunity costs). Accordingly, T-Mobile included a very small allowance for spectrum in its estimate of the cost of termination on a DECT guard band network.

A1.19 We note that, even if C&W's entire spectrum cost (i.e. the average price paid for a DECT guard band licence in the 2006 auction) was allocated to termination in the first 5 years of C&W's operations, the resulting unit cost would be less than 0.001ppm. Therefore we use an allocation of 0.0ppm for spectrum costs in our estimation of C&W's termination cost.

A1.20 In its analysis of 3G spectrum costs, the CC Determination stated that in a competitive market one would not expect the sum of network costs and spectrum costs to be different for services that are essentially homogeneous[56]. It is possible that the significantly lower cost of DECT guard band spectrum, to some extent, balances the higher cost to C&W of providing national coverage by relying on negotiating a national roaming agreement.

Administrative costs

A1.21 T-Mobile states that it is not aware of any reason that an administrative cost comparable to T-Mobile's would be inappropriate in the case of C&W. Therefore T-Mobile's methodology allocates an administration cost equal to its own (0.3ppm) to its estimate of the likely cost of termination on a DECT guard band network.

A1.22 Our analysis of C&W's administrative costs results in a significantly lower figure, 0.01ppm. However, this is based only on the incremental administration costs included in C&W's mobile business plan. If C&W's existing administration arrangements will be used to support the FMC service, then this figure would be an underestimation of the true administrative costs of termination on C&W's FMC service if costs are based on a fully allocated cost basis.

A1.23 Therefore, in our estimation of C&W's termination cost, we used the unit cost allowance included in the CTM methodology as a proxy for the total non-network component of the unit cost of termination for C&W's FMC service.

[56] See 2.3.3 at http://www.catribunal.org.uk/files/CC_Determination_1083_H3G_1085_BT_220109.pdf

Network externality surcharge ("NES")

A1.24 T-Mobile state in their submission that C&W are: "*aiming to provide a replacement service using the existing mobile subscribers of alternative national operators, using a SIM to be inserted in a subscriber's existing handset.*" Therefore, T-Mobile argue that there would be no network externality when C&W increase their subscription base, and thus does not include a network externality surcharge in its estimation of C&W's termination costs.

A1.25 The CC Determination recommends the removal of the NES from MNO termination rates; we have not included a NES in our estimation of the cost of termination on C&W's network.

T-Mobile's final estimate

A1.26 The sum of all inputs as estimated by T-Mobile is 0.8001ppm. T-Mobile multiplied this estimation by 1.5 '*to counter any inaccuracies in T-Mobile's estimation*', leading to a final estimate of 1.2ppm.

A1.27 T-Mobile argue that C&W's termination costs are likely to be even lower than this figure because it has:

- nil site costs: C&W installs its base stations in the premises of its clients;
- nil backhaul costs: C&W uses the existing landline connection of its clients and
- high network usage: C&W only rolls out sites in the premises of clients that it has already acquired: there is no speculative network development and network rollout and capacity can be tailored specifically to traffic.

A1.28 We agree that these factors are likely to facilitate low termination costs on C&W's network. Our estimate of the cost of termination on C&W's own network, 2.25ppm (see table A1), is significantly lower than the cost of termination on the networks of T-Mobile and the other MNOs, but higher than T-Mobile's estimate.

A1.29 Significantly, these estimations are based only on the direct costs of running C&W's own network only and therefore exclude the costs to C&W of providing termination outside the reach of its own network.

A1.30 The costs to C&W of providing full national coverage, which it does through a national roaming agreement, are significantly higher than the cost of termination on its own localised network. T-Mobile excludes these costs from its estimation and therefore significantly underestimates the average pence per minute cost of termination on the FMC service.

National Roaming

A1.31 C&W has a national roaming agreement, under which for any call terminated outside of its own network's coverage C&W is charged (✂)ppm. C&W estimates that between (✂)% and (✂)% of calls to the FMC service will be terminated on its network. Therefore, the inclusion of the roaming component of termination costs significantly increases the estimated average ppm cost of termination on C&W's FMC service.

A1.32 Without its roaming facility, C&W customers would only be able to make and receive calls when in the limited area of C&W's own network coverage. Therefore, the roaming facility forms an unavoidable component of the cost to C&W of providing a national mobile service. See paragraphs 5.48 - 5.55 for discussion of the relevance of roaming costs in the setting of the FMC termination rate.

