



The Ofcom Metering and Billing Scheme

This document includes modifications to General Condition 11 on
Metering and Billing and the Direction that sets requirements for
gaining approval under General Condition 11

Statement

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Section 1

Introduction and Background

What this Statement does

- 1.1 On 28 November 2007, Ofcom published a document (at http://www.ofcom.org.uk/consult/condocs/metering_billing/) on the Ofcom Metering and Billing Scheme which included consultations on a modification to General Condition 11 (the “condition”) of the General Conditions of Entitlement on Metering and Billing and to the Oftel Direction made on 22 July 2003 that sets requirements for gaining approval under the condition. The consultation closed on 11 January 2008. There were 22 responses to the consultation of which 12 are from Communications Providers, three are from the Approval Bodies, five are from individuals, and two are confidential. The non-confidential responses have been published at http://www.ofcom.org.uk/consult/condocs/metering_billing/responses/.
- 1.2 The background to the consultation was that Ofcom regulates the accuracy of bills issued by providers of electronic communications services through the condition. The condition requires providers of publicly available telephone services with a relevant annual turnover in excess of £40m to seek and obtain approval of their metering and billing systems from third-party assessors against a prescribed standard. This complex of approval arrangements represents the Ofcom Metering and Billing Approval Scheme.
- 1.3 A provider’s metering and billing system was approved when it complied with the requirements of the Oftel Metering and Billing Direction (the “Oftel Direction”), which was in essence a technical standard intended to ensure that compliant systems will deliver accurate bills.
- 1.4 The consultation proposed to modify the Oftel Direction (to be known as the Ofcom Direction) and consequential changes to the condition.
- 1.5 This statement¹ includes a Notification under section 48(1) of the Communications Act 2003 (“the Act”) setting the revised condition, at Annex 2, and a Notification under section 49 of the Act giving the Ofcom Direction, at Annex 3. The condition and the Ofcom Direction will take effect from the day of publication of this statement.

¹ In this statement capitalised terms are terms defined in the General Conditions of Entitlement, General Condition 11 or the Ofcom Direction.

Section 2

Analysis of responses to the proposed modification to General Condition 11

- 2.1 The consultation proposed a series of modifications to General Condition 11. These were:
- 2.1.1 General Condition 11.1 to be modified by the capitalisation of the word 'bill', indicating that it is a defined term.
 - 2.1.2 General Condition 11.4 to be modified to clarify that the scope of approval is limited to Publicly Available Telephone Services and such additional services as shall be agreed between the Communications Provider and an Approval Body. This removes ambiguities in the original wording which may have led to the misleading conclusion that once a Communications Provider's turnover had exceeded £40m, all of its services became subject to mandatory approval.
 - 2.1.3 General Condition 11.5 to be deleted. The target date of 31 December 2003 has passed.
 - 2.1.4 General Conditions 11.7 and 11.8 to be deleted as the time period they refer to has expired. They established transition periods for the validity of approvals against the obsolete metering and billing standards, OTR003:1993 and OTR003: 2001.
 - 2.1.5 General Condition 11(7)(a) to be modified by the redefinition of Approval to mean approval against the Ofcom Direction and maintains the validity of approvals against the Oftel Direction until the end of 2010, which coincides with the approval cycle adopted by approval bodies and gives Communications Providers a reasonable time to migrate to the Ofcom Direction.
 - 2.1.6 General Condition 11(7)(b) to be modified to take account of NQA's withdrawal from the approval market.
 - 2.1.7 General Condition 11(7)(c) is an addition, defining the term 'Bill' to include circumstances where the bill is a record of debits and credits applied to the End-User's account.
 - 2.1.8 General Condition 11(7)(e) and (f) to be deleted because they are no longer relevant as these metering and billing standards are now obsolete.
 - 2.1.9 General Condition 11(7)(g) to be modified by the capitalisation of the word 'Bill', indicating that it is a defined term.
 - 2.1.10 Throughout the condition the term "the Director" to be replaced by "Ofcom". There are six such changes. This reflects that the original General Condition was made by Oftel, whose functions have now been taken over by Ofcom.
- 2.2 The question raised in the consultation was:

Q6. Do you agree that the proposed amendments to General Condition 11 should be adopted?

Summary of responses

- 2.3 The responses generally supported the proposed amendments without further comment. One response pointed out that as “Bill” is now a defined term in the General Condition it should be capitalised in clause 11.6(i) of the condition. A further point was that the reference to General Conditions 11.4 to 11.8 in General Condition 11.3 were no longer accurate because of paragraph numbering changes.
- 2.4 One respondent proposed the addition of the words “for the purpose of” to the definition of the term “Bill” in General Condition 11.6 to make the meaning clearer.
- 2.5 The only substantive change proposed was by T-Mobile, namely that the condition should not specify individual Approval Bodies but that these should be defined in general terms as organisations certified in accordance with the Ofcom Direction.

Ofcom’s conclusions

- 2.6 We believe that the suggestions at paragraph 2.3 and 2.4 are justified editorial amendments and improve the clarity of the condition. They have been accepted. A consequence is that the definition of “Bill” in the Ofcom Direction, which reflects the definition in the condition, has changed.
- 2.7 We do not believe that there would be any advantage in devising a fresh certification process for Approval Bodies rather than identifying them in the General Condition. In either case any additions to, or removals from, the list of Approval Bodies would require a formal consultation so there would be no gains in terms of flexibility. However the outcome would be two legal instruments, the General Condition and a certified list of Approval Bodies, rather than one. Accordingly, we have not included this proposal.
- 2.8 As explained in paragraph 2.1.5 above Ofcom set out that one intention of the modification to General Condition 11 was to maintain the validity of approvals and current applications for approval against the Oftel Direction (set out in Annex D of this statement) until the end of 2010. In order to provide clarity as to the transitional effect of this, Ofcom has added the following wording at General Condition 11.6:

“Where the Communications Provider holds an approval under the Oftel Metering and Billing Direction or has made an Oftel Approval Application, such approval or application shall be deemed to be an Approval or application for Approval of the Communications Provider’s Total Metering and Billing System until 31 December 2010.”
- 2.9 The effect of this wording is that where a Communications Provider has either obtained approval or applied for approval prior to the date the Ofcom Direction is made (which will be the date of publication of this statement) their approval or application for approval will be treated as if it were an approval or application for approval against the Ofcom Direction, rather than the Oftel Direction, until 31 December 2010. An application for approval will be constituted by a contract being in place between a Communications Provider and an Approval Body for the purpose of achieving approval. Communications Providers applying for approval after the date of

the Ofcom Direction will have their metering and billing systems assessed against the Ofcom Direction.

- 2.10 The purpose of this addition is to ensure that the approvals achieved by existing approval holders remain valid until the approvals are migrated to the Ofcom Direction. Moreover where providers have already applied for approval against the Oftel Direction they will remain compliant with the requirement of General Condition 11.4 to seek approval for their Total Metering and Billing System. We do not think that it would be reasonable to require approval seekers who are currently very close to achieving approval against the Oftel Direction to have to recommence the approval process.

Application of section 47 tests

- 2.11 Under section 47 (2) of the Act, Ofcom may not modify a condition unless it is satisfied that the modifications are:
- objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - not such as to discriminate unduly against particular persons or against a particular description of persons;
 - proportionate to what the condition or modification is intended to achieve; and
 - in relation to what it is intended to achieve, transparent.
- 2.12 Ofcom considers that the modifications are objectively justifiable because they clarify the requirements of the condition by defining the word 'Bill' and defining the scope of approval more closely including modifying the reference to the Ofcom Direction from the Oftel Direction. Finally, the modifications remove time-expired provisions which have become redundant.
- 2.13 Ofcom considers that the modifications do not discriminate unduly against particular persons or a particular description of persons because they apply equally to all Communications Providers to whom the condition applies.
- 2.14 Ofcom considers that the modifications are proportionate to what they are intended to achieve because their intention is to clarify the requirements of the condition, define the scope of approval more closely, remove time-expired provisions, enable approval against the Ofcom Direction and introduce transitional measures for existing approvals and existing applications for approval. The modifications implement these changes in the least intrusive manner as they do not impose new obligations or adversely impact on actions already taken by Communications Providers to comply with the condition.
- 2.15 Ofcom considers that the modifications are transparent in relation to what they are intended to achieve because Ofcom has set them out clearly at Annex 2 of this document. The Ofcom Direction is published as part of Annex 3 of this statement. For clarification, the Oftel Direction as is, is preserved for transition purposes and the Ofcom Direction is derived from it but for transitional purposes does not supersede it. The Oftel Direction is published at Annex 4 of this statement.

Section 3

Analysis of responses to the proposed modification to the Oftel Direction

- 3.1 The consultation proposed a series of modifications to the Oftel Direction. Whereas the Oftel Direction was a unitary document, the structure of the revised Direction is a core set of technology-neutral requirements applicable to all services, supplemented by annexes specifying requirements for different services. The annexes are grouped in two sections – those that apply to services where approval of the associated metering and billing system is mandatory and those where providers may voluntarily opt to seek approval. The former includes fixed and mobile Publicly Available Telephone Services (“PATs”); the latter Broadband and VoIP services as well as an annex on undercharging detrimental to End-User, such as a revenue-sharing charity line. The benefit of this document structure is that it will be possible to bring additional services into the approval scheme simply by adding a new annex, without any need to recast the Direction as a whole.
- 3.2 The other proposed changes were:
 - 3.2.1 The tolerance levels now take account of specific circumstances in a more nuanced way, as indicated in the various sections on Usage and Non-Usage Events in the various annexes.
 - 3.2.2 The exclusion of undercharging from the direction. Ofcom believes that only in the most roundabout way may undercharging be represented as a consumer detriment requiring regulatory intervention. However, even though undercharging does not cause consumer detriment it is symptomatic of an error-prone system. The causes of such errors need to be tracked down and understood. For this reason we believe it is wholly appropriate for approval bodies to take account of undercharged events in their auditing procedures and to establish their cause. See the proposed Ofcom Direction’s Voluntary Annex on “Undercharging detrimental to End-Users”.
 - 3.2.3 Other changes to the Oftel Direction reflect the experiences that Communications Providers and Approval Bodies have accumulated in working with the Oftel Direction and its virtually identical predecessor OTR003:2001 over the last six years. Section A3.4.8.2 on “Error handling and End-User complaints” takes account of the difficulties that had arisen from the equivalent section in the Oftel Direction, which did not reflect the range of circumstances in which services are provided and complaints may be registered. There are new sections on the bundling of services and a much clearer account of where responsibilities lie when there is interworking between communications providers (section A3.4.5 of the proposed Ofcom Direction).
 - 3.2.4 Although the proposed Ofcom Direction draws on a Quality Assurance (QA) model, Section A3.4.3 of the direction explicitly states that formal ISO 9000 certification is not a requirement. There had been a tension in the Oftel Direction between an approach based on ensuring that the numbers were accurate and an insistence on documented procedures. We believe that a QA approach adds value as long as it does not become an end in itself.

- 3.2.5 Section A3.4.8 of the proposed Ofcom Direction also clarifies that data provided to Ofcom for other regulatory purposes need not be separately audited as long as such data is not subject to dispute with Ofcom and is agreed to be suitable by the relevant Approval Body.
- 3.2.6 Section 6.2 of Annex C on mobile PATS requires Communications Providers to advise their customers, in their published tariffs, of the possibility of inadvertent roaming and how to prevent it. Inadvertent roaming occurs where mobile phones connect to an international network to make a national call and results in roaming charges being applied. Within the UK it is most common in areas adjoining the Republic of Ireland border – the proposed Ofcom Direction requires greater transparency on the part of mobile providers.
- 3.2.7 A completely new section on “Extraordinary performance failure” (section A3.4.7.3) sets out a set of procedures to be followed when metering and billing systems have been subject to exceptional failures. This section provides clear guidance to communications providers and approval bodies about the practice sometimes known as ‘ring-fencing’ to reconcile the Ofcom Direction’s tolerance levels with unpredictable break-downs of metering and billing systems. It is clearly desirable that Communications Providers should not forfeit approval through a single catastrophic loss of call data records, but equally desirable that the way exceptional failures are handled is placed on a systematic and transparent basis.
- 3.3 The first question raised in the consultation about the proposed modifications to the Ofcom Direction was:

Q1. Do you agree that the proposed Ofcom Direction published as Annex 6 of this document [i.e. the consultation document] should be adopted for the approval purposes of General Condition 11?

Summary of responses

- 3.4 There was an almost unanimous welcome to the proposed Ofcom Direction and for its modular format, separating core and service-specific requirements.
- 3.5 Only one, individual, respondent argued that the proposed Ofcom Direction should not be adopted in its current form because of drafting errors, omissions and a disagreement with the principles underlying the section on Interworking between Communications Providers.

Ofcom’s conclusions

- 3.6 We believe that none of these criticisms would justify the non-adoption of the proposed Ofcom Direction. Typographical and drafting errors have been rectified and terms that are not defined may be formally defined as the proposed Guidelines are developed (see section 3.44 below). Responses to the section on interworking are considered below, at sections 3.9.1 – 3.9.3.
- 3.7 Accordingly, Ofcom has modified the proposed Ofcom Direction with the additional minor amendments as described in the following paragraphs.

3.8 The second question, which evoked the widest set of responses was:

Q.2 Are there any ways in which you believe the proposed Ofcom Direction could be improved?

Summary of responses

3.9 Three issues in particular attracted wide comment. These concerned the sections on:

- i) Interworking between Communications Providers,
- ii) the £600 Discretionary Threshold, and
- iii) the new concept developed in the Direction of Extraordinary Performance Failure.

Taking each in turn:

(i) Interworking between Communication Providers

- 3.9.2 With regard to interworking the Direction states that “... primary responsibility shall rest with the Communications Provider that holds the contract with the End-User (deemed to be the overall Total Metering and Billing System owner) to ensure that the overall service meets the accuracy standards within this Direction ...”. Several retail providers argued that it was not practicable to impose the required levels of accuracy on billing records supplied by upstream providers through contractual means and that Ofcom requirements are more enforceable than those arising from interworking arrangements. The implication is that upstream providers should also be subject to the Ofcom scheme where they are not already in it.
- 3.9.3 One provider wished to restore the ‘point of failure’ concept whereby the onus should sit with the provider responsible for defective billing records. A further argument was that there may be an asymmetry of power between a small retail provider and a larger wholesale provider and that it was unfair for the former to be exposed to possible enforcement action because of the behaviour of the latter which might be largely immune from the retailer’s influence.
- 3.9.4 There were further comments that suggested the Direction had not clarified the difference between interworking arrangements and interconnect arrangements or whether wholesale providers are caught by the Direction. An error was also pointed out in Figure 2 as well as some terminological ambiguities.

(ii) The £600 Discretionary Threshold

- 3.9.5 A second set of responses was triggered by the monthly £600 Discretionary Threshold which appeared in the Measurement Limits sections of Annexes B (Fixed Publicly Available Telephone Services), C (Mobile Publicly Available Telephone Services), and E (VoIP services) but not Annex D (High Speed Internet). The threshold offers an alternative to percentage-based accuracy limits for Communications Providers with relevant turnovers below £360 m. a year in order to avoid imposing unrealistic limits on smaller providers.

