

**Three's Response to Ofcom's Narrowband Market Review Consultation
5 April 2013**



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Executive Summary

Hutchison 3G UK Limited ("**Three**") welcomes the opportunity to respond to Ofcom's Fixed Narrowband Services Consultation on proposed markets, market power determinations and remedies for the UK, for the period 2013 – 2016, published on 5 February 2013 (the "**Consultation**").

Three's response to the Consultation mainly focuses on market definition, price regulation of fixed termination rates and Ofcom's cost modelling proposals.

In line with the EU's 2009 Recommendation (the "**EU Recommendation**"), Three continues to support Ofcom's proposal to introduce pure LRIC without delay for fixed termination rates ("**FTRs**"). The use of pure LRIC for FTRs would avoid competitive distortions between communications providers. In addition, the use of pure LRIC is consistent with Ofcom's recent approach for Mobile Call Termination, which has recently been confirmed by each of the Competition Commission, the Competition Appeal Tribunal and the Court of Appeal. Support for pure LRIC as the relevant cost standard is also evident from the number of EU Member State NRAs which have announced either the actual or imminent adoption of pure LRIC for FTRs.

Our review of Ofcom's latest cost model for fixed operators has revealed various points which we consider require further examination by Ofcom. In particular, Three disagrees with Ofcom's proposed approach to Call Software Server Licences ("**CSSLs**"). Ofcom appears to incorrectly assume that the market price of CSSLs increases directly with the addition of call termination by a single operator, and that pure LRIC should include pecuniary costs. Three has also spotted a few possible cost modelling errors and adjustments which Ofcom could helpfully review and clarify.

Finally, while Three welcomes Ofcom's proposals to define a fixed geographic call termination market in terms of the number ranges allocated to a CP, Three believes Ofcom needs to consider the consequential impact of its proposed FTRs on number ranges linked to geographic rates, in particular, in relation to 03 termination rates.

Ofcom is not proposing to define a market for termination to 03 numbers or to price control the wholesale costs of calls to these numbers. Retail pricing between 01/02 and 03 remains linked however. With 01/02 termination rates price controlled at the level Ofcom proposes, a large differential will arise between the current level of Fully Allocated Cost ("**FAC**")-based 03 termination rates and pure-LRIC-based geographic FTRs. This is all the more significant given that the volumes of calls to 03 ranges are growing rapidly. Three believes that Ofcom must move to redress this wholesale level differential by considering the introduction of pure LRIC-based 03 termination rates. If 03 termination rates do remain at a much higher FAC level, this is likely to create potentially unintended financial (rather than the specifically intended socially important) incentives for using of non-geographic 03 number ranges. In particular, the opportunity of higher wholesale revenue available to TCPs by migrating traffic to 03 risks creating a significant arbitrage opportunity that may be realised through a subversion of the Ofcom numbering plan. Three considers that this issue needs to be addressed as soon as possible either in the context of this review, as part of Ofcom's Non-Geographic Call Services ("**NGCS**") review or by opening a separate review on the cost of termination on 03 ranges.

The remainder of this response contains Three's more detailed comments on the Consultation, with responses set out against a number of the questions Ofcom has raised.

Section 6. Wholesale fixed geographic call termination: market definition, market power assessment and remedies

Question 6.1: Do you agree with our assessment that the relevant service market is *“termination services that are provided by [named fixed communications provider] (CP) to another communications provider, for the termination of voice calls to UK geographic numbers which that CP has been allocated by Ofcom in the area served by that CP”*? If not, please explain why.

Three agrees that a product market definition based on fixed geographic call termination “on each individual network” is not appropriate, given that some fixed CPs (FCPs) offer fixed geographic call termination without operating an access network themselves.

In our view Ofcom is right to distinguish between the provision of the access network and control over call termination, as it has done in respect of mobile call termination (“MCT”). We agree with Ofcom that a CP that is allocated fixed geographic numbers in a given area will be uniquely positioned to control calls to those numbers, such that the relevant market should be defined in terms of the number ranges allocated to a CP.

We also agree with Ofcom's conclusion that:

- there are no direct constraints on a CP's ability to set FTRs above the competitive level – an originating CP has no choice but to purchase call termination from the CP controlling the geographic number called; and
- indirect constraints are weak.

In consequence, we agree that there are no close substitutes to fixed geographic call termination.

Question 6.2: Do you agree with our assessment that the relevant geographic market is *determined by reference to the area in which the CP provides termination services and is not wider than the UK*? If not, please explain why.

Yes. We agree that the competitive conditions faced by a CP are not affected by the presence of rivals in the same geographic area, given that voice termination provided by one CP is not a substitute for voice termination provided by another CP. Hence, an operator will face similar competitive conditions in the geographic area where it provides termination services, and that area is no wider than the UK.

Question 6.3: Do you agree with our assessment that each CP has SMP in the market for fixed geographic call termination to their number range? If not, please explain why.

Yes, we agree with Ofcom's conclusion that i) each number range holder has, by definition, a 100% share of the market for termination of calls to numbers allocated to it; that ii) there are

absolute barriers to entry (i.e. a CP does not have an incentive to allow other CPs to terminate calls to its number ranges); and that iii) neither BT nor other CPs have sufficient power to counter an attempt by a terminating operator to raise FTRs above the competitive level.

Question 6.4: Do you agree with the remedies imposed on BT in the market for geographic call termination to its number range? If not please explain why.