The efficient cost of a national operator

A1.33 Although C&W's own network infrastructure alone does not provide national coverage, FMC customers are provided national coverage through C&W's roaming agreement. As the end users (both callers and call recipients) receive the same benefits regardless of whether national coverage is provided by an operators own network or through national roaming, we believe that the efficient cost of providing national coverage is the relevant cost consideration in this case.

A1.34 Therefore, to inform our analysis of the likely efficient costs of termination on a national network, we used the model of mobile termination costs which Ofcom developed to set charge controls for the five incumbent MNOs (i.e., the MCT cost model).[57]

A1.35 The MCT cost model's estimate — based on Ofcom's medium traffic scenario and excluding 3G costs and call volumes — suggests that the average network unit costs of an efficient national operator are 3.7ppm.

A1.36 These figures refer to network costs only. An additional allowance should also be made for non-network costs in order to be consistent with the MCT charge control. We used a mark-up for non-network costs of 0.3ppm for 2G/3G operators in the charge control. Therefore, the estimated efficient total termination cost for 2G/3G MNOs is 4.0ppm (in 2006/07 prices).[58]

Comparison of cost estimates[59]

A1.37 As explained in paragraph A1.11, our best estimate of the cost of termination for C&W's FMC service is a range between 2.6ppm and 4.1ppm:

- The efficient cost of termination on a national network as estimated by Ofcom's MCT charge control methodology, 4.2ppm (4.0ppm in 2006/07 prices), is higher than this range. (Our estimate corresponds to the MCT estimate at the point in the range where (✂)% of calls to C&W's FMC service are terminated via roaming).

- The Vodafone / O2 MTR termination rate as established by the recent CC Determination, 4.58ppm (4.4ppm in 2006/07 prices) is also above this range of estimates (our estimate corresponds to this benchmark at the point where (✂)% of calls to C&W's FMC service are terminated via roaming).

[57] The MCT cost model uses 2006/07 as its base year, therefore all numbers in this section are expressed in 2006/07 amounts and need to be inflated to 2007/08 numbers for comparison with the results from C&W's business plan.

[58] The MCT cost model estimates the network costs of termination for an efficient MNO, and thus assumes access to identical technology as well as the economies of scale and scope obtained by MNOs. It is not clear to what extent these parameters or the general cost allocation assumptions, such as the mix between incoming and outgoing calls as well as the mix between data and voice calls which were designed to approximate the use of MNO's networks, apply to C&W's service. Additionally, the efficient non-network termination costs for a small specialised service may not be equal to those for an established MNO.

[59] The numbers in this section are expressed in 2007/08 prices unless otherwise stated.

- C&W's proposed termination rate, 6.418ppm (across each time period), is significantly higher than all estimates in this range (our estimate would be lower than C&W's proposed rate even if all calls to C&W's FMC service were projected to be terminated via roaming). C&W's proposed MTR is significantly higher than the efficient cost of termination as estimated by the MCT cost model and is higher than all the regulated termination rates contained in the CC Determination for 2009/10 and 2010/11.

- Our range of estimates is significantly higher than the cost estimate provided by T-Mobile (even if all calls to C&W's FMC service were terminated on C&W's own network the resulting estimate, (✂)ppm, would be higher than T-Mobile's proposed rate). T-Mobile's estimate is also significantly lower than the efficient cost of termination as estimated by the MCT cost model and all the regulated termination rates contained in the CC Determination.

Annex 2

Responding to this consultation

How to respond

A2.1 Ofcom invites written views and comments on the issues raised in this document, to be made **10:00am on 30 March 2009**.

A2.2 Ofcom strongly prefers to receive responses using the online web form at http://www.ofcom.org.uk/consult/condocs/XXXX, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could complete a response cover sheet (see Annex 3), to indicate whether or not your response includes information that you believe to be confidential. This response coversheet is incorporated into the online web form.

A2.3 For larger consultation responses – particularly those with supporting charts, tables or other data – please email damien.kelly@ofcom.org.uk attaching your response as a Microsoft Word or PDF document, together with a consultation response coversheet.

A2.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.