- 3.9.6 Some respondents argued that £600 is too low a figure in the context of large business contracts and that a percentage-based approach should be restored. There were also uncertainties about whether a separate monthly £600 threshold is available to each of the services listed in the annexes and whether separate £600 thresholds can be set against usage and non-usage events.

iv) Extraordinary Performance Failure

- 3.9.7 A fresh concept deployed in the Direction is that of Extraordinary Performance Failure which seeks to apply a systematic approach by Approval Bodies to unforeseen or catastrophic billing errors. One respondent argued that a separate category of one-off failures should be recognised as well. There were also uncertainties about whether an Extraordinary Performance Failure extending over more than a single month should be regarded as one failure or two and what is intended by the “full review” Approval Bodies are required to undertake where Extraordinary Performance Failures exceed the threshold level of three Category 2 occurrences within a rolling 12 month period.
- 3.10 A number of more general issues also arose from the responses.
- 3.11 T-Mobile proposed a change of wording to the section on “Compliance with this Direction” distinguishing between the roles of senior management and the Ofcom Billing Accuracy Programme Manager.
- 3.12 A small number of responses revived a proposal already rejected in Ofcom’s original review that there should be separate schemes relating to residential and business End-Users.
- 3.13 One (confidential) response questioned how inaccurately metered events free at the point of consumption should be dealt with in the context of a bundle of services.
- 3.14 COLT pointed out a contradiction between the definition of Tariff in Annex A as a publicly available statement specifying charges and the recognition in paragraph 4.4.3 that there are two types of Tariff, a Public Domain Tariff and a Bespoke Tariff which, by definition, is confidential.
- 3.15 Some concerns were expressed about the relationship between the services included in the mandatory annexes (Fixed PATS and Mobile PATS) and those included in the voluntary annexes (High Speed Internet, VoIP, and Undercharging Detrimental to End-Users) and how these fit into the overall approval scheme. In particular, the value of setting thresholds for voluntary annexes was questioned and whether a provider could withdraw a service covered by a voluntary annex from the scheme without jeopardising approvals for services in the mandatory annexes.
- 3.16 One comment pointed out that the Direction does not give guidance on the application of VAT to rounding calculations.
- 3.17 The Approval Bodies questioned the omission of a requirement relating to safeguards to prevent gross billing errors. The perceived need for safeguards arises from the experience that gross error ‘traps’ have been shown to minimise any potential customer affecting issues by highlighting gross errors before they arise. This preventative measure is a potential saving to the Communications Provider and subsequently to End-Users.

- 3.18 Responses from the Approval Bodies argue that the wording defining the scope of the Direction is ambiguous and does not make it clear that approval is required where the aggregate turnover of mandatory services exceeds £40million, say, where annual turnover in fixed and mobile PATS is each of the order of £25 million.
- 3.19 One response argued that the purpose of the High Level Description is to provide a documented explanation of the Total Metering and Billing System and the associated risks, not only in respect of accuracy but also of completeness.
- 3.20 They also make the case that the term “supplier components” in the section on High Level Description is unclear and propose revised wording.
- 3.21 A number of responses argued that the Annex A definitions be extended to include several additional terms, such as “customers”, “duration”, “extension of scope”, “full review”, and “initial application”.
- 3.22 Responses from individual consumers made the case that all services be subject to mandatory approval and objected to the notion of voluntary annexes.
- 3.23 Finally, on a point unrelated to the contents of the Direction, concerns were expressed about the role of the Approval Bodies and the superiority of a co-regulatory scheme, citing TopComm as an example.

Ofcom’s conclusions

- 3.24 (i) Interworking Arrangements
 - 3.24.1 With regard to the Direction’s proposed approach to interworking arrangements, we believe that these are justified from a consumer protection standpoint. The wholesale arrangements that culminate in the delivery of a retail service, or set of services, are not transparent to most customers whose only resort is to the contracted retail provider. As supply chains grow more complex, with a greater role for wholesale intermediaries (which may vary from day-to-day in certain circumstances), it is essential that overall responsibility for billing accuracy sits with the customer-facing provider. It should be noted that the principle that responsibility attaches to the retail provider, whether it be a travel agent, a supermarket or a gas installer, is embedded in many forms of consumer protection legislation.
 - 3.24.2 There is some validity to the case pointing out the asymmetry of power between a reseller and a wholesale provider. However it is also true that the larger provider is more likely to be subject to the approval scheme in its own right. Moreover the Direction sets out an escalation procedure in the case of an unresolved dispute between interworking providers, requiring the intervention of the Approval Bodies and then of Ofcom in the event of a failure to achieve resolution.
 - 3.24.3 Moreover, the Approval Bodies have confirmed that experience with the Ofcom Direction has demonstrated the practical difficulties encountered in applying an apportionment principle despite the guidance developed in the Guide to Tolerance Apportionment by TMBS Function (MABG5) at http://www.ofcom.org.uk/telecoms/groups/mandb/docs/mabg5_issue2.pdf
 - 3.24.4 However, we do recognise that the section on interworking could be clearer. Accordingly, the reference to Service Providers has been

withdrawn from the explicatory diagrams and the distinction between interworking and interconnect clarified by the inclusion of both terms in the Annex A Definitions.

3.25 (ii) £600 Discretionary Threshold

3.25.1 With regard to the monthly £600 Discretionary Threshold, this has now been added to Annex D (High Speed Internet). While there is some appeal to replacing it with a percentage-based threshold, the counter-argument is that this would permit unacceptably high tolerances for providers with larger turnovers. It should also be remembered that the threshold will operate in a context where the allowable tolerances have been raised. For the avoidance of doubt, the threshold is available for each Total Metering and Billing System in operation.

3.26 (iii) Extraordinary Performance Failure

3.26.1 Ofcom considers that the application of the Extraordinary Performance Failure concept brings a degree of transparency to what had unavoidably been a discretionary exercise of judgement by the Approval Bodies. We do not think that the creation of a separate category of one-off failures would be helpful as it would tend to undermine the transparency of this new tool.

3.26.2 Ofcom recognises that an Extraordinary Performance Failure should be taken as a unitary occurrence, rather than being segmented on a monthly basis. A failure commencing on the 25th day of month 1 extending to the 5th day of month 3 represents a single failure. Furthermore, it would not be sensible to define what a “full review” is which will depend on the particular circumstances of the failures.

3.26.3 We have taken the opportunity to clarify what is required of a Communications Provider under A3.4.7.3 (b) to ensure that no financial benefit is derived from a failure.

3.27 In relation to the more general issues commented upon - T-Mobile’s proposed rewording to the section on compliance lends clarity and has been accepted. Similarly, “Tariff” has been redefined to take account of the contradiction pointed out by COLT.

3.28 The separation of requirements pertaining to residential and business customers was considered in Ofcom’s earlier review of the Metering & Billing Scheme published on 22 June 2006². However, to do so would add a new layer of complexity to the Direction and it shifts the focus of approval away from the provider’s Total Metering and Billing System(s). We do not consider that separation would enhance consumer protection.

3.29 In response to the point about inaccurate metering of ‘free’ events comprised in a bundle a Note has been added to the section on call bundling to the effect that where such errors occur they should be evaluated in terms of their real impact on the customer.

3.30 With regard to the questions about how the voluntary annexes fit into the overall scheme it is important to note that amended General Condition 11.4 extends

² <http://www1.bsc.org.uk/consult/condocs/metering/statement/>

approval to “such other Electronic Communication Services as shall be agreed between the Communications Provider and the Approval Body”. The consequence of this amendment is to confer, for the first time, a proper legal footing for the approval of non-PATS services. For this reason it is quite reasonable to set thresholds for non-mandatory services. Because the inclusion of a voluntary service requires the agreement of the provider and an approval body and it is open to either party to withdraw from that agreement.

- 3.31 The question of how VAT fits into rounding calculations has been raised before. Clearly the issue only arises for non-business customers where tariffs and bills are generally quoted as VAT inclusive. The experience of the Approval Bodies is that where errors have occurred these have been for trivial amounts with a correspondingly trivial impact on customers. Provided the requirements of HM Revenue & Customs are being met, we think that the treatment of individual occurrences may be left to the discretion of the approval Bodies.
- 3.32 With regard to the omission of required safeguards against gross billing errors Ofcom accepts that these provide a valuable means of detecting errors at an early stage. Accordingly a new section has been added to the section on Individual Billing Accuracy.
- 3.33 With regard to the apparent ambiguity of the Direction’s scope, Ofcom considers that the definition in the General Condition is clear in that it refers to Relevant Turnover which as defined in the General Condition includes the turnover generated by reference to PATS which would relate to all services provided.
- 3.34 In response to one suggestion, the word “completeness” has been added to “accuracy” to explain the risks associated with a Total Metering and Billing System that the High Level Description is intended to overcome.
- 3.35 We have responded to the comment that the term “supplier components” in the section on High Level Description was unclear by amplifying the description to embrace “suppliers of components and services that may impact on the Total Metering and Billing System”.
- 3.36 We have not added to the list of Definitions at Annex A, other than the terms “interworking” and “interconnect”. For the sake of additional clarity some terms are defined on their first appearance in the Direction, such as “High Level Description”, “Risk Management” and “Measurement Strategy”. As a general point, over-specification attempting to prescribe a formula for any conceivable scenario would tend to curtail a necessary degree of flexibility in the application of the Direction. If, in the course of working with the Direction, it becomes apparent that the undefined nature of certain terms is genuinely causing problems these can be addressed by the Guidelines.
- 3.37 A number of minor amendments have been made to the Direction, such as the replacement of the word “Customer” by “End-User” throughout and the definitions of “High Speed Internet” and “VoIP Services”. These do not introduce substantive changes but are simply intended to ensure drafting clarity and consistency with Ofcom terminology.
- 3.38 The concerns expressed by some consumers that only a limited set of services is subject to mandatory approval are noted. Ofcom encourages providers to take full advantage of the new voluntary annexes to extend the scope of their approval. We

are committed to monitoring the operation of the Metering and Billing Scheme and to intervene should this become necessary to secure the interests of consumers.

- 3.39 The concerns expressed about the role of the Approval Bodies and the attractiveness of a co-regulatory scheme such as TopComm are noted. However we do not consider that it would be appropriate to reconsider the overall design of the Metering and Billing Approval Scheme in the context of a consultation on one component of it, the Direction. In general we think that the advantage of the Approval Bodies is the depth of knowledge and experience they bring to the approval process and we would not wish to destabilise these arrangements.
- 3.40 The consultation noted that the Oftel Direction was accompanied by an Approval Scheme Guide, published at http://www.ofcom.org.uk/telecoms/groups/mandb/docs/schem_guide_third_ed.pdf. There is no similar guide for the proposed Ofcom Direction. If one is necessary for interpretative purposes, the wording in the previous guide could be used or a new guide could be developed by instalments as particular issues arise and are resolved. While Ofcom proposed the latter approach, we sought stakeholders' opinions on these options.
- 3.41 The two questions on a possible guide to the Direction naturally fall to be taken together.

Q3. Do you believe that the proposed Ofcom Direction would be more helpful if there were a guide to it.

Q4. If you answer yes to Q3 do you think the existing guide should be amended to fit the proposed Ofcom Direction or that a new guide should be developed incrementally?

Summary or responses

- 3.42 Most respondents favoured the development of a guide although one counter-argument was that the existence of a guide sacrifices flexibility. There was also a general consensus that a guide be developed incrementally, as fresh issues arise and are resolved within the context of the new Direction. However there was a degree of concern that the clarifications supplied by the existing guidelines, at http://www.ofcom.org.uk/telecoms/groups/mandb/docs/schem_guide_third_ed.pdf and the MABG series of advisory notes should not be lost in the process.

Ofcom's conclusions

- 3.43 Although the ambition was to develop a Direction that would not need to be supplemented by a guide, this has turned out not to be practicable. This is because however comprehensive the Direction may be unanticipated scenarios or ambiguities in interpretation may arise. Once these have been resolved in a particular case it would seem sensible to preserve that resolution in a published form, to ensure consistency of treatment and promote a degree of certainty.
- 3.44 Taking all these comments into account Ofcom favours the development of a guide on an incremental basis, as individual issues arise and are resolved. We believe that this task should fall to the Approval Bodies who have a better overview of the scheme than any one individual provider. However we believe it would be good practice for providers to be included in the process, perhaps through participation in

the Metering and Billing Approval Bodies Forum (MABABF) open sessions. Any new guide should have regard to previous guidance.

- 3.45 The consultation considered how the Direction might best be regularly reviewed, maintained and updated. Because the UK telecommunications market is dynamic and changes rapidly, it is important that the Direction should be periodically reviewed to ensure that it continues to reflect market developments. However, it needs to remain relatively stable to ensure that investment made in achieving compliance with the Direction is not wasted through spurious and unnecessary changes.
- 3.46 When Ofcom deems it appropriate, we shall convene an Experts Working Group to review the Direction and recommend proposed changes; additional expertise will be co-opted to the group as required. Amendments to the Direction are necessarily subject to statutory consultation procedures.
- 3.47 The expectation is that there will be no changes to the limits and tolerances of mandatory Annexes for at least three years after the publication of the latest issue of that Annex. This allows Communications Providers time to develop a measurement strategy and invest in Measurement Systems knowing that they have a minimum useful life. While it is not excluded that there will be changes to the turnover for Application should an Annex be re-classified from voluntary to mandatory or vice versa, no changes to the applicable limits or tolerances are anticipated.
- 3.48 In all cases, Ofcom would expect to determine the applicable timescales for Communications Providers to meet the new requirements or migrate from the old requirements following feedback from interaction with the applicable Approval Body.
- 3.49 Each Annex to the Direction has its own unique issue status; voluntary, mandatory or guidance and issue date. This ensures that changes can be made to individual Annexes without the requirement for the complete re-issue of the Direction. The title and issue status of current Annexes will be available on the Ofcom website.
- 3.50 Ofcom intends to review the Direction when appropriate. This is likely to be on a three-year cycle.
- 3.51 The purpose of any review is to among other things ensure that:
 - Changes to legislation from the UK Government or the implementation of European Union Directives are reflected in the document and any potential conflict is resolved through a modification to the Direction at Ofcom's discretion, taking into consideration any consultation responses;
 - Any changes to standards are relevant and do not conflict with the general requirements of the Direction;
 - At Ofcom's discretion, to amend the categorisation of a product or service changing its applicability between voluntary and mandatory, or vice versa;
 - At Ofcom's discretion, to prepare another Annex for a new set of products and services;
 - At Ofcom's discretion, to withdraw an Annex.

More generally, Ofcom may decide to review the Direction in the light of changes in circumstances or new consumer protection issues.