Yes. Three considers that the remedies proposed are needed to prevent BT from refusing to supply call termination, discriminating in favour of its own retail business or generally behaving in an anti-competitive manner.

Question 6.5: Do you agree with the remedies imposed on other CPs (excluding BT) in the market for geographic call termination to their number range? If not please explain why.

Yes, we agree that it is proportionate to impose remedies on operators other than BT, in particular i) a requirement to provide network access on reasonable request and on fair and reasonable terms (so that FTRs above BT's raise a presumption of not being fair and reasonable) and ii) a requirement to notify charges.

Section 8. Price regulation of termination and origination markets

Question 8.1: Do you agree that we should cap FTRs at LRIC? Please explain your reasons.

Three continues to support the use of pure LRIC as the appropriate cost standard for fixed call termination rates, for two main reasons:

- pure LRIC would minimise competitive distortions between Fixed Communications Providers (FCPs), and between FCPs and Mobile Communications Providers (MCPs); and
- use of pure LRIC is in line with the 2009 EC Recommendation, with Ofcom's use of pure LRIC for MCT and the approach of other European NRAs.

Pure LRIC would avoid competitive distortions

We agree with Ofcom that the most important factor in the choice of a cost standard is the effect on competition between CPs – in particular, on barriers to entry and expansion by smaller operators. We also agree that the competition arguments in favour of pure LRIC in fixed geographic call termination are very similar to those Ofcom adopted in respect of MCT.

In particular, FTRs set at LRIC+ would raise the marginal cost of terminating off-net calls above that of on-net termination. This would set a floor on the price of off-net calls and create competitive distortions between operators with asymmetric market shares and traffic flows, to the disadvantage of smaller networks. FTRs set at LRIC+ would:

1. Raise the (marginal and average) cost to an operator of calls made by its subscribers, with a greater impact on smaller networks (because a higher proportion of their outbound calls will be off-net);

2. Dampen retail price competition between CPs, because a reduction in retail prices would generate net call outflows and a termination deficit – with a greater impact on smaller networks, in circumstances where they need to price below the incumbents to gain market share; and
3. Distort competition between mobile and fixed CPs as a result of the inclusion of a mark-up in FTRs – most consumers have a degree of choice between fixed and mobile calls and there is competition between mobile and fixed networks, at least in respect of some call types and customers. With mobile termination rates now set at a pure LRIC level, allowing fixed operators to recover common costs under LRIC+ FTRs would unfairly transfer resources from mobile to fixed networks and distort consumer choices.

Use of pure LRIC is in line with the 2009 EC Recommendation, with Ofcom's use of pure LRIC for Mobile Call Termination (MCT) and the approach of other European NRAs

Ofcom's decision in its 2011 MCT Statement to adopt pure LRIC for MCT has now been upheld on appeal by each of the Competition Commission and the Competition Appeal Tribunal (CAT). The CAT's judgment was also recently upheld by the Court of Appeal.

The reasoning adopted in the 2009 EC Recommendation continues to apply – namely, that pure LRIC is the appropriate cost standard for termination rates and the relevant increment should be the wholesale voice call termination service provided to third parties, covering *“only those costs which would be avoided if a wholesale voice call termination service were no longer provided to third parties.”*¹

Three notes that the use of pure LRIC for FTRs in the UK would also bring Ofcom's approach into line with the widespread actual or imminent adoption of pure LRIC for FTRs by other main European NRAs.² As Ofcom points out, a growing number of European NRAs have, already taken the “utmost account” of the Commission's EU Recommendation and implemented or put in place plans to introduce pure LRIC-based FTRs.³

The importance of following a consistent regulatory approach across EU Member States on termination rates in line with the 2009 EC Recommendation can also be seen from the EU Commission's recent decision to open a Phase II investigation into Germany's LRIC+ proposals for mobile voice call termination rates. The EU Commission has indicated that it has serious doubts on the proposed LRIC+ MTR measures:

*“the Commission has serious doubts as to whether the proposed LRIC+ methodology would allow for the achievement of the policy objectives set out in Article 8 of the Framework Directive, as it may lead to competitive distortions between fixed and mobile markets and/or between operators with asymmetric market shares and traffic flows and, ultimately, lead to the application of consumer tariffs, which are based on wholesale inputs above avoidable costs.”*⁴

¹ Para.6, 2009 EU Recommendation.

² 8.11 to 8.14 of the Consultation.

³ 8.12 to 8.13 of the Consultation.

⁴ See p.7, EU Commission's letter to BNetzA of 28.2.2013, C(2013) 1266 on opening of Phase II investigation in relation to Commission decision concerning Wholesale voice call termination on individual mobile networks in Germany.

In addition, the Commission emphasised in relation to the German LRIC+ proposal that “a pure BU-LRIC approach is better suited to facilitate a more efficient distribution of financial transfers between competing operators and thereby to a level playing field between all fixed and mobile operators”. The intra-EU impact of adopting a LRIC+ approach was also a concern in light of the potential creation of barriers to the internal market this could create. In this respect, the Commission commented that:

“A harmonized approach in setting mobile termination rates is particular important to ensure that regulators do not favour their national operators at the expense of operators in other Member States by not introducing fully cost-oriented mobile termination rates. It is exactly for that reason that the Commission has adopted the Termination Rates Recommendation to ensure a harmonised application of the Regulatory Framework in order to contribute to the development of the internal market and further objectives set out in Article 8 of the Framework Directive.