Damien Kelly
Competition Policy Manager
Ofcom
Riverside House
2A Southwark Bridge Road
London SE1 9HA

Fax: 020 7781 3333

A2.5 We do not need a hard copy in addition to an electronic version. We will acknowledge receipt of responses submitted using the online web form but not otherwise.

Further information

A2.6 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Damien Kelly on 020 7981 3626.

Confidentiality

A2.7 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your response should be kept confidential, please specify what part of your response should be kept confidential, and why. Please also place such parts in a separate annex.

A2.8 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish

all responses, including those that are marked as confidential, in order to meet legal obligations.

A2.9 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at http://www.ofcom.org.uk/about/accoun/disclaimer/

Next steps

A2.10 Following the end of the consultation period, Ofcom intends to publish a statement by 15 April 2009.

A2.11 Please note that you can register to receive free mail Updates alerting you to the publications of relevant Ofcom documents. For more details please see: http://www.ofcom.org.uk/static/subscribe/select_list.htm

Ofcom's consultation processes

A2.12 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.

A2.13 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.

A2.14 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Vicki Nash, Director Scotland, who is Ofcom's consultation champion:

Vicki Nash
Ofcom
Sutherland House
149 St. Vincent Street
Glasgow G2 5NW

Tel: 0141 229 7401
Fax: 0141 229 7433

email: vicki.nash@ofcom.org.uk

Annex 3

Ofcom's consultation principles

A3.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

Before the consultation

A3.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A3.3 We will be clear about who we are consulting, why, on what questions and for how long.

A3.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A3.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A3.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Ofcom's 'Consultation Champion' will also be the main person to contact with views on the way we run our consultations.

A3.7 If we are not able to follow one of these principles, we will explain why.

After the consultation

A3.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

Annex 4

Consultation response cover sheet

A4.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, www.ofcom.org.uk.

A4.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.

A4.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.

A4.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the Consultations section of our website at www.ofcom.org.uk/consult/.

A4.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing ☐ Name/contact details/job title ☐

Whole response ☐ Organisation ☐

Part of the response ☐ If there is no separate annex, which parts?

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here. ☐

Name Signed (if hard copy)

Annex 5

Indicative calculations requested by the Tribunal at CMC on 2 February 2009

A5.1 This annex contains Ofcom's methodology for converting the regulated MTRs into nominal terms, as was requested by the CAT at the case management conference on 2 February 2009 relating to the implementation of the CC Determination. Our indicative calculations follow below. This shows that 4.4ppm (2006/07 prices) converts into 4.71ppm in nominal terms.

The CC's Determination

A5.2 The Competition Commission (CC) states in paragraph 16.47 of its Determination that:

> *"We have instead determined that Ofcom should make such changes as are necessary to SMP Conditions MA3.4 and MA4.4 and to the definition of 'Controlling Percentage' in Schedule 1 to Annex 20 of the MCT Statement to generate TACs for each year of the price control period that are consistent with our views on the glide path as set out above and the approach underpinning the approximations in Table 16.1. In our view this means that:*
>
> *(a) For the 2G/3G MNOs:*
>
> *(i) The glide paths should start at the level of headline regulated 2G rates in 2006/07.*
>
> *(ii) The TACs should descend in annual reductions of equal percentage each year from the starting points of the glide paths to arrive at the levels specified in paragraph 16.45 above in 2010/11.*
>
> *(iii) The TACs for the first year of the price control period should be adjusted so as to take into account the absence of 60 days' notice.*
>
> *(b) For H3G:*
>
> *(i) The pre-adjusted TAC for the first year of the price control period should be 8.5ppm in 2006/07 prices.*
>
> *(ii) The TACs should descend in annual reductions of equal percentage each year from the pre-adjusted first year TAC to arrive at the level specified in paragraph 16.45 above in 2010/11.*
>
> *(iii) The pre-adjusted TAC for the first year of the price control period should be adjusted so as to take into account the absence of 60 days' notice.*
>
> *(c) In each case, the adjustments to take into account the absence of 60 days' notice, the calculation of nominal figures (where such*

calculation is required), the approach taken to rounding and the methodology for deriving the controlling percentages should be carried out consistently with Ofcom's original methodology."