- 3.52 Where new circumstances are identified that require a change to the body of the Direction i.e. the change needed has an impact on the regulatory framework, as distinct from a particular product or service, Ofcom may convene an appropriate Experts Working Group.
- 3.53 Ofcom will determine the terms of reference of the group at the time which would be expected to include requirements to assess the situation and recommend suitable amendments to the body of the Direction. These amendments shall be subject to a consultation process under the Act.
- 3.54 Where new circumstances are identified that only impact on the Annexes, Ofcom may convene an appropriate Experts Working Group and co-opt additional expertise to the group if required. The Experts Working Group may be requested to prepare a suitable new Annex for consideration, or propose amendments to an existing Annex.
- 3.55 New or modified Annexes are subject to the formal public Notification procedure required under section 49 of the Communications Act 2003. The issue status of each Annex will be available on the Ofcom website.
- 3.56 The fifth question raised in the consultation was:

Q5. Do you agree with the proposed maintenance procedures for the Direction?

Summary of responses

- 3.57 There was broad agreement with the proposed maintenance procedures for the Direction. This entails the convening of an Experts Working Group to review the Direction and advise on possible changes. In the absence of a cataclysm it was argued that a review of the Direction should take place within a three-year-cycle as frequent changes would tend to promote instability and cause uncertainty. A point that came through was that sub-threshold providers would want to be represented in future working groups.

Ofcom's conclusions

- 3.58 Ofcom believes that the experience of the work carried out by the Experts Working Group was extremely encouraging and that this valuable resource needs to be preserved. We would welcome the participation of sub-threshold providers. We also agree that providers need the stability of a three-year cycle. We intend to convene a working group in Q4 of 2008.

Application of section 49 tests

- 3.59 Under section 49(2) of the Act a person may not modify a Direction unless satisfied that the modifications are:
- objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - not such as to discriminate unduly against particular persons or against a particular description of persons;
 - proportionate to what it is intended to achieve; and

- transparent in relation to what it is intended to achieve.
- 3.60 Ofcom considers that the modifications to the Oftel Direction are objectively justifiable because there was a broad agreement in the responses to the preceding consultation that the Oftel Direction requires updating in the light of developments in the market since 2003 and because the Ofcom Direction more appropriately meets the needs of the contemporary market and technology.
- 3.61 Ofcom considers that the modifications to the Oftel Direction do not discriminate unduly against particular persons or against a particular description of persons because they will apply equally to those Communications Providers to whom General Condition 11 applies and the basis for application has not changed.
- 3.62 Ofcom considers that the modifications to the Oftel Direction are proportionate to what they are intended to achieve because, each proposed modification having been carefully considered by a representative group of industry experts, they elaborate a targeted set of approval requirements that represents the least intrusive regulatory mechanism consistent with protecting the consumer interest. We do not believe that compliance with the Ofcom Direction will impose additional costs on providers relative to those of compliance with the Oftel Direction. This is because the Ofcom Direction is more readily adaptable to the particular business model of any provider seeking or maintaining approval. As a result, it avoids the need for providers to fit their internal processes to the prescriptive model set out by the Oftel Direction. We also believe that the transition costs incurred in reshaping an approval to tie in with the requirements of the Ofcom Direction will be absorbed by the normal approval maintenance procedures.
- 3.63 Ofcom considers that the modifications to the Oftel Direction are transparent in relation to what they are intended to achieve because Ofcom has set them out in Annex 3 of this document. Copies of this Notification and the accompanying statement have been sent to the Secretary of State in accordance with section 50(1)(a) of the Act.

Guidance Notes for application of the Ofcom Metering and Billing Direction

- 3.64 The Ofcom Experts Working Group (comprising industry experts) that helped to draw up the Ofcom Direction also drafted a set of guidance notes which usefully set out the roles of the various parties involved in applying the direction. These notes were originally intended to form part of the Ofcom Direction but have been excluded from it because they include material that goes beyond the statutory scope of a Direction made under section 49 of the Act. However they are printed here and will be subsequently posted on Ofcom's Metering and Billing website at <http://www.ofcom.org.uk/telecoms/groups/mandb/>.

Ofcom's Role

- 3.65 Ofcom intends to monitor the Relevant Turnover of all Communications Providers and require all those with £40m. and over (excluding VAT etc.) to comply with their obligations.
- 3.66 Ofcom intends to maintain publicly visible information regarding the Scheme including:
- 3.66.1 contact details for the appointed Approvals Bodies;

- 3.66.2 those Communications Providers who have applied for Approval;
 - 3.66.3 those Communications Providers who have achieved Approval(s); and
 - 3.66.4 the scope of such Approval(s).
- 3.67 Ofcom intends to monitor progress towards achieving an Approval and where necessary, take enforcement action.
- 3.68 In the event of a Communications Provider wishing to transfer between Approval Bodies, situations may arise that may require Ofcom intervention; this will be dealt with on a case by case basis. Ofcom will be approached by all parties accordingly.
- 3.69 Where transfers of Communications Providers are made between Approval Bodies, Ofcom will sanction the transfer and monitor the process.

Approval Bodies' Role

- 3.70 Approval Bodies are expected to be accredited specifically for the Metering and Billing Scheme to EN45011 by a European Accreditation Body and comply with its requirements.
- 3.71 An Approval Body is expected to provide guidance to the Communications Provider throughout the Approval process to ensure the implications of the Scheme are fully understood, but will not provide consultancy on such matters.
- 3.72 Approval Bodies are expected to recognise each other's certification, both in the case where a Communication Provider changes Approval Body and where the Total Metering and Billing System for a particular service involves more than one Communications Provider and more than one Approval Body. If agreement cannot be reached on such a matter the Metering and Billing Approval Bodies' Forum will resolve the issue or refer to Ofcom, or utilise the aid of technical experts selected by them and Ofcom.
- 3.73 Under General Condition 11.4, Approval Bodies may utilise the power to "make directions" with which a Communications Provider must comply. This power while given is usually only exercised in agreement with Ofcom.
- 3.74 The selected Approval Body is expected to carry out an Initial Assessment and a Full Assessment on each Communications Provider that has applied to them.
- 3.75 If a Communications Provider that holds an Approval experiences any issues that seriously breach Total Metering and Billing System performance the Approval Body is expected to notify Ofcom of the event. Meetings between the Communications Provider, Approval Body and Ofcom will take place to discuss the appropriate way forward.
- 3.76 In conformity with section 49 of the Act, an Approval Body granting, modifying or withdrawing an Approval will notify such persons as it may judge to be appropriate.
- 3.77 Approval Bodies are expected to make annual reports on progress to Ofcom.

Communication Providers' Role

- 3.78 A Communications Provider will apply to an Approval Body for assessment against the requirements of this Direction.
- 3.79 A Communications Provider will apply appropriate Management Responsibility and Resource to the Metering & Billing Project as outlined in the main body of the Direction.
- 3.80 A Communications Provider will work with the Approval Body to consolidate the Total Metering and Billing System requirements and address issues and/or Non Compliances in agreed timescales.
- 3.81 A Communications Provider will inform the Approval Body of any Total Metering Billing System affecting changes whether organisational, managerial or resource related and work with their Approval Body to resolve them

Metering and Billing Approval Bodies' Forum Role

- 3.82 The Metering and Billing Approval Bodies' Forum is a meeting of representatives of the accredited Approval Bodies. Ofcom may attend with observer status. The Forum exists to ensure all Approval Bodies work in comparable ways and to ensure equitable treatment of all Communications Providers within the Scheme and interpretation of the requirements.
- 3.83 The Metering and Billing Approval Bodies' Forum is expected to resolve any disputes which may arise between Approval Bodies, for example concerning a Total Metering and Billing System which spans more than one Communications Provider and more than one Approval Body.
- 3.84 The Metering and Billing Approval Bodies' Forum is expected to meet at least quarterly to ensure these responsibilities are adequately carried out.
- 3.85 The Metering and Billing Approval Bodies' Forum may periodically invite representatives from Communications Providers, either individually or on an open basis, to join the meeting in order to maintain transparency or to solve specific problems where detailed inputs are deemed to be necessary.

Annex 1

Impact Assessment

What is the issue and why is Ofcom involved

- A1.1 The analysis presented in this annex represents an impact assessment, as defined in section 7 of the Act.
- A1.2 A key feature of electronic communications services is that customers are not readily able to quantify their use or verify their bills with any degree of confidence or accuracy. Unlike in gas and electricity usage, for example, there is no domestic meter to enable customers to monitor their volume of usage. Even services that are apparently more transparent than voice telephony, such as mobile SMS and flat-rate broadband, generate billing complications when it comes to the management of bundles or usage caps. In practice, the sheer volume of services used and the complexity of billing due to the nature of the bundled packages purchased by a consumer make it extremely difficult for a consumer to check that their bill is correct.
- A1.3 As a result, although customers may be able to identify gross errors, to a large extent they have to take the bills they receive on trust. It is therefore important for Ofcom to ensure that such trust is justified, particularly as it seems likely that competition will not deliver consumer protection in this area.

Ofcom's policy objectives

- A1.4 There is a general case for ensuring that customers are correctly charged for their use of communications services. Although the price of communication services continues to fall it still represents a significant proportion of customers' outgoings. In 2006, the average monthly household spend on fixed voice, mobile voice and text, and Internet and broadband was £64.73 which rose to £74.93 if TV services are added. As has been argued above, the case for regulation is in part justified by the lack of transparency associated with the billing process. Customers are not able to oversee the metering process in action in the way that they can look at their utility meters and assess current use on a regular basis. For this reason, bill payers have had to take their bills on trust and have confidence that their use has been accurately recorded and charged for.
- A1.5 Even though itemised billing has improved the quality and range of information available to customers wishing to verify their bills, it is not sufficient as a stand-alone measure. Few residential subscribers are able to maintain detailed call logs in the same way that corporate users do. There are also some services – the obvious example is mobile pre-pay services – which are not billed for at all in the conventional way. In addition, call discounts and the effect of free minutes associated with some telephony packages make verification extremely difficult.
- A1.6 As a result Ofcom has two objectives associated with the metering and billing approval scheme:
- to ensure that customers are not overcharged; and
 - to maintain customer confidence in the accuracy of their bills.

- A1.7 In accordance with Ofcom's regulatory principles, the overall review process has sought the least intrusive regulatory mechanisms to achieve these objectives.

The impact of a revised Direction

- A1.8 Impact Assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. In this case the various regulatory options were considered in Ofcom's previous consultation and statement on the Review of the Ofcom Metering and Billing Scheme, and were subject to Impact Assessments at the time. Both documents are linked from <http://www.ofcom.org.uk/consult/condocs/metering/>

One of the statement's conclusions was that the Oftel Direction should be revised. Accordingly this Impact Assessment, when read with Sections 1 and 3 of this Statement focuses on the likely effect of the Ofcom Direction on stakeholders.

- A1.9 The Impact Assessment made in the consultation preceding this statement did not review a range of policy options because the decision to proceed with the Ofcom Direction had already been taken. However it did conclude that the impact of the direction would be beneficial, both to providers and customers.

Impact on stakeholders

- A1.10 The adoption of the Ofcom Direction offers long-term benefits in the shape of a more workable standard. It is also likely to reduce the costs associated with Ofcom imposing an inappropriate standard. For example, there were instances of communications providers being required to adopt internal procedures simply in order to make a fit with the categories used in the Oftel Direction, say on complaints handling, where the procedures did not, in themselves, enhance billing accuracy.
- A1.11 Ofcom considers that the impact of the modified direction to be positive, both for communications providers and customers. Although we do not expect the headline costs of gaining an approval from an approval body to fall, we recognise that the overall costs of compliance are far wider. They include the internal overhead incurred by the time and commitment communications providers are required to invest in assessing and, where necessary, modifying or upgrading metering and billing systems. Because the Ofcom Direction more accurately reflects current management systems and business models, communications providers' efforts to achieve compliance can be more targeted and the compliance exercise will be more efficient.
- A1.12 Customers will benefit from the Ofcom Direction because it extends to a wider range of services than the Oftel Direction, including broadband and VoIP, thus extending the range of protection. Where problems arise with billing for a new service, these can be more rapidly addressed because the modular format makes it more practicable to extend the scope of the Direction in a timely manner. Customers will also benefit as the Ofcom Direction not only maintains the existing levels of consumer protection but ensures that these levels will be carried forward in a climate of rapid technological and market changes. This is because the Ofcom Direction more directly addresses current services and how they are packaged together and charged for. It is also more adaptable to future developments.

Modifications to General Condition 11

- A1.13 The modifications to General Condition 11 will have no direct impact on stakeholders. They simply reflect clarifications of existing policy, remove redundant sections of the condition or make such modifications as are necessary for the Ofcom Direction to be applied. None of the modifications requires stakeholders to change their behaviour or their processes although they do make General Condition 11 simpler and more comprehensible.

The impact of the modifications to General Condition 11

- A1.14 For the reasons set out above no Impact Assessment of the modifications to General Condition 11 has been undertaken.

Section 3 and section 4 analysis

- A1.15 Ofcom has considered its duties under section 3 of the Act and all the Community requirements set out in section 4. Ofcom's policy objectives in relation to metering and billing regulation may be broadly characterised as furthering the interests of citizens in relation to communications matters and of consumers in relevant markets. The modifications to the Direction and the General Condition meets these objectives because they ensure that customers are not overcharged and will maintain the confidence that customers have in the accuracy of their bills. They will also promote the interests of all persons who are citizens of the European Union because by ensuring the accuracy of metering and billing systems in an appropriate manner.

Annex 2

Notification on General Condition 11 on Metering and Billing

Notification of a modification under section 48 (1) of the Communications Act 2003

Modification to General Condition 11 on Metering and Billing

WHEREAS

- A. OFCOM issued a notification pursuant to section 48(2) of the Act setting out their proposals for the modification of General Condition 11 on Metering and Billing, as set by the General Condition Notification (the “First Notification”);
- B. A copy of the First Notification was sent to the Secretary of State in accordance with section 50(1)(a);
- C. In the First Notification and accompanying explanatory statement, OFCOM invited representations about any of the proposals set out therein by **5 p.m. on 11 January 2008**;
- D. By virtue of section 48(5) of the Act, OFCOM may give effect to any proposals to modify or set General Conditions as set out in the First Notification, with or without modification, where:
 - (i) they have considered every representation about the proposals made to them within the period specified in the First Notification; and
 - (ii) they have had regard to every international obligation of the United Kingdom (if any) which has been notified to them for this purpose by the Secretary of State;
- E. OFCOM received responses to the First Notification and have considered every such representation made to them in respect of the proposals set out in the First Notification and the accompanying explanatory statement; and the Secretary of State has not notified OFCOM of any international obligation of the United Kingdom for this purpose;

THEREFORE

- 1. Ofcom in accordance with section 48 (1) of the Act hereby makes the following modifications to General Condition 11 on Metering and Billing;
- 2. The modification is set out in the Schedule to this Notification;
- 3. The effect of, and Ofcom’s reasons for making, the modification referred to in paragraph 1 above are set out in the accompanying explanatory statement to this Notification;

4. Ofcom considers that the modification referred to in paragraph 1 above complies with the requirements of sections 45 to 50 of the Act, as appropriate and relevant to each of the proposed modifications;
5. In making the modification set out in this Notification, Ofcom has considered and acted in accordance with their general duties in section 3 and of the Act and the six Community requirements in section 4 of the Act;
6. The modification shall enter into force on the date of publication of this Notification.
7. Copies of this Notification and the accompanying statement have been sent to the Secretary of State in accordance with section 50(1)(a) of the Act;
8. In this Notification:
 - a. **“the Act”** means the Communications Act 2003;
 - b. **“General Condition Notification”** means the notification setting General Conditions under section 45 of the Act, issued by the Director General of Telecommunications on 22 July 2003;
 - c. **“Ofcom”** means the Office of Communications;
9. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them in this Notification and otherwise any word or expression shall have the same meaning as it has in the General Condition Notification and otherwise any word or expression shall have the same meaning as it has in the Act.
10. For the purpose of interpreting this Notification:
 - a. headings and titles shall be disregarded; and
 - b. the Interpretation Act 1978 shall apply as if this Act were an Act of Parliament.
11. The Schedule to this Notification shall form part of this Notification.