Moreover, the Commission observes that mobile termination rates set at an efficient level contribute to a level playing field not only at national but also at EU level, by eliminating competitive distortions between fixed and mobile networks.”⁵

Similarly, we note that the EU Commission has also expressed serious doubts in relation to Italy's 1 January 2015 deadline for FTRs reaching a pure LRIC model, around two years after the 31 December 2012 deadline set by the 2009 EC Recommendation. Both this, and recent developments in Germany stress again the importance of reaching a pure LRIC, cost-efficient termination rate level for both fixed and mobile as soon as possible.

In the absence of any compelling reasons for departing from the EC's 2009 Recommendation and Ofcom's pure LRIC approach in MTRs, Three considers that Ofcom has concluded correctly that pure LRIC should also be adopted as the appropriate cost standard for FTRs.

Question 8.2: Do you agree that wholesale call origination should be regulated on a LRIC+ basis where the “+” includes a mark-up to off-set the common cost recovery foregone from externally provided wholesale call termination on a LRIC basis? If not, please explain why.

Three has no strong views on this point.

Question 8.3: Should the FTRs of CPs other than BT be presumed fair and reasonable where they are no higher than the Benchmark FTR? If not, please explain why.

Three supports Ofcom's proposal.

Question 8.6: Do you agree that LRIC-based FTRs should not be adjusted for average porting conveyance charges (APCCs)?

⁵ See p.8, EU Commission's letter to BNetzA of 28.2.2013, C(2013) 1266 on opening of Phase II investigation in relation to Commission decision concerning Wholesale voice call termination on individual mobile networks in Germany.

Three supports Ofcom's view at para. 8.111 of the Consultation that the provision of porting conveyance and charges for onward routing are not currently governed by SMP regulation and should instead be dealt with under General Condition 18.

Section 9: Cost modelling for the charge control on wholesale call termination and origination

Question 9.1: Do you agree with our proposed approach to modelling the cost of fixed call origination and fixed call termination? If not, please explain why.

1. Pure LRIC – and Ofcom's application of decremental approach to Call Software Server Licences

Ofcom's latest proposals differ in one significant respect from those in its September 2012 model – in particular in relation to Call Server Software Licences (CSSLs). In Three's view the inclusion of CSSL costs in pure LRIC is incorrect.

In principle, there are two possible sources of variation in costs when subtracting termination from the range of services offered by the modelled operator:

- **changes in “real” costs** – i.e. the physical quantities of factors (e.g. network switches, servers, line cards, etc) that the operator no longer needs absent call termination; and
- **changes in factor costs** – i.e. changes in factor prices if the operator's call termination volumes fall to zero.

We agree with Ofcom that **no “real” CSSL costs** arise from termination.⁶ CSSL costs are intra-traffic common costs shared with other call services and are not incremental to termination. The modelled operator requires no additional licences to terminate third party calls, because CSSLs can carry additional traffic at no extra cost.⁷ Modelling termination as the final increment means that CSSL licences must be assumed to be in place before call termination is added – i.e. termination traffic is supplemental to the busy hour traffic from other voice services – so that the associated cost would not be avoided if call termination volumes fell to zero.

However, in our view Ofcom goes astray in its treatment of **factor costs**. We understand that Ofcom is considering a scenario where a single FCP no longer carries call termination, as it did in respect of mobile call termination.⁸ Ofcom argues that the specific features of CSSLs mean that an operator's willingness to pay for a CSSL licence is driven by the amount of voice traffic generated by its subscribers.⁹ Absent termination, Ofcom considers that the modelled operator would attach a lower value to each licence. This leads Ofcom to conclude that the change in the “value” of the licences is attributable to call termination and should be reflected in pure LRIC, even though the licences would be used to provide other call services (e.g. call origination).¹⁰

Three considers this view to be erroneous for the following reasons:

⁶ A12.37 – 12.38 of the Consultation.

⁷ A12.39-12.41 of the Consultation.

⁸ 3.216, Competition Commission MCT Final Determination of 9 February 2012 (“**CC FD**”).

⁹ A12.41 of the Consultation.

¹⁰ A12.41 of the Consultation.

1. Ofcom appears to assume that the market price of CSSLs would increase with the addition of call termination by an individual operator;
2. even if the price of CSSLs did increase with the addition of termination, the change in cost is a “pecuniary” cost that should be excluded from pure LRIC; and
3. the inclusion of changed CSSL costs in pure LRIC is inconsistent with the approach adopted by the Competition Commission (CC) in its Mobile Call Termination Determination.

Three addresses each of these reasons below.

Ofcom appears to assume that the market price of CSSLs would increase with the addition of call termination by a single operator

To reach its conclusion Ofcom makes three assumptions that are either unsupported by evidence or appear to be simply incorrect:

- First, that the value to an operator of a CSSL rises in direct proportion to traffic. Ofcom provides no evidence in this regard. It is certainly not true of “unlimited capacity” assets in general that their value rises in direct proportion with traffic, not least because it cannot be assumed that unit prices charged stay constant.¹¹ Ofcom only comments that the licence value can be thought of as the discounted stream of revenues it can earn, but fails to reconcile this view with its conclusion that CSSL costs are subscriber-driven, not traffic-driven;¹²
- Second, that market demand for CSSLs would increase as a result of the alleged increase in value to a single operator. Ofcom appears to assume that software licences are priced at a local level. In a global market for equipment and software, it is very unlikely that the addition of call termination by a single UK operator will have a perceptible influence on global demand for CSSLs and, therefore, on market price. The same point is made at Annex 13 to the Consultation;¹³
- Third, that the price of CSSLs will rise irrespective of the cost of production. Ofcom overlooks the role of supply in the determination of market price. Even in the unlikely event that the modelled operator could materially influence global demand for CSSLs, whether the market price of CSSLs increases, reduces or remains constant with call termination volumes will depend on the shape of the long run supply curve for CSSLs (and, in particular, whether there are diminishing, increasing or constant returns to scale in software development). For instance, if CSSL unit costs were to decrease as the volume of CSSLs increases (i.e. if there are economies of scale in software production), removing call termination would raise (rather than lower) the market price of CSSLs, and Ofcom would need to adjust pure LRIC downwards not upwards.¹⁴

¹¹ If it were true, it would be hard to imagine how consumers could ever benefit from economies of scale.

¹² A12.41 of the Consultation.

¹³ Annex 13: 7.41 to 7.42 of the Consultation.

¹⁴ That is, CSSL costs would be higher for those CSSLs that remained if call termination were not provided.

In Three's view Ofcom should not simply speculate on a theoretical link between traffic and market price. Without further evidence there is no reason to believe that an operator's willingness to pay for (and the market price of) CSSLs would rise in direct proportion with traffic in the way suggested.

Moreover, Ofcom's treatment of CSSL costs seems inconsistent with treating termination as the last increment. Ofcom finds (rightly) that the modelled operator requires no additional licences to provide termination, meaning that there is no increase in the quantity of CSSLs that the operator demands at any given price. Without such an increase in the demand for CSSLs, Three does not understand how Ofcom can allege that there is an increase in their market price as a result of the addition of call termination. We would be grateful if Ofcom could explain this further.

"Pecuniary" costs should be excluded from pure LRIC

Even if Three is incorrect and the market price of CSSLs did somehow increase with the addition of termination, in Three's view the changed costs to the modelled operator should not be included in pure LRIC. Ofcom seems to confuse private and social costs. In economics "cost" means the cost to society of producing a given output – in this case, fixed geographic call termination. The alleged change in CSSL costs is merely a private cost to the modelled operator. From the point of view of society it is a non-cost outlay, a "pecuniary" cost.¹⁵

In particular, Ofcom uses pure LRIC for regulatory price setting purposes as a proxy for marginal cost.¹⁶ Marginal cost is the true cost that a consumer imposes on society when buying an additional unit of output, and reflects the need to detract real resources from other callers and services in order to terminate an additional call. If use of a network asset for call termination denies the opportunity to use it elsewhere, its cost represents a cost to society and should be included in pure LRIC.

In contrast, if no additional CSSL licences are needed to provide call termination, Ofcom should not include any CSSL costs in pure LRIC. If the addition of call termination raises the price of CSSLs, software developers earn a rent on intra-marginal units already being supplied (i.e. units used for call origination and other call services absent termination). Economic rents are not a social cost. The change in the market price of CSSLs does not represent an increased using up of resources or foregone alternatives. It is merely a "pecuniary" cost – a money transfer from fixed operators to software developers – that forms no part of marginal (social) cost. Three understands that this is why the CC queried Vodafone's "*presumption that pecuniary effects should be taken into account*" in its Mobile Call Termination Determination (see below).¹⁷

The inclusion of changed CSSL costs in pure LRIC is inconsistent with the approach adopted by the CC in its Mobile Call Termination Determination

The CC considered and rejected the point at issue in its Mobile Call Termination Determination. In the recent MCT Appeals Vodafone and EE argued that when the cost of a network asset is

¹⁵ On real and pecuniary costs, see "*The Nature of Costs and the Production Function*", chapter 7 of Stigler, George "*The Theory of Price*." Also Section II of Ellis and Fellner "*External Economies and Diseconomies*" in *American Economic Association Readings in Price Theory*, edited by Stigler and Boulding. Available on <http://www.colorado.edu/economics/morey/externalitylit/ellis%26fellner-aer1943.pdf>

¹⁶ Ofcom's Wholesale Mobile Voice Call Termination Statement, 15 March 2011 ("**2011 MCT Statement**"), footnote 4

¹⁷ 3.255, CC FD

different in a world without termination from a world with termination, the cost should be recovered from termination.¹⁸ In their view, spectrum, site rental and equipment unit costs would be lower absent termination.¹⁹ Hence, Vodafone and EE reasoned that the change in the unit cost of spectrum, sites and equipment that would still be needed absent termination (e.g. to provide origination and other voice services) should be included in pure LRIC. Using similar reasoning to Ofcom's current FTR proposal, Vodafone said that it valued spectrum on the basis of its revenue-generating capabilities, such that it would be willing to pay less for it absent termination.²⁰

In its MCT Determination, the CC (and Ofcom) rejected Vodafone's and EE's argument on both evidential and analytical grounds:

- The CC considered that Vodafone had provided no evidence that site rental costs would be lower for those sites that remained if MCT services were not provided;²¹
- Similarly, Ofcom did not agree that removing the MCT increment would lower the market price for spectrum. Ofcom said that i) the relevant scenario to model was a single MCP (as opposed to all MCPs) no longer carrying MCT. In its view, it is "*most unlikely*" that the market price for spectrum would change as a result of a single MCP no longer carrying MCT, because MCT provided by a single MCP would only use a fraction of the total spectrum suitable for mobile services; and ii) even if the impact of a reduction in demand for spectrum by all MCPs were the relevant scenario, the value of spectrum was likely to be unchanged;²²
- The CC concluded that Vodafone had not justified in principle the inclusion of such "pecuniary" costs in pure LRIC – "*Vodafone's appeal appears to be based on the assumption that Ofcom...should have taken price changes of assets... into account (ie Ofcom should have considered pecuniary effects) when calculating the LRIC of MCT services.... We do not find that Vodafone has provided sufficient reasoning why Ofcom should have adopted such an approach. We do not consider that Vodafone's examples, which are based on the presumption that pecuniary effects should be taken into account, can assist in demonstrating that Ofcom erred because Vodafone has not put forward any principled arguments in support of its case*";²³
- The CC found that changing input price assumptions in the ex-MCT network would allocate a disproportionate amount of costs to the MCT services – "*MCT services already carry the spectrum costs at current prices and changing spectrum prices for the remaining services would effectively allocate a proportion of the spectrum costs that are incurred by the remaining services to the MCT services instead*".²⁴

At a practical level, Three is concerned that Ofcom's apparently arbitrary special treatment of CSSL costs may lead to disputes in relation to future LRIC-based fixed and mobile termination

¹⁸ 3.165 and 3.192 CC FD

¹⁹ 3.166-3.175, 3.193-3.195, 3.81, 3.204 CC FD

²⁰ 3.171-3.172 CC FD

²¹ 3.127, CC FD

²² 3.216, CC FD

²³ 3.255, CC FD

²⁴ 3.256, CC FD

charges. By definition, any common cost asset can carry additional traffic at no greater cost. Ofcom's rationale suggests that all common cost assets become more valuable as traffic increases and should be reflected in pure LRIC. This would redefine all common costs as incremental and remove the distinction between LRIC and LRIC+. Ofcom would also be inviting endless disputes as to whether the addition of termination by a single operator would be likely to increase or reduce the market price of each network asset.

2. *Pure LRIC & Cost Recovery – Ofcom's Retrospection Check is informative but not determinative*

Three has one brief observation on Ofcom's latest revised approach to verifying the cost model outputs²⁵ - namely, that Three is concerned by Ofcom's apparent suggestion that passing a "retrospection check", i.e. a check that historical charges suggested by the new model should be no higher than regulated historical charges, is always an absolute requirement. This approach appears to be potentially inconsistent with Ofcom's approach to setting the current MCT charge controls.²⁶

In Ofcom's 2011 MCT Statement, Ofcom compared charges from the new 2011 model with charges from the old 2007 model, and concluded that the new model gave lower charges in all historical periods.²⁷ However, Ofcom did not appear to require the 2011 model to pass a "retrospection check", stating that even if the 2011 model had generated higher charges in historical periods that would not necessarily have meant a change in approach. Indeed, Ofcom considered that updating the path of unit costs in the light of the latest evidence (i.e. without a retrospection mark-up) was both desirable and allowed operators a "fair bet" at recovering their costs given the use of a glide path.²⁸

Three considers that Ofcom's recent MCT approach on the need for retrospection checks and their resulting impact (if any) has considerable merit. Three notes that a similar point was noted by EE in their 9 November 2012 response to this review (when EE also questioned why a different approach is necessary from that in MCT)²⁹ and queries why Ofcom appears to suggest its approach should change when verifying the proposed cost model.

3. *Pure LRIC – Network and technology choice for the NCC*

a. Modelled Points of interconnection

In line with Three's Response to Ofcom's September 2012 Consultation,³⁰ Three supports Ofcom's decision to model, as its base case, a network with 20 POIs, with the aim of modelling the costs which would be incurred by a hypothetically efficient network operator.³¹

b. Regulatory approach to physical interconnection – technology neutrality

²⁵ A12.198 of the Consultation.

²⁶ Footnote 703 of the Consultation.

²⁷ A6.230 to A6.231, 2011 MCT Statement; 3.475, CC FD

²⁸ A6.232, 2011 MCT Statement; 3.476, CC FD

²⁹ EE's Non-confidential response of 9 November 2012 to Ofcom's Narrowband Market Review: consultation on possible approaches to cost modelling for the Network Charge Control for the period 2013-2016.

³⁰ See p.4 of Three's Response to Ofcom's Consultation on possible approaches to cost modelling for the Network Charge Control for the period 2013 - 2016, dated 9 November 2012.

³¹ A11.84 of the Consultation.

Three supports Ofcom's technology neutral approach, applying a single (symmetric) wholesale call termination rate to both TDM and NGN networks.³²

We also welcome Ofcom's intention to consider again whether IP Interconnection should be the basis for regulation once NGNs have matured sufficiently. Three agrees with Ofcom that this is an important point to keep under review together with factors such as *"if the number of TDM based CPs has markedly diminished"* and whether *"the continued use of TDM networks in co-existence with NGNs is otherwise clearly inefficient."*³³

c. Costs of conversion between TDM and IP

Three continues to support Ofcom's decision to exclude costs of conversion from the regulated rates³⁴, even if Ofcom does not yet consider NGN to be the MEA. At a time when NGN and TDM networks co-exist, Three agrees that the market should be left to decide how best to provide conversion, with the possibility of raising the matter with Ofcom for resolution should the commercial establishment of conversion charging arrangements between interconnecting parties fail. However, Three would ask that Ofcom keep under review its current view that both NGN and TDM networks may represent efficient competition technologies.³⁵

d. Proposed implementation of Ofcom's cost model design

Three's more detailed observations on certain aspects of Ofcom's proposed cost model design can be found in the Annex to this Response.