Overview of the revisions to the SMP Conditions

A5.3 Given the above Determination, and in particular paragraph 16.47(c), we have repeated the calculation underpinning the SMP conditions originally stated in the March 2007 MCT Statement, but with the critical difference of first having substituted TACs in 2010/11 (in 2006/07 prices) of:

- 4.0ppm instead of 5.1ppm for O2, Orange, T-Mobile and Vodafone; and
- 4.4ppm instead of 5.9ppm for H3G.

A5.4 This calculation results in the following changes to the SMP Conditions:

- revised nominal TACs for year 1 (2007/8) – SMP Conditions MA3.4 and MA4.4; and
- revised controlling percentages for years 2, 3 and 4 (2008/9, 2009/10 and 2010/11) – definition of Controlling Percentage.

A5.5 A summary of this charge control specification was stated at Figure 9.6 in the March 2007 Statement and is reproduced as Figure 1 below.

Figure 1: Table of charge control conclusions following adjustment for notice period in Ofcom's March 2007 Statement

	Current average regulated charges	**First year target charge (nominal)**	**Second year percentage reduction (i.e. X in RPI-X)**	**Third and fourth year percentage reduction (i.e. X in RPI-X)**	**Final charge in 2010/11 (real 06/07 prices)**
Vodafone and O2	5.6	5.7	3.2%	2.5%	5.1
T-Mobile and Orange	6.3	6.2	5.8%	5.3%	5.1
H3G	Not regulated	9.1	15.1%	11.8%	5.9

A5.6 As a result of the revisions to the final charge in 2010/11, set out in the CC's Determination, we have revised the charge control specification as specified in Figure 2 below. The changes are highlighted in bold. The Annex also shows these changes in the form of the changes to the definition of Controlling Percentage, MA3.4 and MA4.4 in the SMP Conditions.

Figure 2: Revised table of charge control conclusions following adjustment for notice period reflecting CC's Determination of January 2009

	Current average regulated charges	First year target charge (nominal)	Second year percentage reduction (i.e. X in RPI-X)	Third and fourth year percentage reduction (i.e. X in RPI-X)	Final charge in 2010/11 (real 06/07 prices)
Vodafone and O2	5.6	**5.4**	**9.7%**	**8.4%**	**4.0**
T-Mobile and Orange	6.3	**5.9**	**12.6%**	**11.1%**	**4.0**
H3G	Not regulated	9.1	**23.3%**	**20.3%**	**4.4**

A5.7 An explanation of the derivation of these revised figures is set out below.

(a) the 2G/3G MNOs

(i) Glide paths start at regulated 2G rates in 2006/07

A5.8 Consistent with paragraph 16.47(a)(i) of the CC's Determination, the starting point for the 2G/3G MNOs' glide paths are the headline regulated 2G rates in 2006/07. The inputs to the calculation are therefore 5.63ppm (in 2006/07 prices) for O2 and Vodafone, and 6.31ppm (in 2006/07 prices) for Orange and T-Mobile.

(ii) Annual reductions of equal percentage: values of X in years 3 and 4 (2009/10 and 2010/11)

A5.9 There are four equal percentage reductions to be implemented from the starting charges of 5.63ppm (O2 / Vodafone) and 6.31ppm (Orange / T-Mobile) to 4.00ppm (in 2006/07 prices). A real annual percentage reduction of 8.2% (O2 / Vodafone) and 10.8% (Orange / T-Mobile) is required to achieve this year on year, over the four years.

A5.10 However, the real percentage reductions derived in the previous paragraph result from a calculation undertaken exclusively in real 2006/07 prices. When these prices are stated in nominal terms, inflation must be accounted for and is treated as a geometric term – i.e. as a multiplicative factor. In contrast, the controlling percentages, which make use of a RPI-X formulation, treat inflation as an arithmetic term – i.e. as an additive factor. For this reason, the X in the controlling percentage (RPI-X) is not exactly equal to the real percentage reduction and a small adjustment factor is applied ("the geometric adjustment"). Instead X is equal to the real percentage reduction multiplied by (1+RPI). As stated in paragraph A18.42 of the March 2007 Statement, we used an expected inflation assumption of 2.8% for RPI. Therefore, multiplying the real percentage reductions of 8.2% and 10.8% by (1+2.8%) gives a value of X in the controlling percentage of 8.4% and 11.1% for O2 / Vodafone and Orange / T-Mobile respectively, prior to making any adjustments to recognise the absence of 60 days' notice.