Claudio Pollack

A person authorised by OFCOM under paragraph 18 of the Schedule to the Office of Communications Act 2002

15 July 2007

Schedule

General Condition 11 has been modified as set out below. The deleted text has been struck through and the added text underlined, both highlighted in yellow for ease of reference. (For reference purposes only, a clean version is also provided.):

11. METERING AND BILLING

11.1 The Communications Provider shall not render any Bbill to an End-User in respect of the provision of any Public Electronic Communications Services unless every amount stated in that Bbill represents and does not exceed the true extent of any such service actually provided to the End-User in question.

11.2 The Communications Provider shall retain such Records as may be necessary, or as Ofcom ~~the Director~~ may from time to time direct are necessary, for the purpose of establishing its compliance with paragraph 11.1 above. Subject to the following, Ofcom ~~the Director~~ may from time to time direct the minimum period for retention of necessary Records by the Communications Provider. This paragraph (and any direction by Ofcom ~~of the Director~~ made under it) applies subject to the requirements of Relevant Data Protection Legislation, and shall not require the Communications Provider to retain any Records for the purposes of this Condition for more than 15 months from the date on which they were created.

11.3 Paragraphs 11.4 to 11.5 8 shall only apply to a Communications Provider where:

- (a) it is a provider of Publicly Available Telephone Services; and
- (b) it has a Relevant Turnover in its most recent complete financial year exceeding £40 million.

11.4 Subject to paragraph 11.3, the Communications Provider shall apply to an Approval Body for Approval of its Total Metering and Billing System, in respect of the Publicly Available Telephone Services it provides and any other Electronic Communications Services it provides as shall be agreed between the Communications Provider and the Approval Body. ~~The Communications Provider~~ and shall obtain Approval for these services ~~such Approval~~, as soon as is practicable. The Communications Provider shall comply with any directions made by the Approval Body in respect of such Approval. For the avoidance of doubt, this obligation applies in respect of any Total Metering and Billing System, whether already in use or newly installed.

~~11.5 Subject to paragraph 11.3, the Communication Provider shall not keep in use after 31 December 2003 any part of its Total Metering and Billing System for which an application for Approval has not been made or Approval has not been granted.~~

11.56 Where an Approval Body does not grant or withdraws Approval from all or part of a Communications Provider's Total Metering and Billing System, that Communications Provider shall, as soon as is reasonably practicable either:

- (a) inform Ofcom ~~the Director~~ of the action to be taken by the Communications Provider to remedy the absence of Approval and the anticipated date of such Approval; or
- (b) inform Ofcom ~~the Director~~ that the Communications Provider intends to cease use of that Total Metering and Billing System (or that part of it) in

accordance with a timetable for its withdrawal which the Communications Provider shall provide to Ofcom ~~the Director~~ on request.

~~11.7 — Where, immediately prior to this Condition coming into force, the Communications Provider held approval for any meter used by it in providing Publicly Available Telephone Services as conforming to OTR003:1993 ('1993 prior approval'), such 1993 prior approval (including any conditions made pursuant to section 24(4) of the Telecommunications Act 1984 and attached thereto) shall continue to have effect until such time as the Communications Provider's Total Metering and Billing System is granted Approval.~~

~~11.8 — Where, immediately prior to this Condition coming into force, the Communications Provider had either applied for or obtained approval of its Total Metering and Billing System as conforming to OTR003:2001 ('2001 prior approval'), such application or 2001 prior approval shall be deemed to be (as the case may be) an application for Approval, or Approval, of the Communications Provider's Total Metering and Billing System.~~

11.6 — Where the Communications Provider holds an approval under the Oftel Metering and Billing Direction or has made an Oftel Approval Application, such approval or application shall be deemed to be an Approval or application for Approval of the Communications Provider's Total Metering and Billing System until 31 December 2010.

11.7 In this Condition,

- (a) "Approval" means an approval granted by an Approval Body where a Communications Provider's Total Metering and Billing System is compliant with the Oftel Ofcom Metering and Billing Direction;
- (b) "Approval Body" means the British Approval Board for Telecommunications (BABT) and the British Standards Institution (BSI);
- (c) "Bill" means the information issued by a Communications Provider to an End-User of the charges levied and due for payment or the information retained by a Communications Provider for the purpose of recording and enabling debits and credits to be applied to an End-User's account;
- ~~(e)~~ (d) "Communications Provider" means a person who provides Public Electronic Communications Services;
- ~~(d)~~ (e) "Oftel Metering and Billing Direction" means a direction made by the Director ~~from time to time~~ on 22 July 2003 under this Condition setting out various requirements relating to metering and billing accuracy;
- (f) "Ofcom Metering and Billing Direction" means the direction made by Ofcom on 15 July 2008 under this Condition setting out various requirements relating to metering and billing accuracy;
- ~~(e)~~ "OTR003:1993" means the Office of Telecommunications Standard for Telecommunications Metering Systems issued on 10 December 1993 in Designation No. Oftel/92/1 under section 24(6) of the Telecommunications Act 1984;
- ~~(f)~~ "OTR003:2001" means the Office of Telecommunications Standard for Metering Systems and Billing Systems issued on 21 December 2001 and redesignated without amendment on 26 June 2002 in Designation No. Oftel/2001/1 under section 24(6) of the Telecommunications Act 1984;

- (g) **"Ofcom Approval Application"** means an application made to an Approval Body for Approval of a Communication Provider's Total Metering and Billing System prior to the date the Ofcom Metering and Billing Direction is made;
- (g)(h) **"Records"** means data or information showing the extent of any network or service actually provided to an End-User and any data or information used in the creation of a Bill for an End-User;
- (h)(i) **"Relevant Turnover"** means annual turnover attributable to the provision of Publicly Available Telephone Services after the deduction of sales rebates, value added tax and other taxes directly related to turnover;
- (i)(j) **"Total Metering and Billing System"** means the totality of all equipment, data, procedures and activities used to determine the charges to be sought for provision and usage of Electronic Communications Services, and/or to present these charges on End-User's Bills. For purposes of clarity, a Total Metering and Billing System incorporates all processing steps from the original recording of a chargeable event to its readiness for presentation on a Bill to the End-User whether performed by one or more Communications Providers.

11. METERING AND BILLING (Clean Version)

11.1 The Communications Provider shall not render any Bill to an End-User in respect of the provision of any Public Electronic Communications Services unless every amount stated in that Bill represents and does not exceed the true extent of any such service actually provided to the End-User in question.

11.2 The Communications Provider shall retain such Records as may be necessary, or as Ofcom may from time to time direct are necessary, for the purpose of establishing its compliance with paragraph 11.1 above. Subject to the following, Ofcom may from time to time direct the minimum period for retention of necessary Records by the Communications Provider. This paragraph (and any direction by Ofcom made under it) applies subject to the requirements of Relevant Data Protection Legislation, and shall not require the Communications Provider to retain any Records for the purposes of this Condition for more than 15 months from the date on which they were created.

11.3 Paragraphs 11.4 to 11.5 shall only apply to a Communications Provider where:

- (a) it is a provider of Publicly Available Telephone Services; and
- (b) it has a Relevant Turnover in its most recent complete financial year exceeding £40 million.

11.4 Subject to paragraph 11.3, the Communications Provider shall apply to an Approval Body for Approval of its Total Metering and Billing System, in respect of the Publicly Available Telephone Services it provides and any other Electronic Communications Services it provides as shall be agreed between the Communications Provider and the Approval Body. The Communications Provider shall obtain Approval for these services as soon as is practicable. The Communications Provider shall comply with any directions made by the Approval Body in respect of such Approval. For the avoidance of doubt, this obligation applies in respect of any Total Metering and Billing System, whether already in use or newly installed.

11.5 Where an Approval Body does not grant or withdraws Approval from all or part of a Communications Provider's Total Metering and Billing System, that Communications Provider shall, as soon as is reasonably practicable either:

- (a) inform Ofcom of the action to be taken by the Communications Provider to remedy the absence of Approval and the anticipated date of such Approval; or
- (b) inform Ofcom that the Communications Provider intends to cease use of that Total Metering and Billing System (or that part of it) in accordance with a timetable for its withdrawal which the Communications Provider shall provide to Ofcom on request.

11.6 Where the Communications Provider holds an approval under the Oftel Metering and Billing Direction or has made an Oftel Approval Application, such approval or application shall be deemed to be an Approval or application for Approval of the Communications Provider's Total Metering and Billing System until 31 December 2010.

11.7 In this Condition,

- (a) "Approval" means an approval granted by an Approval Body where a Communications Provider's Total Metering and Billing System is compliant with the Ofcom Metering and Billing Direction, or until 31 December 2010, the Oftel Metering and Billing Direction;
- (b) "Approval Body" means the British Approval Board for Telecommunications (BABT) and the British Standards Institution (BSI);
- (c) "Bill" means the information issued by a Communications Provider to an End-User of the charges levied and due for payment or the information retained by a Communications Provider for the purpose of recording and enabling debits and credits to be applied to an End-User's account;
- (d) "Communications Provider" means a person who provides Public Electronic Communications Services;
- (e) "Oftel Metering and Billing Direction" means a direction made by the Director on 22 July 2003 under this Condition setting out various requirements relating to metering and billing accuracy;
- (f) "Ofcom Metering and Billing Direction" means the direction made by Ofcom on 15 July 2008 under this Condition setting out various requirements relating to metering and billing accuracy;
- (g) "Oftel Approval Application" means an application made to an Approval Body for Approval of a Communication Provider's Total Metering and Billing System prior to the date the Ofcom Metering and Billing Direction is made;
- (h) "Records" means data or information showing the extent of any network or service actually provided to an End-User and any data or information used in the creation of a Bill for an End-User;
- (i) "Relevant Turnover" means annual turnover attributable to the provision of Publicly Available Telephone Services after the deduction of sales rebates, value added tax and other taxes directly related to turnover;

- (j) “Total Metering and Billing System” means the totality of all equipment, data, procedures and activities used to determine the charges to be sought for provision and usage of Electronic Communications Services, and/or to present these charges on End-User’s Bills. For purposes of clarity, a Total Metering and Billing System incorporates all processing steps from the original recording of a chargeable event to its readiness for presentation on a Bill to the End-User whether performed by one or more Communications Providers.

Annex 3

Notification on the Ofcom Metering and Billing Direction

Notification of a modification under section 49 of the Communications Act 2003

The Ofcom Metering and Billing Direction

WHEREAS

- A. OFCOM issued a notification pursuant to section 49 of the Act setting out their proposals for the modification of the Oftel Metering and Billing Direction, given under Condition 11 on Metering and Billing, as set by the General Condition Notification (the “First Notification”);
- B. A copy of the First Notification was sent to the Secretary of State in accordance with section 50(1)(a);
- C. In the First Notification and accompanying explanatory statement, OFCOM invited representations about any of the proposals set out therein by **5 p.m. on 11 January 2008**;
- D. By virtue of section 49(9) of the Act, OFCOM may give effect to any proposals to make the Direction as set out in the First Notification, with or without modification, where:
 - (i) they have considered every representation about the proposals made to them within the period specified in the First Notification; and
 - (ii) they have had regard to every international obligation of the United Kingdom (if any) which has been notified to them for this purpose by the Secretary of State;
- E. OFCOM received responses to the First Notification and have considered every such representation made to them in respect of the proposals set out in the First Notification and the accompanying explanatory statement; and the Secretary of State has not notified OFCOM of any international obligation of the United Kingdom for this purpose;

THEREFORE

The Ofcom Metering and Billing Direction

- 1. Ofcom in accordance with section 49 of the Act hereby gives the following Ofcom Metering and Billing Direction;
- 2. The Direction is set out in the Schedule to this Notification;
- 3. The effect of, and Ofcom’s reasons for giving the Direction referred to in paragraph 1 above is set out in the accompanying explanatory statement;

4. Ofcom considers that the Direction referred to in paragraph 1 above complies with the requirements of sections 45 to 50 of the Act, as appropriate and relevant;
5. In making this Notification, Ofcom has considered and acted in accordance with their general duties in section 3 of the Act and the six community requirements in section 4 of the Act;
6. The Direction shall enter into force on the date of publication of this Notification;
7. Copies of this Notification and the accompanying statement have been sent to the Secretary of State in accordance with section 50(1)(a) of the Act;
8. In this Notification:
 - a. **"the Act"** means the Communications Act 2003;
 - b. **"General Condition Notification"** means the notification setting General Conditions under section 45 of the Act, issued by the Director General of Telecommunications on 22 July 2003;
 - c. **"Ofcom"** means the Office of Communications;
 - d. **"Ofcom Metering and Billing Direction"** means the direction made by the Director General of Telecommunications on 22 July 2003 under General Condition 11 setting out various requirements relating to metering and billing accuracy, set out in Annex 4 of the Statement on "The Ofcom Metering and Billing Scheme" dated 15 July 2008.
9. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them in this Notification and otherwise any word or expression shall have the same meaning as it has in the General Conditions Notification and otherwise any word or expression shall have the same meaning as it has in the Act.
10. For the purpose of interpreting this Notification:
 - a. headings and titles shall be disregarded; and
 - b. the Interpretation Act 1978 shall apply as if this Act were an Act of Parliament.
11. The Schedule to this Notification shall form part of this Notification.

Claudio Pollack

A person authorized by Ofcom under paragraph 18 of the Schedule to the Office of Communications Act 2002.

15 July 2008

The Schedule

The Ofcom Metering and Billing Direction is modified as set out below:

The Ofcom Metering and Billing Direction is Annex 1 to General Condition 11 as set by the General Condition Notification.

The Ofcom Metering and Billing Direction

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A3.1 Introduction

Purpose

Customers cannot reasonably be expected to check the accuracy of all charges made by Communications Providers for services provided, especially where those charges are based on the extent of End-Users' usage of such services.

This Direction and its Annexes set out the requirements on Communications Providers to ensure that the risk to customers of being overcharged for their use of Public Electronic Communication Services is reduced.