Section 11: Charge control specification

Question 11.1: Do you agree with our proposed glide paths? If not, please explain why.

Three supports Ofcom's proposal to move to pure LRIC without further delay, starting from 1 October 2013. We note that the EC Recommendation deadline for implementing termination rates at a cost-efficient, pure LRIC FTRs by 31 December 2012 has now expired.³⁶

In addition, Three notes that mobile termination rates reached a pure LRIC level on 1 April 2013. Three considers that to introduce any further delay to the application of pure LRIC in fixed call termination until 2015/2016 would not be appropriate as it would allow fixed operators to recover common costs via the termination rate. To eliminate any potential distortion of competition between fixed and mobile networks and ensure a level playing field during the next charge control period, Ofcom should apply pure LRIC-based FTRs without delay.

Question 11.2: Do you agree with our proposal to allow a six week implementation period for Fixed Termination Rates to be capped at LRIC? If not please explain why.

³² A11.91 of the Consultation.

³³ A11.102 of the Consultation.

³⁴ See p.5 of Three's Response to Ofcom's Consultation on possible approaches to cost modelling for the Network Charge Control for the period 2013 - 2016, dated 9 November 2012.

³⁵ A11.123 of the Consultation.

³⁶ Para. 11, EU Recommendation.

As mentioned above, Three supports Ofcom's proposal to align FTRs with pure LRIC as quickly as possible, including Ofcom's related implementation arrangements, such as reducing the applicable notice period to allow for implementation on 1 October 2013.

Question 11.3: Do you agree with our proposals relating to "Charge control design"? If not, please explain why.

a. Time of day pricing

As mentioned in Three's Response to Ofcom's Call for inputs, Three considers that "*time of day*" rates are increasingly anachronistic in a world where CPs increasingly compete on the basis of retail packages providing inclusive (or, in the case of FCPs, unlimited) call minutes to geographic number ranges for a fixed monthly fee, irrespective of the time of day.³⁷ Three continues to believe that there is merit in adopting a simpler pricing rule in the form of a rate cap when setting wholesale call termination rates, consistent with the industry approach in MCT. Three notes CWW's similar observation in this regard.³⁸

b. Sub-caps for interconnect circuits

Three agrees with Ofcom's proposal to set a separate charge control basket for interconnection circuits and supports the addition of sub-caps (instead of a cost orientation obligation) to control charges for individual products within the interconnect basket.

In particular, using only a charge control basket would allow BT to increase the price of some services in nominal terms and to decrease other prices in order to stay within the price controls. Ofcom has traditionally used a cost orientation obligation on individual products (based on a DLRIC 'floor' and a DSAC 'ceiling') together with charge controls to prevent BT from abusing this pricing flexibility.

However, as Three noted in its response to Ofcom's "*Review of Cost Orientation and Regulatory Financial Reporting in Telecoms - Call for Inputs*", cost orientation has not been effective in controlling BT's charges, because it allows too much scope for BT to recover excessive common costs on individual services.³⁹ For instance, Ofcom now finds that a cost orientation obligation on interconnect circuits would allow BT to set individual charges at or close to DSAC and recover more than the incremental and common costs incurred.⁴⁰ For that reason, we agree with Ofcom that the use of sub-caps is clearly preferable to a cost orientation obligation.

The rationale applied by Ofcom when rejecting the EE 03 dispute determination is no longer met

³⁷ See Three's Response to Ofcom's Fixed Narrowband Market Review and Network Charge Control – Call for Inputs of 28 June 2012, at Question 32.

³⁸ See para.11.95 of the Consultation.

³⁹ <http://stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation-telecoms/responses/Three.pdf>, reply to questions 10-113.

⁴⁰ Paragraph 10.50 of the Consultation.

Finally, Three believes that Ofcom should reconsider its positioning on termination charges for 03 calls in light of its pure-LRIC based FTR proposals in this Consultation. In Three's view, Ofcom's rationale for rejecting EE's dispute with BT in relation to BT's termination charges for 03 calls⁴¹ is no longer met and Ofcom should re-examine the cost of call termination to 03 numbers.

First, a large differential will arise between the level of Fully Allocated Cost ("FAC")-based 03 termination rates and Ofcom's adoption of pure LRIC cost-standard proposals both in MCT and in geographic FTRs in the current Fixed Narrowband proposals. The importance of comparing the level of 03 call termination rates with geographic termination rates is evident in Ofcom's EE 03 Determination, where Ofcom took the view that *"termination rates determined by Ofcom for 0870 calls (and subsequently introduced by BT as its 03 termination rates) are close to geographic rates and therefore are consistent with the expectation that Ofcom expressed in the February 2007 statement as to how these calls would be charged"*⁴² and noted that *"Ofcom believed in February 2007 that wholesale termination rates for 03 calls should be closer to geographic termination rates than to the prevailing non-geographic termination rates."*⁴³ Against this background, Three is concerned that whilst at present, there is a relatively small difference in the average termination rates between 01/02 calls and 03 calls, a large difference will arise with the introduction of pure LRIC FTRs for 01/02 calls.