A5.11 It is these percentages, rounded to 1 decimal place, of 8.4% (O2 / Vodafone) and 11.1% (Orange / T-Mobile) which should therefore be stated in the revised definition of the controlling percentages for the third and fourth years of the charge control. The controlling percentage for the second year is modified to take account of the absence of 60 days' notice.

(iii) Adjustment for absence of 60 days' notice: nominal TAC in year 1 (2007/8) and values of X in year 2 (2008/9)

A5.12 Consistent with paragraph 16.47(a)(iii) of the CC's Determination, the TACs for the first year of the price control period should be adjusted so as to take into account the absence of 60 days' notice.

A5.13 As for the original charge control specification in March 2007 (see paragraph 9.182 of the Statement), the adjusted TAC in 2006/07 prices for year 1 is calculated as the weighted average of the 2006/07 headline 2G rates (5.63ppm / 6.31ppm) and the first year target rate (5.17ppm / 5.63ppm) – which results from applying a single real percentage reduction of 8.2% / 10.8% – applying a weighting of 2/12 and 10/12 respectively. This results in a weighted average TAC for year 1 of 5.25ppm (O2 / Vodafone) and 5.74ppm (Orange / T-Mobile) in 2006/07 prices. However, the TAC for year 1 is specified in the SMP conditions as a nominal ppm TAC, rounded to 1 decimal place. As stated in footnote 118 to paragraph 9.239 of the Statement (and described more fully in footnote 269 at paragraph A18.42), we used an inflation forecast of 3.1% for 2007/08 to convert the year 1 TAC in 2006/07 prices into nominal terms. Applying the same methodology for the redetermination results in a year 1 nominal TAC of 5.4ppm (O2 / Vodafone) and 5.9ppm (Orange / T-Mobile).

A5.14 The remaining step is to specify the value of X for the second year, given the above adjustment to the first year TAC for the absence of 60 days' notice. This is the difference between the year 1 and year 2 TACs, both expressed in 2006/7 prices. The year 1 TACs in 2006/7 prices can be calculated by deflating the year 1 nominal TACs (rounded to 1 decimal place) by the inflation figure of 3.1%. This results in year 1 TACs of 5.24ppm (O2 / Vodafone) and 5.72ppm (Orange / T-Mobile) in 2006/07 prices[60]. The year 2 TACs in 2006/7 prices are 4.75ppm (O2 / Vodafone) and 5.02ppm (Orange / T-Mobile) as derived by applying two real percentage reductions of 8.2% / 10.8% to the 2006/07 headline 2G rates of 5.63ppm / 6.31ppm. The difference between the year 1 and year 2 TACs, i.e. the real percentage reduction required in the second year, is therefore 9.4% for O2 / Vodafone (5.24ppm down to 4.75ppm) and 12.2% for Orange / T-Mobile (5.72ppm down to 5.02ppm). Finally, to derive the X in the controlling percentage we apply the geometric adjustment factor, i.e. multiplying by (1+2.8%). This results in X for the second year controlling percentage, rounded to 1 decimal place, of 9.7% (O2 / Vodafone) and 12.6% (Orange / T-Mobile).

(a) H3G

(i) Pre-adjusted TAC for the first year (prior to adjustment for 60 days' notice)

[60] Note that the year 1 TACs in 2006/07 prices of 5.24ppm and 5.72ppm differ from the figures of 5.25ppm and 5.74ppm stated in paragraph 10. This difference reflects the fact that the year 1 TACs are specified in nominal terms rounded to 1 decimal place, and hence the corresponding figures in 2006/07 prices should also reflect that rounding to 1 decimal place, and will not necessarily equal the earlier figures in the calculation prior to deriving the rounded nominal year 1 TACs.

A5.15 As in the original charge control specification in March 2007 (see paragraph 9.190 of the Statement), the pre-adjusted TAC in 2006/07 prices for year 1 is 8.5ppm.

(ii) Annual reductions of equal percentage: value of X in years 3 and 4

A5.16 There are three equal percentage reductions to be implemented from the first year pre-adjusted TAC of 8.50ppm (in 2006/07 prices) to reach the final year TAC of 4.40ppm (in 2006/07 prices). A real annual percentage reduction of 19.7% is required to achieve this year on year, over the three years.