Direction Overview

This Direction requires that the systems and processes used to generate chargeable **Events** and the subsequent pricing of such Events are suitably designed, that they are being operated within their design limits and that there is reported evidence of performance. In the event of overcharging the remedial action is defined in section A3.4.7.

The Direction recognises that there will always be a need to make changes to the underlying systems and processes and requires that any change introduced is risk assessed to ensure that it does not compromise the integrity of the systems.

It also describes the means whereby Customers who suspect that there is an overcharge Event have access to a process to investigate and report on the disagreement in section A3.4.8.

In order to provide the End-Users with confidence, Ofcom uses independent Approval Bodies, who are accredited to approve those Communications Providers who are required to demonstrate compliance.

A3.2 Document Structure

The intention is to make this document easily expandable either in the case that a new service is brought within the scope of the Direction by the addition of a new Annex, or by a voluntary Annex that applies to a particular service acquiring mandatory status. This document contains the following:

Communications Provider Applicability (3)

Section three clarifies the criteria against which Communications Providers need to apply, gain and maintain Approval with this Direction.

Principal Obligations (4)

Section four outlines those obligations which Communications Providers should implement and demonstrate compliance with, and are considered generic to all types of communications services, independent of market segment.

Compliance (5)

Section five describes the process through which Communications Providers can demonstrate compliance with this Direction, and the role of the Approval Bodies.

Notes:

1. Defined terms will be presented in Title Case and can be found in the Definitions & Interpretations (M) Annex. Additionally, the first occurrence (excluding section/subsection titles) of a defined term will be marked in bold.
2. Reference to clause/section numbers will appear in text such as (2) or 2.
3. Annexes can be Mandatory (M), Voluntary (V) or for Guidance (G).
4. Where the term Direction is used throughout the document this includes relevant annexes.

A3.3 Communication Provider Applicability

A3.3.1 Scope

This Direction applies to any Total Metering and Billing System used for either retail or wholesale purposes, or both. It does not apply to an invoice raised by one Communications Provider against another for handling telecommunications traffic passed between their systems e.g. interconnection and settlement charges between Communications Providers.

A Communications Provider is required to comply with this Direction if its Relevant Turnover from End-Users contracted for each mandatory service (as outlined in the Annexes) is more than £40,000,000 on an annual basis (exclusive of VAT and other taxes directly related to turnover). Therefore, not all products and services offered by a Communications Provider are covered by this Direction.

A3.3.2 Initial Applications

Initially, Communications Providers shall apply to an Approval Body within the timescales detailed in Section 5.

A3.3.3 Additional Approvals

There are two options by which additional products and services can be introduced into the Scheme by Communications Providers with an approved Total Metering and Billing System.

In both instances, where there is an existing relationship with an Approval Body, it is for the Approval Body to determine whether an Extension of Scope or an Initial Application is appropriate.

A3.3.3.1 New and Separate Approval

The first is where the Communications Provider has introduced a substantial number of entirely new controls and systems for the new services and products. In this instance, it is appropriate for the new service to be considered as a new and separate application to the Approval Body. The application process is the same as for an Initial Application.

A3.3.3.2 Extension of Scope to an existing Approval

The second is where the Total Metering and Billing System and its controls are not substantially changed by the new product or service. In this instance, the Communications Provider is required to extend the scope of its existing Approval to cover the new product or service.

A new product or service requires a technical change to either the delivery mechanism or the usage mechanism. It is not simply a new combination of products and services, some of which may be in scope and some out of scope, into new 'packages'.

New products and services will be included within the extended scope once the turnover from these products or services represents at least £2,000,000 annual revenue (excluding VAT and other taxes directly related to turnover).

Once a product or service reaches this threshold, the Communications Provider shall apply for an extension of scope within 12 months.

A3.4 Principal Obligations

This section outlines those obligations which Communications Providers should implement and demonstrate compliance with. They are applicable to all types of Public Electronic Communications Services.

This section should be read in conjunction with the relevant Annex depending on the service provided.

A3.4.1 High Level Description

The Communications Provider shall produce a **High Level Description** for each Total Metering and Billing System and agree the content of that description with its Approval Body. A High Level Description is a documented explanation of the Total Metering and Billing System and the associated risks to completeness and accuracy.

The High Level Description referred to above needs to be sufficient to enable a person who has no personal knowledge of the system, but has a reasonable level of technical understanding, to comprehend the principles of the operation and its associated risks.

The High Level Description shall refer to lower level documents such as appraisals so that it is clear how the system and process elements interoperate and how the Communications Provider inter-works with its suppliers of components and services that may impact on the Total Metering and Billing System, and with other Communications Providers.

The High Level Description shall be subject to change control and **Risk Management** throughout the life of the Total Metering and Billing System. Risk Management is an assessment of the risks to the total Metering and Billing System accuracy for impact and likely occurrence.

A3.4.2 Total Metering and Billing System Risk Management

A Communications Provider shall assess risks to the Total Metering and Billing System accuracy for impact and likely occurrence. Mitigation actions for these risks shall be documented. The **Measurement Strategy** is a statement of how risks are to be monitored

and where the occurrence of the risk is measured for reporting on the Total Metering and Billing System performance.

Whenever a change to the Total Metering and Billing System is planned, an impact analysis shall be carried out. This impact analysis shall include a revised risk assessment and will determine the need for any changes to the Measurement Strategy, High Level Description and maintained list / register of risks.

Where the scope of Approval changes either to add or delete products / services, the Approval Body will conduct an assessment of the revised Total Metering and Billing System.

The process of managing risks to Total Metering and Billing System accuracy is subject to audit by the Approval Body.

A3.4.3 Process Management

A Communications Provider shall have and enforce the effective use of procedures and/or documentation covering all aspects of the Total Metering and Billing System.

All business and technical processes that can impact the Total Metering and Billing System shall be included within the scope of a process management system for Approval purposes, including those of related third parties or sub-contractors.

Where no external accredited certification of the process management system exists, it shall be assessed by the Approval Body against the relevant requirements of ISO 9000 or an equivalent standard. Formal certification against ISO 9000 is not a requirement.

The Total Metering and Billing System shall be subject to change control throughout its life.

A3.4.4 Tariffs

A3.4.4.1 Introduction

In order for End-Users to understand the charges appearing on the Bill, the **Tariffs** and rules that determine the Event charges shall be made readily available to those End-Users.

Tariffs shall specify the resolution, rounding, method and the units of measure applied to Events and charges, both at an individual and aggregate level. The expression 'rounded to the penny' defines the resolution, but not the method of rounding.

A3.4.4.2 Rounding and Resolution

Both rounding and resolution influence the charge that appears on the Bill. For example: where rates are quoted in pence per minute, but applied as a rounded rate per second, then multiplied by the duration in seconds, the charge may not be as expected.

Examples of the different effects of Rounding and Resolution when applied to a 1p per minute call lasting one minute				
Rounding Method	Rate Resolution	Rate pence per second	Duration in seconds	Cost in pence
None	n/a	0.016 ^{Recurring}	60	1.00
Up	3 decimal	0.017	60	1.02

	places			
Down	3 decimal places	0.016	60	0.96
Up	2 decimal places	0.02	60	1.20

A3.4.4.3 Tariff Types

There are two types of Tariff, a public domain Tariff and a bespoke Tariff.

a) Public Domain Tariff

A **Public Domain Tariff** is one that can be confirmed by the general public and shall be made available on request. A Public Domain Tariff is a publicly available statement that specifies the charges which a Communications Provider makes for Electronic Communications Services.

In order to overcome the situation whereby two pieces of information purporting to be the public domain Tariff have differing information, the Communications Provider shall publicly identify which takes precedence.

Note: This allows Communications Providers to offer special rates to specific destinations over specified periods through advertising, without having to re-issue the complete Tariff.

Where the End-User is able to make a choice and the Tariff depends upon that choice, then the different Tariffs shall be contained within the public domain Tariff.

Note: This is important for certain types of calls such as those via 118xxx services, Operator Assistance, inadvertent Mobile Network Roaming and 0800 from Mobile Networks.

b) Bespoke Tariff

A **Bespoke Tariff** is confidential between the End-Users and the Communications Provider. The End-Users are provided access to the details of the Tariff through defined processes. A Bespoke Tariff is only available to a single End-User or to a limited class of individual End-Users.

Although End-Users may be initially provided with Tariff information at the point of contract acceptance it may be impractical to have a policy of reissuing Tariff information to End-Users when rates are changed. It is important that End-Users can verify the Tariff should they require to do so.

The information on a Bespoke Tariff is not available to the general public; it is not displayed on a publicly accessible page on a website nor is it disclosed at a contact point. The information could be contained on a password protected page within a website accessible to the End-User.

Where a previous public domain Tariff has been withdrawn from public use, but some End-Users remain on that Tariff, it shall be treated as a Bespoke Tariff, the terms of which shall be disclosed at the request of those End-Users.

Changes to the Bespoke Tariff shall be made in accordance with the documented and agreed change process.

A3.4.4.4 Using the Tariff for Clarification

The **Tariff Schedule** (which is a list of charges) should also be used to provide additional information to the End-User on avoiding and/or understanding perceived errors on the Bill.

The following examples of instances where statements would be of benefit are not exhaustive:

a) Call Bundling

There can be delays between calls completing and being presented on a Bill caused by a number of technical reasons. This can cause problems when an End-User is charged on the basis of a bundle of calls. Whilst every effort will be made to overcome this situation, calls can appear on a Bill not in call start time order and hence may not necessarily be included in the appropriate bundle if calls are made close to the end of a bundle period.

Note: Where such bundling errors occur, they will be evaluated by Approval Bodies according to their real effect on the End-User.

b) Inadvertent Roaming

The End-User will be charged for the call on the network that provided the service, even if this was not the End-User's intended Communications Provider. To prevent a situation where the network used is not the network of choice the End-User should turn off automatic network selection and manually select the preferred network. This ensures that the call is not inadvertently routed over another network at a different cost. This is particularly important in areas close to national borders and when travelling outside the UK where the preferred Communications Provider may have preferential rates with only one of the available networks. Communications Providers will take reasonable steps to publicise the consequences of inadvertent roaming and how to mitigate them.

c) Termination of Mobile Calls

Where a call originating from a mobile device (e.g. handset) is terminated other than by the caller pressing the specific button for that purpose, the network will initially assume that contact between the base station(s) and the handset has been temporarily lost - as when passing under a bridge or through a tunnel. The connection will be maintained and charged for during the first "n" seconds after contact is lost. Should contact be re-established, the call will continue as before. If however, the caller has switched off the phone, run out of battery capacity or moved permanently out of range of any base station etc, the charges for that call will include the "n" seconds. In order to minimise the risk of unnecessary charges, users should be careful to end each call as set out in the user instructions for the handset - e.g. pressing the "End" button.

A3.4.5 Interworking between Communications Providers

Where wholesale service contracts exist between two or more Communications Providers, it shall be for each Communications Provider to satisfy themselves that the services they offer or receive meet the requirements of this Direction. Primary responsibility shall rest with the Communications Provider that holds the contract with the End-User (deemed to be the overall Total Metering and Billing System owner) to ensure that the overall service meets the accuracy standards within this Direction. Evidence of an agreed Measurement Strategy shall be a key feature and shall be regarded as a minimum requirement.

Such contractual agreements shall not expect any individual party to operate their Total Metering and Billing System free from error nor allow an accumulation of errors to exceed the required overall performance standard laid down in this Direction.

Where issues arise that cannot be resolved between Communications Providers in a reasonable timeframe, escalation shall be first to the appropriate Approval Body (or Bodies) concerned, who shall seek to resolve differences, and then to Ofcom if a resolution cannot be achieved.

Figures 1, 2 and 3 in this section highlight the Total Metering and Billing System variations that can exist. The figures indicate how the Direction should be applied in each set of circumstances.