Three estimates that, based on Ofcom's "medium (base)" FTR forecast proposal in real prices (of 0.040ppm for 01/02 FTRs in 2013/2014 (in 2011/12 prices) – approximately 0.0429ppm in today's real prices), the current average termination rate Three is charged for 03 calls (approximately [CONFIDENTIAL]) will be approximately [CONFIDENTIAL] than the pure LRIC 01/02 FTR. In light of the potential large difference in wholesale charges for 03 and new geographic termination rates, Three believes that Ofcom should examine whether FAC-based rates for 03 termination rates remain appropriate.

Three believes that Ofcom must move to redress this wholesale level differential by considering the introduction of pure LRIC-based 03 termination rates. If 03 termination rates do remain at a much higher FAC level, this is likely to create potentially unintended financial (rather than the specifically intended socially important) incentives for using of non-geographic 03 number ranges. The prospect of achieving wholesale revenue up to [CONFIDENTIAL] by migrating traffic to 03 will inevitably be attractive for TCPs. As a result, Three is concerned that if Ofcom maintains the differential it risks creating a significant arbitrage opportunity that may be realised through a subversion of the Ofcom numbering plan.

In addition, Three notes that the volume of 03 calls has significantly grown since the EE 03 Determination, both in absolute terms and as a proportion of the total 01/02 and 03 volumes. As can be seen from the table below (based on Three's statistics) Three have calculated a two year Compounded Annual Growth rate over 2011-2012 of [CONFIDENTIAL]% for minutes terminated to 03 numbers compared with [CONFIDENTIAL]% for minutes to 01/02 numbers. Over the same period, the proportion of 03 minutes (of total minutes to 01/02 and 03 number) grew from [CONFIDENTIAL] % to [CONFIDENTIAL] %.

⁴¹ See Ofcom's Final Determination on a dispute between Everything Everywhere and BT about BT's termination charges for 03 calls of 27 January 2011 (the "**EE 03 Determination**").

⁴² See 3.29, EE 03 Determination.

⁴³ See 3.26, EE 03 Determination.

[CONFIDENTIAL]

This growth in 03 traffic is likely to continue as i) OCPs increasingly offer unlimited tariffs including call minutes to 01/02 numbers with the ppm recovery of cost of calls to 03 numbers diminishing over time; and ii) Ofcom's NGCS proposals encouraging an increased uptake of 03 numbers (by raising consumer price awareness for 03 number ranges and possibly encouraging demand for a 03 number linked to a geographic retail price through measures such as making 080 free to caller and unbundling other non-geographic number ranges).⁴⁴ Three is concerned about the resulting increased risk of diminishing cost recovery for OCPs this growth raises whilst high FAC-based termination rates for 03 numbers are maintained.

At present Ofcom only plans to consider whether any further review of the market for call termination to non-geographic numbers is necessary once the NTS review has been completed and any resulting proposals implemented.⁴⁵ However, this is inadequate in light of the de facto presence of SMP in 03 termination, either on Ofcom's number range market definition approach, or on the basis of market share of termination⁴⁶. If Ofcom maintains its proposed timing across all NGN ranges, it risks creating significant risks via the application of different cost standards for 01/02 and 03 termination rates. Three therefore submits that Ofcom should consider the need for the review of 03 termination rates as soon as possible.

We hope that these comments are useful to Ofcom in preparing its final statement. We would of course be very happy to discuss further with Ofcom any aspect of our response, if it would be of assistance.

Hutchison 3G UK Limited
5 April 2013

⁴⁴ See 11.57, 11.61, Ofcom's Consultation of 4 April 2012 on Simplifying Non-Geographic Numbers: Detailed proposals.

⁴⁵ See 6.43 of the Consultation.

⁴⁶ There is no obvious basis to distinguish Ofcom's approach to market definition in the markets for termination on narrowband and mobile from 03. Even were an alternative market definition appropriate, there is clear single operator dominance in this market ([CONFIDENTIAL]).

Annex 1 – Detailed Comments on Ofcom’s Cost Model

Three has the following observations on Ofcom’s proposed cost model design:

1. Average call length

Ofcom’s September 2012 model assumed an average call length of 4 minutes. This assumption is broadly consistent with research published by Ofcom in its November 2011 Communications Infrastructure Report, which reported data for March 2011 from fixed line operators showing a total of 1,717m calls, with a total call duration of 7,123m minutes, equating to an average call length of 4.1 minutes⁴⁷.

Three notes that Ofcom’s February 2013 model has reduced average call length to 1.3 minutes⁴⁸. No explanation appears to have been given for this reduction in the model or the consultation, nor does there appear to be any reference to call length apparent from the published responses to the September 2012 consultation. Three would therefore be grateful if Ofcom could explain the rationale for this reduction.

2. Hardcoding in routing table

Three notes that Ofcom’s February 2013 model features some hardcoded numbers (which contain absolute inputs rather than calculated values) in the routing table, which were previously calculated in Ofcom’s September 2012 model⁴⁹. The cells are not highlighted and it is not clear whether the hardcoding is intentional.

3. Referencing error in the opex part of the Economic Depreciation algorithm

In Three’s response to Ofcom’s September 2012 Consultation, we highlighted an apparent referencing error in the opex part of the ED algorithm⁵⁰. BT highlighted precisely the same error⁵¹. Ofcom has accepted the error⁵². However, rather than applying the correction suggested by both BT and us, Three understands that Ofcom has replaced the original calculation approach with a revised calculation approach.