A5.17 As described in paragraph A5.10 above, the geometric adjustment of (1+2.8%) should be applied to this real annual percentage reduction of 19.7% to derive the X in the RPI-X controlling percentage. This gives a value of X in the controlling percentage of 20.3%.

A5.18 It is this percentage, rounded to 1 decimal place, of 20.3% which should therefore be stated in the revised definition of the controlling percentages for the third and fourth years of the charge control. The controlling percentage for the second year is modified to take account of the absence of 60 days' notice.

(iii) Adjustment for absence of 60 days' notice: nominal TAC in year 1 (2007/8) and value of X in year 2 (2008/9)

A5.19 Consistent with paragraph 16.47(b)(iii) of the CC's Determination, the TACs for the first year of the price control period should be adjusted so as to take into account the absence of 60 days' notice.

A5.20 As for the 2G/3G operators, the adjusted TAC in 2006/07 prices for year 1 is calculated as the weighted average of the 2006/07 rate of 10.70ppm and the first year target rate of 8.50ppm, applying a weighting of 2/12 and 10/12 respectively. This results in a weighted average TAC for year 1 of 8.87ppm in 2006/07 prices. Inflating this figure at 3.1% for 2007/08 results in a year 1 nominal TAC, rounded to 1 decimal place, of 9.1ppm.

A5.21 The remaining step is to specify the controlling percentage for the second year, given the above adjustment to the first year TAC, using the steps described at paragraph A5.14. The year 1 TAC in 2006/07 prices is 8.83ppm, derived by deflating the nominal TAC (rounded to 1 decimal place) of 9.1ppm by inflation of 3.1%. The year 2 TAC in 2006/7 prices is 6.82ppm as derived by applying a single real percentage reduction of 19.7% to the pre-adjusted year 1 TAC of 8.50ppm in 2006/07 prices. The real percentage reduction required in the second year is therefore 22.7% (8.83ppm down to 6.82ppm). Finally, the geometric adjustment factor of (1+2.8%) is applied to derive the X in the controlling percentage. This results in X for the second year controlling percentage, rounded to 1 decimal place, of 23.3%.

Calculation of TACs in nominal prices

A5.22 Compliance with the charge control requires identifying the nominal TAC in each relevant year, given the specification in MA3 and MA4 (see Annex), which is summarised in Figure 1 (for the original March 2007 Statement) and Figure 2 (for the redetermination).

A5.23 For example, in the case of the redetermination for O2 / Vodafone:

- The nominal TAC in year 1 is stated directly as 5.40ppm.
- The nominal TAC in year 2 is calculated by multiplying 5.40ppm by (1+RPI 9.7%) which, with the corresponding actual RPI equal to 4.0%, equals 5.09ppm.
- The nominal TAC in year 3 is calculated by multiplying 5.10ppm by (1+RPI-8.4%) which, with the corresponding actual RPI equal to 0.9%, equals 4.71ppm.
- The nominal TAC in year 4 is calculated by multiplying 4.71ppm by (1+RPI-8.4%) which, with an estimate of RPI equal to 2.8%, equals 4.45ppm61.

A5.24 The TACs in nominal prices calculated in this way are summarised in Figure 3 (for the original March 2007 Statement) and Figure 4 (for the redetermination) below.

Figure 3: Table of TACs in nominal pence per minute prices implied by Ofcom's March 2007 Statement

	First year	**Second year**	**Third year**	**Fourth year**
Vodafone and O2	5.70	5.75	5.65	5.67
T-Mobile and Orange	6.20	6.09	5.82	5.67
H3G	9.10	8.09	7.21	6.56

Figure 4: Revised table of TACs in nominal pence per minute prices reflecting CC's Determination of January 2009

	First year	**Second year**	**Third year**	**Fourth year**
Vodafone and O2	5.40	5.09	4.71	4.45
T-Mobile and Orange	5.90	5.39	4.84	4.44
H3G	9.10	7.34	5.92	4.88

[61] Note that this equates to a final year TAC of 4.00ppm in 2006/07 prices deflating the nominal rate using an inflation measure of 3.1%, 4.0%, 0.9% and 2.8% in each of the four years.