Figure 1 - Example of a Mixed Total Metering and Billing System

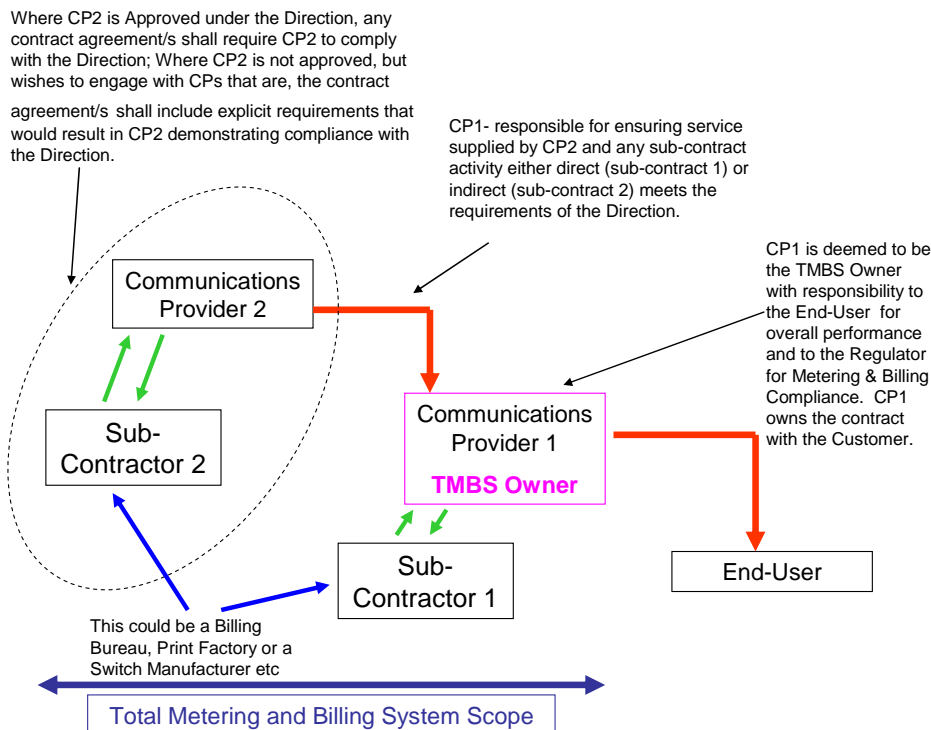


Figure 1 - Example of a Mixed Total Metering and Billing System

Figure 2 - Example of a Mixed Total Metering and Billing System

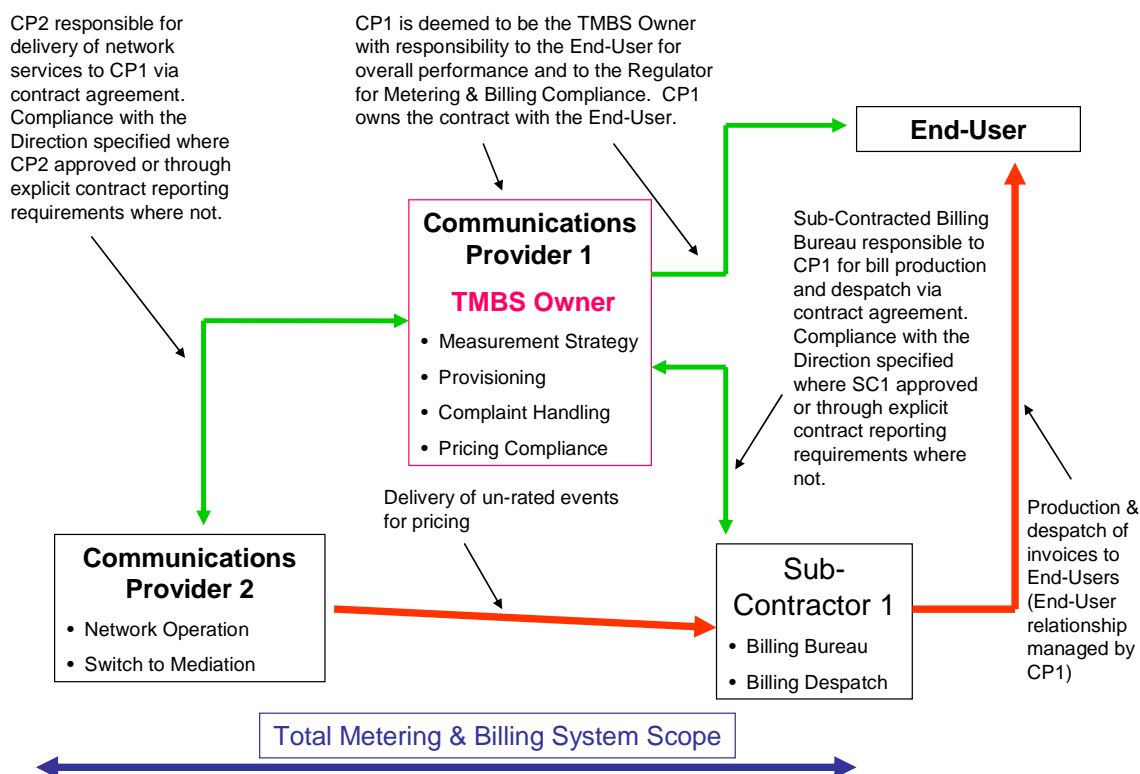


Figure 2 - Example of a Mixed Total Metering and Billing System

Figure 3 - Example of a Mixed Total Metering and Billing System

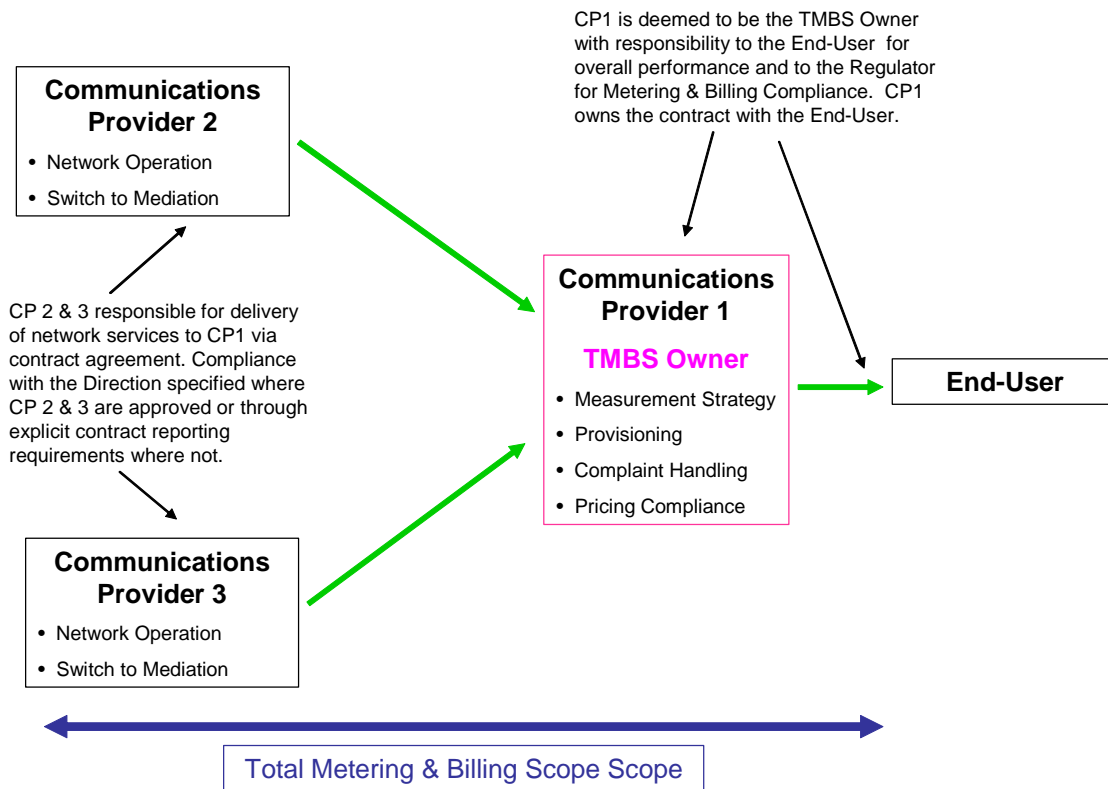


Figure 3 - Example of a Mixed Total Metering and Billing System

Where a Communications Provider owns part (or all) of the overall Total Metering and Billing System and receives a service from a non-Approved source, either from another Communications Provider or via a sub-contractor, they shall ensure the quality of that service either by direct reference to compliance with the Direction or by including explicit requirements that would result in such compliance.

A3.4.6 Total Metering and Billing System Measurement Strategy

A3.4.6.1 Purpose

The Communications Provider shall produce a Measurement Strategy for each Total Metering and Billing System and agree its content with its Approval Body. The High Level Description (4.1) and Risk Management (4.2) assessments of the Total Metering and Billing System will determine the content of the Measurement Strategy.

The purpose of the strategy is to describe the measurements to be taken and supporting controls that the Communications Provider shall produce, and undertake, to demonstrate the performance of the Total Metering and Billing System, as described in 4.1 and 4.2.

A3.4.6.2 Reporting

The Measurement Strategy shall specify the type and frequency of regular reports from operational or assurance systems demonstrating accuracy against the relevant tolerances.

Where a number of measurements are combined to provide an overall measure to demonstrate accuracy the method of calculation shall be described.

The Total Metering and Billing System Measurement Strategy shall be subject to change control throughout the period of its application..

A3.4.7 Assessment of Performance

A3.4.7.1 Introduction

Measures shall be produced in accordance with the agreed Measurement Strategy, with accuracy limits reflecting the different charge types for usage and non-usage Events. This section outlines the generic measurement criteria applicable to all services. Product specific limits and tolerances are defined in the relevant annex. The inaccuracy limit defines the maximum number of permitted tolerance errors.

A3.4.7.2 Routine Performance

The Communications Provider shall maintain performance of the Total Metering and Billing System within the required accuracy limits over a rolling 12 month period. Where there is a failure to maintain **Routine Performance** remedial action will be agreed with the Approval Body. Routine Performance is a state in which the performance of the Total Metering and Billing System falls within the required accuracy limits over a rolling 12 month period.

A3.4.7.3 Extraordinary Performance Failure

When performance exceeds four times the accuracy limit in any one month, the following actions shall be followed:

- a) The Approval Body shall be informed within five working days of the performance failure being identified.
- b) End-Users shall not be financially disadvantaged, but where individual End-Users cannot be identified the Communications Provider shall derive no financial benefit from the failure, either by donating an equivalent sum to charity or by an adjustment of tariffs.
- c) An initial recovery plan shall be made available to the Approval Body as soon as practicable but no later than ten working days after the initial notification of the performance failure.
- d) The performance failure, impact and recovery plan shall be recorded and reviewed at regular Approval review meetings and in planned audit and assessments.
- e) Root cause and impact analysis shall be carried out and corrective actions recorded.
- f) The impact of **Extraordinary Performance Failure** (which is when performance exceeds four times the accuracy limit in any one month) shall be presented along with the Routine Performance results to the Approval Body when measurement results are required.

The Approval Body shall assess the frequency and severity of all Extraordinary Performance Failures collectively. Should this exceed the threshold level of three **Category 2** occurrences within a rolling 12 month period, a full review by the Approval Body of the Total Metering and Billing System shall take place to re-establish fitness for Approval.

A3.4.7.4 Delayed Events

Chargeable Events (which are Events that give rise to a charge) may be delayed for a number of reasons but shall be included in a Bill no later than:

- a) the next Bill, when Bills are rendered quarterly or less frequently;
- b) when Bills are rendered monthly, the fourth monthly Bill after the chargeable Events occurred; or
- c) where an End-User is not subject to a standard consumer contract and a prevailing bespoke contract exists it is permissible to specify in that contract the acceptable delay to Billing Events.

Any chargeable Event details not so presented shall not be subsequently Billed.

Agreement between the Communications Provider and the Approval Body to extend the time scales described in A3.4.7.4 shall be subject to written agreement with Ofcom.

Note: Late or lost Events should normally be counted for measurement purposes as relating to the period when they should have been Billed. If this is impracticable, it is acceptable to count them when they are written off.

A3.4.7.5 Timing Effect on Bundled Events

When clarity of information permits, a statement of bundle timing intervals shall be included in public domain or Bespoke Tariffs.

Where the timely allocation of Events to bundles is not practicable (e.g. Total Metering and Billing System recovery following a failure) and as a means of ensuring that the End-Users affected are not disadvantaged, the actions set out under sections A3.4.7.2 and A3.4.7.3 as appropriate shall apply.

A3.4.7.6 Timely Despatch of Bills

The Communications Provider shall ensure that an effectual Bill or Bill data file delivery schedule is in place.

The timeliness of Bill Issue or Bill data file Issue shall be subject to systematic processes.

A3.4.8 Individual Bill Accuracy

A3.4.8.1 Introduction

The Measurement Strategy will measure overall Total Metering and Billing System performance and is not designed to capture inaccuracies on individual Bills. A Communications Provider shall employ processes for receiving, identifying, investigating and dealing with incorrect charges, including processes whereby End-Users can readily question the accuracy of their charges.

A3.4.8.2 Error Handling and End-User Complaints

When a Communications Provider identifies that an End-User has been overcharged, either through a End-User enquiry or from internal identification, appropriate and proportionate corrective action shall be undertaken.

The Communications Provider shall carry out a root cause analysis for verified overcharges, identify the cause and establish proportionate remedial action to correct it. Where the root cause affects multiple End-User accounts, then all affected Bills shall, if practicable, be included in a recovery programme (A3.4.7.2 and A3.4.7.3).

A3.4.8.3 Detection of Gross Billing Errors

A Communications Provider shall employ a suitable mechanism, agreed with its Approval Body, for the detection of **Gross Billing Errors**, which are Bills that contain significant deviations from the expected norm. The precise nature of this mechanism will vary from one TMBS to another, but will usually be derived from existing management controls and reports. Typically it may involve any or all of the following:

- a) Detection of any bill which differs by a settable percentage from historical bills for that particular End-User or circuit;
- b) Detection of any billing run which differs in total value by a settable percentage from historical billing runs that would be expected to be similar;
- c) Trend analysis of rejected chargeable Events;
- d) Manual analysis / recalculation of a representative sample of bills;
- e) Specific analysis of the reasons for unexpected reports produced by Mediation / Rating / Billing systems etc.”

For the purposes of this Direction, Communications Providers can make use of any data provided to Ofcom for another purposes e.g. providing Quality of Service data. If not subject to dispute with Ofcom and agreed to be suitable by the Approval Body, this data need not be separately audited.

A3.5 Compliance with this Direction

The Communications Provider shall provide the Approval Body with access to all people, locations, **Equipment** and data necessary to establish compliance with this Direction.

The Communications Provider shall nominate a senior manager, ideally a Board Member, to manage the relationship with Ofcom for the successful compliance with the Ofcom Metering and Billing Direction by the Communications Provider.

The responsibility of the nominated person is to provide the strategic direction for the implementation of the Direction within a Communications Provider, to act as the escalation point for the Approval Body and to ensure that an Ofcom Billing Accuracy Programme Manager is appointed, ensuring that they are of sufficient capability and experience to carry out the role.

The day-to-day operational management shall be delegated to the Ofcom Billing Accuracy Programme Manager, who shall have responsibility for maintaining compliance internally within the Communications Provider. The Ofcom Billing Accuracy Programme Manager will be the point of contact between the Approval Body and the Communications Provider. The Approval Body shall confirm the capability and appointment of this manager.

The timetable required for this process is as follows:

Milestone	No later than
Application for Approval	12 months of reaching Relevant Turnover
Agreed plan between Communications Provider and Approval Body	24 months of reaching Relevant Turnover
Initial Approval gained	48 months of reaching Relevant Turnover

Any deviations from this timetable shall be agreed with Ofcom.

A3.5.1 The Assessment Process

In general, compliance with this Direction shall be determined by assessments and measurements as set out below:

A3.5.1.1 Approval Body appointment

Once it has been determined that a Communications Provider should be complying with the Direction, either through a voluntary or mandatory route, the Communications Provider selects an Approval Body. Each Approval Body is independent and accredited to approve Communications Providers; their details may be found on Ofcom's website. However, their approaches to achieving Approval are not necessarily the same, and therefore the Communications Provider should choose an Approval Body that is suitable.

A3.5.1.2 Initial Meeting

The Communications Provider shall meet with the Approval Body to determine the extent of the Total Metering and Billing System to be assessed. The Communications Provider and the Approval Body will develop a joint and agreed plan, showing the scope of Approval, resources, activities, dependencies and timescales required by both parties. This plan is submitted to Ofcom by the Approval Body for endorsement. This endorsement confirms that the projected progress is acceptable to Ofcom and sets out how the Communications Provider and Approval Body will meet the deadline for achieving Approval.

A3.5.1.3 Initial Assessment

The Communications Provider must submit its technical / functional design documentation of the applicable Total Metering and Billing System in accordance with A3.4.1, and A3.4.2 to the Approval Body for initial assessment.

Assessment will typically include, but not be limited to, the following:

- Tariff, and Pricing, management processes
- Transaction Data processing activities
- Billing Operational & Audit processes
- Customer Management Processes
- Network data transaction processes
- Customer and Product Reference Data integrity processes
- Timeliness of processes
- Complaints handling

Note: where specified processes are audited under an accredited Quality or Financial Audit process, the Approval Body will take into account the documented audit findings.

A3.5.1.3 a) Revision of the plan

Revisions to the plan, which remains a live document, are to be made no less than annually, once Assessments commence and further Total Metering and Billing System requirements and actions come to light. Any significant slippage or amendments to the plan end date will be subject to Ofcom review and re-approval of the plan.