It is not clear why a revised approach has been adopted, since the original approach was consistent with the corresponding part of the capex algorithm, and the revised approach introduces a slight inconsistency between the capex and opex algorithms. Irrespective of the reasons for the change, Three notes that the revised approach appears to have been implemented incorrectly. It attempts to divide long run unit opex by long run unit output, but the reference for the latter is not to unit output but to the present value of total output⁵³. Three suggests that the reference be corrected.

⁴⁷ Figure 7, *Infrastructure Report*, Ofcom, 01.11.11

⁴⁸ Cell I47, Scenarios, 1.Demand

⁴⁹ Cells Q353:R356, Input_Routing, 2.Network.Cost

⁵⁰ 2d, Annex

⁵¹ 1, BT first email (19.11.12)

⁵² A12.182 of the Consultation.

⁵³ Row 85, E1:E200, 3.Economic

4. Peak Mbps traffic measure used to dimension core nodes

The model generates a peak Mbps traffic measure in the aggregation nodes which includes both voice and data traffic. In Ofcom's September 2012 version of the model, the voice traffic element was based on the voice busy hour, even though peak network traffic occurs in the data busy hour. This appears to have been corrected in the February 2013 model, which now bases the voice traffic element on the data busy hour⁵⁴.

The model also generates a peak Mbps traffic measure in the core nodes which includes both voice and data traffic. However, Three notes that in this instance both the September 2012 and February 2013 versions of the model base the voice traffic element on the voice busy hour⁵⁵. It is not clear why the correction made in the case of aggregation nodes would not also be appropriate in the case of core nodes.

5. Assumed number of service nodes

The model adopts network architecture with a number of different node categories:

1. access nodes, which aggregate physical access connections from end users, and which come in basic access, remote access, and super access variants;
2. aggregation nodes, which aggregate traffic from access nodes;
3. core nodes, which transport traffic between aggregation nodes;
4. interconnect nodes, which support interconnection with other operators; and
5. service nodes, which provide control and service layer functionality, including call control, directory, DNS and voicemail servers.

Three notes that both Ofcom's September 2012 and February 2013 models assume a total of 20 core nodes. However, while the September 2012 model assumed a total of 20 co-located service nodes, the February 2013 model now assumes just a single service node for the whole network.

We consider it is important to note that the use of 1 service node [**CONFIDENTIAL**]. In Three's experience, [**CONFIDENTIAL**]. This would suggest the hypothetical NGN operator would [**CONFIDENTIAL**].

6. Unit capital costs

Three notes that Ofcom's assumed unit capital costs have changed significantly since the September 2012 model. Some unit costs have fallen, but a number of unit costs particularly relevant to the LRIC of FTR have risen substantially:

⁵⁴ Rows 81 and 84, Calc_Aggregation, 2.Network.Cost

⁵⁵ Rows 80 and 83, Calc_Core, 2.Network.Cost

- a. the cost of a Call Server hardware unit, has more than doubled, from £0.4m to £1.0m⁵⁶;
- b. the cost of a Session Border Control chassis, has also more than doubled, from £40,000 to £100,000; and
- c. the cost of a Session Border Control software licence, has increased five-fold, from £5,000 to £25,000.

Ofcom has explained in general terms that these revisions to unit costs “are based on industry benchmarks and have been refined based on CP responses to Ofcom information requests and responses to Ofcom’s consultation.”⁵⁷ It would be helpful if Ofcom could provide further details on these amendments as significant increases appear to have been made.

7. Redundancy headroom for interconnect assets

Three notes that Ofcom’s February 2013 model assumes a maximum capacity utilisation of 70% for most network assets.⁵⁸ This approach differs from that taken for certain interconnect assets, including Session Border Control cards, which both in the September 2012 and February 2013 models have utilisation degraded by an additional 20%, to 58%, due to an allowance for what the models describe as “redundancy headroom” .⁵⁹

It is notable that the model documentation makes several references to the network architecture being specifically designed to provide an allowance for redundancy. In particular, in respect of interconnection, the documentation states:

“It is common practice in nationwide voice networks to have multiple, geographically-diverse points of interconnection (PoI) to enable efficient routing of voice calls between networks and provide redundancy in the event of a node failure. In specifying the quantity of INs, a trade-off is made between transmission network capacity and interconnect equipment...”

*In the modelled network, INs are located at each of the 20 core nodes. The number of INs in the model is consistent with the 20 points of interconnect provided by BT for wholesale broadband connect (WBC).”*⁶⁰

It is not therefore clear why an additional redundancy headroom adjustment is necessary. Nor is it clear why the model treats interconnect assets differently from other assets, which have no such adjustment applied.

⁵⁶ Ofcom’s February 2013 figure is for a unit with an assumed capacity of 2.0m busy hour call attempts. The September 12 model assumed a cost of £80,000 for a unit with an assumed capacity of 0.4m busy hour call attempts; i.e. an effective cost of $(2.0/0.4) \times £80,000 = £0.4m$ for the same capacity as one February 2013 unit.

⁵⁷ 4.26, Annex 13 (CSMG model documentation) of the Consultation.

⁵⁸ 4.15, Annex 13 (CSMG model documentation) of the Consultation.

⁵⁹ Cell E26, Input_Planning, 2.Network.Cost

⁶⁰ 3.39 to 3.40, Annex 13 (CSMG model documentation) of the Consultation.