A3.5.1.4 Main Assessment

The main assessment conducted by the Approval Body shall comprise:

a) System Design

The Approval Body will review the High Level Description and the lower level appraisal documents to ensure that there are no inherent weaknesses within the

design and that it is capable of delivering the performance standards required by this Direction.

b) System Process Management

The Approval Body will assess the processes surrounding the operation of the Total Metering and Billing System to ensure that these processes are being operated correctly to achieve compliance with the requirements of the Direction.

c) System Performance

The Approval Body will assess the ongoing performance of the Total Metering and Billing System in meeting the standards in this Direction by means of a Measurement System as defined in the agreed Measurement Strategy document. The requirement is for a rolling 12 months' results to be presented. However, based on the stability of the results presented, the Approval Body may, at its discretion, recommend Approval prior to all of the initial 12 months' data being collected, subject to a minimum of six months' data having been collected in the case of a first approval.

d) Conducting Assessments

Audits will be scheduled in accordance with the agreed plan which will incorporate a mix of internal/third party and external Approval Body audits. Audit reports and relevant findings from all sources will be documented by the Approval Body and agreed with the Communications Provider. Findings will be Categorised and recorded. Communications Providers may appeal against the Categorisation of any matter by following the Approval Body's documented Appeal Process (provision of such a process is required by EN 45011).

e) Tracking Corrective Actions

The Approval Body will agree with the Communications Provider a process for documenting, tracking and addressing non Compliances and Deficiencies by means of Corrective Action.

A3.5.2 Approval and Certification

Once the Approval Body has satisfied itself that all the requirements for Approval have been met, it will publicise its intention to approve the Communications Provider and offer a one month consultation period. Such a proposal would be subject to the formal public Notification procedure required under section 49 of the Communications Act 2003.

At that point, other parties are able to ask questions of the Approval Body on the background and basis of the decision to grant Approval.

Once any queries arising have been satisfactorily resolved, the Approval Body issues a Certificate of Approval. The Communications Provider's Approval number and scope are published on Ofcom's website.

A3.5.3 Maintenance of Approval

Once Approval has been granted, the Communications Provider is required to maintain its Approval. This is achieved through the on-going audit and surveillance of the Total Metering and Billing System by the Approval Body.

Changes to the Total Metering and Billing System continue to be assessed through the review of appraisals of the key parts of the system.

The ongoing performance is reported monthly through the presentation of results to the Approval Body.

Should there be compliance related issues, these will be documented and Categorised. All Category 1 matters (for an existing Approval) shall be reported by the Approval Body to Ofcom.

In the case of a dispute arising between the Approval Body and the Communications Provider that they cannot resolve themselves, the parties may elect to take the dispute to Ofcom for resolution.

A3.5.3.1 Change of Approval Body

Where a Communications Provider changes Approval Body, the Approval Bodies are expected to recognise each other's certification.

The Communications Provider is able to initiate a change of Approval Body once the initial Approval has been achieved. However, in order to prevent switching being used to circumvent poor performance, Ofcom has to sanction the transfer and will monitor the process as necessary. Handover will be subject to a mutually agreed action list and time scale.

A change of Approval Body may also occur in circumstances where an Approval Body is no longer able to continue serving a Communications Provider.

A3.5.3.2 Recertification

The certificate is subject to periodic renewal by the Approval Body. Prior to any such renewal, the Approval Body will perform a re-certification exercise and assess the findings of the surveillance visits, audits and measures before determining whether to confirm continuation of the Communications Provider's Approval.

A3.5.4 Change of Scope of Approval

Where the scope of Approval changes either to add or delete products / services, the Approval Body will conduct an assessment of the revised Total Metering and Billing System, using the above process.

Note: When the Approval Body adds additional items to the scope of an Approval not requiring a technical change this will require an Approval Certificate amendment

A3.5.5 Withdrawal of Approval

Withdrawal of Approval can occur in one of two ways.

5.5.1 The product or service being offered by the Communications Provider is no longer covered by the Direction, either through a change in the scope, or through the reduction in the Relevant Turnover.

5.5.2 The Communications Provider's performance and actions are such that continued certification would contradict the requirements of General Condition of Entitlement 11 and the Ofcom Metering and Billing Direction.

Annex List - Mandatory

In addition to the general obligations and principles contained in the main body of the Direction, the following annexes have been developed to give more specific information. They are either mandatory or voluntary.

Mandatory annexes	Date of latest issue:
Annex List	15 July 2008
A Definitions and interpretations	15 July 2008
B Fixed PATS	15 July 2008
C Mobile PATS	15 July 2008
Voluntary annexes	
D High Speed Internet (Broadband)	15 July 2008
E VOIP, all access networks	15 July 2008
F Undercharging Detrimental to End-Users	15 July 2008

Annex A

Definitions and Interpretations

Term	Definition and Interpretations	Notes
Category (Categorisation)	<p>Category 1:</p> <ul style="list-style-type: none"> A major Non-Compliance or Deficiency preventing the issue or continuance of Approval for which corrective action must be undertaken urgently. In view of the grave consequences of a Category 1 matter, it is expected that a Communications Provider will resolve it as a matter of the utmost importance. In any event a detailed corrective action plan must be agreed within one month and put into effect within four months. All Category 1 matters for an existing Approval are to be reported by the Approval Body to Ofcom. As a Category 1 matter has the potential to constitute a breach of Condition 11, Ofcom reserves the right at its own discretion to provide guidance when a resolution is sought. One resolution would be to amend the scope of Approval until satisfactory Corrective Action has been undertaken. Withdrawal of an Approval will only take place after discussion between Ofcom, the Approval Body and the Approval holder. Such a proposal would be subject to the formal public Notification procedure required under 	The Categorisation of Non-Compliances, Deficiencies and Observations.

	<p>section 49 of the Communications Act 2003.</p> <p>Category 2:</p> <ul style="list-style-type: none"> • A Non-Compliance or Deficiency; which is a matter of concern. It is to be resolved within a period agreed with the Approval Body, but not exceeding 24 months. • In any event a detailed corrective action plan must be agreed and put into effect within four months. Categorisation: the accumulation of Category 2 matters may result in a Category 1 matter being raised. <p>Category 3:</p> <ul style="list-style-type: none"> • A Deficiency worthy of consideration by the Communications Provider, possibly leading to corrective and / or preventative action, but not of sufficient importance to warrant Category 1 or 2 status. <p>Note that an Observation generally comes below "Category 3" in seriousness.</p>	
Equipment	all the hardware and software and/or firmware necessary for the correct operation of a function.	
Event	the use of Event is intended to overcome a future services issue where a charge can range from e.g. a telephone call, data download, access, content, bandwidth or non-usage based e.g. recurring charges.	<p>Note 1: The term Event can be usage charged for by duration as in a telephone call. Another example is the transmission of data, which could be charged for by counting the number of bytes or data packets required.</p> <p>Note 2: Events may occur without having been initiated</p>

		by the user. An example would be charges for the terminating leg of a call. Where charges apply to both the origination and termination of the same call, two distinct Events will have occurred. Examples are call diversion or mobile telephone roaming.
Event overcharged	means either: (a) a chargeable Event for which the charge to the End-User exceeds that calculated on the basis of the applicable published Tariffs, or Bespoke Tariffs; or (b) any other incident which results in a charge being logged or added erroneously to the Bill.	An example of (b) is multiple entries relating to the same service usage
Event undercharged	a chargeable Event, either : (a) for which the charge to the End-User is lower than that calculated on the basis of published Tariffs, or Bespoke Tariffs; or (b) which has been omitted from the logged record or Bill owing to an incident; and which is not excluded from Measurement.	An example of (b) is the loss of call records as a result of a switch restart.
Interconnect	the passing of communications traffic between the systems of two or more Communications Providers	
Interworking	the passage of usage data between Communications Providers which will result in an entry and/or charge on an End-User's Bill	
Issue	the action whereby the Communications Provider, having completed preparation of a Bill, passes	The Communications Provider has completed preparation of the Bill if any further processing still to be

	it to the delivery agent or posts the information electronically.	performed by the delivery agent is for presentational purposes only.
Ofcom Billing Accuracy Programme Manager	the Ofcom Billing Accuracy Programme Manager shall have the authority to enforce compliance internally within the Communications Provider. The Ofcom Billing Accuracy Programme Manager will be the point of contact between their Communications Provider and Approval Body.	
Tariff	means publicly available statements (unless it is a Bespoke Tariff, see section A3.4.4.3) that specify the charges which a Communications Provider makes for Electronic Communications Services; Note: The term is intended to cover paper documents made available for public inspection, statements published in periodicals, advertisements, information published on the Internet, and the like.	

Annex B

Fixed Publicly Available Telephony Service - Mandatory

Note: This Direction does not apply to Public Pay Telephones.

2. Communications Provider Inclusion Thresholds

2.1 Initial Application

A Communications Provider shall apply for Approval when the Relevant Turnover from fixed access network Publicly Available Telephone Service exceeds £40million per annum (exclusive of VAT and other taxes directly related to turnover).

2.2 Extension of Scope

Where a Communications Provider introduces a new product or service that utilises the majority of the same elements as an existing Approved Publicly Available Telephone Service, e.g. it is delivered utilising a switched voice channel, mediated through an existing mediation device and Billed through an existing Billing engine any two of which are covered by an existing Total Metering and Billing System, then the Communications Provider shall apply for a suitable extension of scope when the turnover from this product or service reaches £2million per annum (exclusive of VAT and other taxes directly related to turnover). Other examples can be found in this Direction.

It will be for the Approval Body to determine whether a product or service falls into the category of Extension of Scope or Initial Application described above.

3. Description of Service

A Publicly Available Telephone Service Total Metering and Billing System utilises two distinct types of **Events** for charging purposes.

3.1 Usage Events

These are Event records that are generated by a telecommunications switch, triggered by the use of a Publicly Available Telephone Service by the End-User.

3.2 Non-Usage Events

These are sub-divided into two categories and cover the Event records not triggered by the use of a Publicly Available Telephone Service by the End-User.

3.2.1 Non-Recurring Events

These include costs for the provision, change, suspension or removal of services, products and equipment. They are likely to be actions that do not result in the creation of a usage Event record.

Note: Provision includes both cease and re-provision processes.

3.2.2 Recurring Events

These include subscriptions and rentals for equipment or availability that are applied on a regular basis to the Bill irrespective of any usage or non-usage Event.

4. Allowable Tolerances

These tolerances determine the Events in error that will be applied to the limits in 5 below.

Unless otherwise stated, these tolerances apply to the units of measure used in the systems being measured. Measurement results can be presented as a ratio or percentage.

4.1 Usage Events

	Variable	Allowable Measurement Tolerance
a.	Duration	+1 second or +0.01% (whichever is less stringent)
b.	Time of Day	+ or – 1 second
c.	Count of Charges	+0.004% (1:25K)
d.	Value of Charges	0.1p

d. Value of Charges

The actual charge per usage Event, e.g. a Call Detail Record, shall be within 0.1p of the expected charge. Where rounding information is publicly available then the tolerance shall be + 0.1p of the rounded value for individual call charges. If no rounding is published then the same tolerance shall apply to the recorded value.

4.2 Non-Usage Non-Recurring Events

	Variable	Allowable Measurement Tolerance
a.	Duration	n/a
b.	Time of Day	n/a
c.	Count of Events	+0.05% (1:2K)
d.	Value of Charges	1p

4.3 Non-Usage Recurring Events

	Variable	Allowable Measurement Tolerance
a.	Duration	+1 day
b.	Time of Day	n/a
c.	Count of Events	+0.01% (1:10K)
d.	Value of Charges	1p

Notes:

1. Where the Recurring Event charge is based upon whole days, the start of the period is the day on which the service was first provided and the end is the day on which the service was de-provisioned, irrespective of the time of that provision, unless otherwise stated in the Tariffs.
2. Duration: shall be within +1 day on the entire lifetime of the rental or equivalent.

5. Measurement Limits

Performance of the Total Metering and Billing System shall be assessed on the basis of how many errors in charging are made. An error will be defined by tolerance levels being exceeded.

It is not practicable to combine accuracy limits into a single quantity for values (£) and the numbers of Events counted or recorded. This requires that the accuracy requirement is separated into three elements for the purposes of demonstrating compliance with the limits in this section.

The tolerances in 4 above determine Event errors that are to be applied to these limits.

Value Overcharged (Billing)

Each Value Overcharged (Billing) measure has an individual limit because all are significantly material.

A Value Overcharged (Billing) limit (a) is the total calculated value of the Count of Events Overcharged (b) and Over Recorded (c).

Count of Events Overcharged and Over Recorded

There will be several orders of magnitude between the numbers of Usage Events when compared with the number of Non-Usage Events during any specified period. Usage Events are measured with the limits in 5.1.1 b & c below.

As described in 3.2 above Non-Usage Events consist of either Non-Recurring Events or Recurring Events. The type of transaction errors produced by these Events will not be significantly material and for this reason limits are not needed. A Value Overcharged (Billing) measure of these Events is sufficient and for this reason there are no limits in 5.1.2.1 b & c or 5.1.2.2 b & c below.

£600 Discretionary Threshold

Where a Communications Provider has a total relevant turnover of less than £360 million per year (exclusive of VAT and other taxes directly related to turnover), the sum total of Value Overcharged (Billing) for each individual calendar month shall not exceed £600.

Without this discretionary threshold of £600 per month $[(£360,000 / £50,000) / 12]$ a Communications Provider with a lower turnover would have a limit which is not practicable, for example £40million turnover (exclusive of VAT and other taxes directly related to turnover) has an over Billing upper limit of $(£40,000,000 / £50,000) / 12$ or £67 per month.

5.1 Charge consistency

All charges shall be consistent with the Tariffs to the levels specified below:

5.1.1 Usage Events

	Usage Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.002% (£1:£50k)
b.	Count of Events Overcharged	0.002% (1:50k)
c.	Events Over Recorded	0.002% (1:50k)

a Value Overcharged (Billing)

This is the total value of the errors from b & c.

b Count of Events Overcharged

Typically includes Events charged that should not have been charged, charged at the wrong rate and duplicate charged Events.

c Events Over Recorded

Typically includes duplicate usage Events and usage Events with start time and / or duration incorrect by more than the allowable tolerances.

5.1.2 Non-usage Events

5.1.2.1 Non-Recurring:

	Non-Recurring Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.04% (£1:£2.5k)
b.	Count of Events Overcharged	n/a
c.	Events Over Recorded	n/a

a Value Overcharged (Billing)

Is the total calculated value of b & c above, including duplicate, incorrectly charged and those charged for but not implemented.

5.1.2.2 Recurring Events:

	Recurring Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.01% (£1:£10k)
b.	Count of Events Overcharged	n/a
c.	Events Over Recorded	n/a

a Value Overcharged (Billing)

is the total calculated value of b & c above, including duplicate, incorrectly charged and those charged for but not implemented within the tolerances specified.

5.2 Monitoring Constraints

It is recognised that not all Billing systems can separate charges by type. In these circumstances the sum of the over charged values should be measured against the total revenue stream and shall not exceed the most stringent of the above requirements.

5.3 Period of Measurement

The results shall be based on a rolling 12 month average of performance.

6. Additional Notes and Exceptions

6.1 Where an item of service usage is completed other than intended, but the charge applied is correct for the service as delivered, this shall not be regarded as an overcharged Event.

Note: Examples include such occurrences as wrong numbers.

6.2 The increase in duration of items of service usage resulting from degraded transmission performance shall not be taken into account when computing the performance of the system.

Note: Such degradation may result in the repetition of voice or data messages.

Annex C

Mobile Publicly Available Telephony Service - Mandatory

2. Communications Provider Inclusion Thresholds

2.1 Initial Application

A Communications Provider shall apply for Approval when the Relevant Turnover from mobile access network Publicly Available Telephone Service exceeds £40 million per annum (exclusive of VAT and other taxes directly related to turnover).

2.2 Extension of Scope

Where a Communications Provider introduces a new product or service that utilises the majority of the same elements as an existing Approved Publicly Available Telephone Service, e.g. it is delivered utilising a switched voice channel, mediated through an existing mediation device and Billed through an existing Billing engine any two of which are covered by an existing Total Metering and Billing System, then the Communications Provider shall apply for a suitable extension of scope when the turnover from this product or service reaches £2million per annum (exclusive of VAT and other taxes directly related to turnover). Other examples can be found in this Direction.

It will be for the Approval Body to determine whether a product or service falls into the category of Extension of Scope or Initial Application described above.

3. Description of Service

A mobile access Publicly Available Telephone Service Total Metering and Billing System utilises two distinct types of Events for charging purposes.

3.1 Usage Events

These are Event records that are generated by a telecommunications switch, triggered by the use of a Publicly Available Telephone Service by the End-User.

3.2 Non-Usage Events

These are sub-divided into two categories and cover the Event records not triggered by the use of a Publicly Available Telephone Service by the End-User.

3.2.1 Non-Recurring Events

These include costs for the provision, change, suspension or removal of services, products and equipment. They are likely to be actions that do not result in the creation of a usage Event record.

Note: Provision includes both cease and re-provision processes.

3.2.2 Recurring Events

These include subscriptions and rentals for equipment or availability that are applied on a regular basis to the Bill irrespective of any usage or non-usage Event.

3.3 Billing

A mobile Publicly Available Telephone Service uses two distinct types of billing, both of which are covered by the Direction.

3.3.1 Pre-Pay Charging

a These are charges deducted individually from a diminishing credit balance. The outstanding credit balance can be increased through the payment of additional monies or credits onto the account.

b Individual Billing Accuracy is not applicable to pre-Pay services in that a End-User is not presented with a Bill. In this instance the requirements set out in 4.8 of the main body of this Direction shall apply to the application of credits and debits to the account.

c Timeliness of Billing is not applicable to pre-Pay services. The End-User shall have the usage Event charge deducted from the outstanding credit balance during a usage Event and will expect to be disconnected once the credit has expired. For non-recurring non-usage events, such as tone downloads, the End-User shall have the full amount deducted at the end of the non-usage Event.

3.3.2 Post-Pay Charging

These are charges aggregated onto a Bill and submitted to the End-User for payment.

The assessment of performance for post paid charging is the same as that applied to fixed access PATS.

4. Allowable Tolerances

These tolerances determine the Events in error that will be applied to the limits in 5 below. Unless otherwise stated, these tolerances apply to the units of measure used in the systems being measured. Measurement results can be presented as a ratio or percentage.

4.1 Usage Events

	Variable	Allowable Measurement Tolerance
a.	Duration	+1 second or +0.01% (whichever is less stringent)
b.	Time of Day	+ or – 1 second
c.	Count of Charges	+0.004% (1:25K)
d.	Value of Charges	0.1p

d. Value of Charges

The actual charge per usage Event, e.g. a Call Detail Record, shall be within 0.1p of the expected charge. Where rounding information is publicly available then the tolerance shall be + 0.1p of the rounded value for individual call charges. If no rounding is published then the same tolerance shall apply to the recorded value.

4.2 Non-Usage Non-Recurring Events

	Variable	Allowable Measurement Tolerance
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a.	Duration	n/a
b.	Time of Day	n/a
c.	Count of Events	+0.05% (1:2K)
d.	Value of Charges	1p

4.3 Non-Usage Recurring Events

	Variable	Allowable Measurement Tolerance
a.	Duration	+1 day
b.	Time of Day	n/a
c.	Count of Events	+0.01% (1:10K)
d.	Value of Charges	1p

Notes:

1. Where the Recurring Event charge is based upon whole days, the start of the period is the day on which the service was first provided and the end is the day on which the service was de-provisioned, irrespective of the time of that provision, unless otherwise stated in the Tariffs.
2. Duration: shall be within +1 day on the entire lifetime of the rental or equivalent.

5. Measurement Limits

Performance of the Total Metering and Billing System shall be assessed on the basis of how many errors in charging are made. An error will be defined by tolerance levels being exceeded.

It is not practicable to combine accuracy limits into a single quantity for values (£) and the numbers of Events counted or recorded. This requires that the accuracy requirement is separated into three elements for the purposes of demonstrating compliance with the limits in this section.

The tolerances in 4 above determine Event errors that are to be applied to these limits.

Value Overcharged (Billing)

Each Value Overcharged (Billing) measure has an individual limit because all are significantly material.

A Value Overcharged (Billing) limit (a) is the total calculated value of the Count of Events Overcharged (b) and Over Recorded (c).

Count of Events Overcharged and Over Recorded

There will be several orders of magnitude between the numbers of Usage Events when compared with the number of Non-Usage Events during any specified period. Usage Events are measured with the limits in 5.1.1 b & c below.

As described in 3.2 above Non-Usage Events consist of either Non-Recurring Events or Recurring Events. The type of transaction errors produced by these Events will not be significantly material and for this reason limits are not needed. A Value Overcharged (Billing) measure of these Events is sufficient and for this reason there are no limits in 5.1.2.1 b & c or 5.1.2.2 b & c below.

£600 Discretionary Threshold

Where a Communications Provider has a total relevant turnover of less than £360 million per year (exclusive of VAT and other taxes directly related to turnover), the sum total of Value Overcharged (Billing) for each individual calendar month shall not exceed £600.

5.1 Charge consistency

All charges shall be consistent with the Tariffs to the levels specified below:

5.1.1 Usage Events

	Usage Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.002% (£1:£50k)
b.	Count of Events Overcharged	0.002% (1:50k)
c.	Events Over Recorded	0.002% (1:50k)

a Value Overcharged (Billing)

This is the total value of the errors from b & c.

b Count of Events Overcharged

Typically includes Events charged that should not have been charged, charged at the wrong rate and duplicate charged Events.

c Events Over Recorded

Typically includes duplicate usage Events and usage Events with start time and / or duration incorrect by more than the allowable tolerances.

5.1.2 Non-usage Events

5.1.2.1 Non-Recurring:

	Non-Recurring Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.04% (£1:£2.5k)
b.	Count of Events Overcharged	n/a
c.	Events Over Recorded	n/a

a. Value Overcharged (Billing)

Is the total calculated value of b & c above, including duplicate, incorrectly charged and those charged for but not implemented.

5.1.2.2 Recurring Events:

	Recurring Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.01% (£1:£10k)
b.	Count of Events Overcharged	n/a
c.	Events Over Recorded	n/a

a. Value Overcharged (Billing)

Is the total calculated value of b & c above, including duplicate, incorrectly charged and those charged for but not implemented within the tolerances specified.

5.2 Monitoring Constraints

It is recognised that not all Billing systems can separate charges by type. In these circumstances the sum of the over charged values should be measured against the total revenue stream and shall not exceed the most stringent of the above requirements.

5.3 Period of Measurement

The results shall be based on a rolling 12 month average of performance.

6. Additional Notes and Exceptions

6.1 Where an item of service usage is completed other than intended, but the charge applied is correct for the service as delivered, this shall not be regarded as an overcharged Event.

Note: Examples include such occurrences as wrong numbers and inadvertent roaming.

6.2 Inadvertent Roaming Charges appear on a Bill when the preferred network operator service is replaced by another network operator. This occurs in two scenarios, firstly in areas close to national borders and , secondly, where an End-User has a preferred roaming partner whilst abroad and another carrier takes precedence. In both instances the cause is the difference in signal level between the two operators while the mobile device (e.g. handset) is configured to automatic network selection based upon signal strength.

The End-User has the option within a mobile device to set the Network Selection to Manual, rather than Automatic. Therefore, inadvertent roaming is not deemed an overcharge. The Communications Provider will advise End-Users of the issue in its published Tariffs.

6.3 Termination of mobile calls, where a call originating by a mobile device (e.g. handset) is terminated other than by the caller pressing a specific button for that purpose, the network will initially assume that contact between the base station(s) and the handset has been temporarily lost - as when passing under a bridge or through a tunnel. The connection will be maintained and charged for during the first "n" seconds after contact is lost. Should contact be re-established, the call will continue as before. If however, the caller has switched off the handset, run out of battery capacity or moved permanently out of range of any base station etc, the charges for that call will include the "n" seconds. In order to minimise the risk of unnecessary charges, users should be careful to end each call as set out in the user instructions for the handset - e.g. pressing the "End" button.

6.4 The increase in duration of items of service usage resulting from degraded transmission performance shall not be taken into account when computing the performance of the system.

Note: Such degradation may result in the repetition of voice or data messages.

Annex D

High Speed Internet – Voluntary

1. Definition of Service

High Speed Internet, commonly known as Broadband, is a publicly available service or connection that provides high speed services that allow for the transfer of high volumes of data at high speeds. It is an always-on digital network connecting Customer premises equipment to their provider of Internet services.

Note: This for example can be a service accessing the Internet at speeds greater than 512kBits per second using a Digital Subscriber Line or Cable modem. Alternatively High Speed Internet can be achieved through provision of a data packet mobile service.

2. Communications Provider Inclusion Thresholds

2.1. Because this is a voluntary application the Communications Provider can apply for an extension to Approval provided it already has, or is in the process of gaining an Approval.

2.2 Initial Application

As a voluntary scheme the Communications Provider may apply for approval when the relevant turnover from High Speed Internet exceeds £5,000,000 per annum.

2.3 Extension of Scope

Where a Communications Provider introduces a new product or service that utilises the majority of the same elements as an existing Approved Total Metering and Billing System, e.g. it is delivered utilising an existing delivery mechanism, aggregated through an existing aggregation device and Billed through an existing Billing engine any two of which are covered by an existing Total Metering and Billing System, then the Communications Provider can apply for a suitable extension of scope when the relevant turnover from this product or service reaches £1,000,000 per annum (exclusive of VAT and other taxes directly related to turnover).

It will be for the Approval Body to determine whether a product or service falls into the category of Extension of Scope or Initial Application. Examples can be found in this Direction.

3. Description of Service

A High Speed Internet access Service Total Metering and Billing System utilises two distinct types of Events for charging purposes Usage events and non-Usage events.

3.1 Usage Events

These are sub-divided into two categories.

3.1.1 Specific Usage Events

These are Event records that are generated for the use of a particular High Speed Internet service by the End-User. For example they are charged on a one-off Event basis and appear as individual line items on a Bill. These Events will not usually be data volume in bytes but records of specific actions such as access to a page or a “click” selection or a specialist access service such as sending Multimedia Messages (commonly known as MMS).

3.1.2 Aggregated Usage Events

This is the cumulative total of the service usage Events, typically recorded at a Server. For example up and down link usage is recorded which may include resending of data due to data packet corruption. The aggregated Events are priced and Billed after discount, bundle and overage (excess usage) is applied. These Events may be data volume in bytes or records of specific actions such as access to an information page or a “click” selection.

3.2 Non-Usage Events

These are sub-divided into two categories and cover the Event records not triggered by the use of the service by the End-User.

3.2.1 Non-Recurring Events

These include costs for the provision, change, suspension or removal of services, products and equipment. They are likely to be actions that do not result in the creation of a usage Event record.

Note: Provision includes both cease and re-provision processes.

3.2.2 Recurring Events

These include subscriptions and rentals for equipment or availability that are applied on a regular basis to the Bill irrespective of any usage or non-usage Event.

3.3 Billing

A High Speed Internet Service may use two distinct types of Billing, both of which are covered by the Direction.

3.3.3 Pre-Pay Charging

a These are charges deducted individually from a diminishing credit balance. The outstanding credit balance can be increased through the payment of additional monies or credits onto the account.

b Individual Billing Accuracy is not applicable to pre-pay services in that an End-User is not presented with a Bill. In this instance the requirements set out in 4.8 of the main body of this Direction shall apply to the application of credits and debits to the account.

c Timeliness of Billing is not applicable to pre-pay services. The End-User shall have the usage Event charge deducted from the outstanding credit balance during a usage Event. For non-recurring non-usage events, such as tone downloads, the End-User shall have the full amount deducted at the end of the non-usage Event.

3.3.4 Post-Pay Charging

These are charges aggregated onto a Bill and submitted to the End-User for payment.

4. Allowable Tolerances

These tolerances determine the Events in error that will be applied to the limits in 5 below and may be time, duration, volume or value.

Unless otherwise stated, these tolerances apply to the units of measure used in the systems being measured. Measurement results can be presented as a ratio or percentage.

It is not practicable to combine the accuracy required for these Events into a single quantity for either the numbers or the values. Therefore the accuracy requirement is separated out into the four elements for the purposes of demonstrating compliance.

Unless otherwise stated, these tolerances apply to the units of measure used in the systems. The tolerance shall be applied after any published charge affecting rounding has taken place. For example, if a data total is recorded as 1018 Bytes rounded to next kilobyte it becomes 1Kb. If a total is actually 1028 bytes, then rounding makes this 2Kb and from the table at section 4.1.2 below this is just within tolerance. Measurement results can be presented as a ratio or percentage.

4.1 Usage Events

4.1.1 Specific Usage Events

	Variable	Allowable Measurement Tolerance
a.	Duration	+1 second or +0.01% (whichever is less stringent)
b.	Time of Day	+ or – 1 second
c.	Count of Events	+0.004% (1:25K)
d.	Value of Charges	0.1p

d. Value of Charges

The actual charge per usage Event shall be within 0.1p of the expected charge. Where rounding information is publicly available then the tolerance shall be + 0.1p of the rounded value for individual call charges. If no rounding is published then the same tolerance shall apply to the recorded value.

4.1.2 Aggregate Usage Events

	Variable	Allowable Measurement Tolerance
a.	Volume	+1KByte refer to a. below
b.	Time of Day	+ or – 1 Second
c.	Count of Aggregate Events	+0.004% (1:25K)
d.	Value of Aggregate Charges	0.1p

a. Volume

The Volume measured will vary by service application, therefore the Allowable Measurement Tolerance unit for an aggregated Volume of Events will be such that one additional Volume tolerance unit, when rated, remains within the charge tolerance d.

Examples:

1. Where 1KByte of data is priced the error shall be no greater than +0.1p. The Volume Allowable Measurement Tolerance will be 1KByte in this instance e.g. the charge for 1Kbyte + 1Kbyte of error will have a rating error of no more than 0.1p.
2. When 1MByte of data is priced the error shall be no greater than +0.1p. The Volume Allowable Measurement Tolerance in this instance 1MByte e.g. the charge for 1Mbyte + 1Mbyte of error will have a rating error of no more than 0.1p.

d. Value of Aggregate Charges

The actual charge of an aggregated Event shall be within 0.1p of the expected charge. Where rounding information is publicly available then the tolerance shall be +0.1p of the rounded value for individual call charges. If no rounding is published then the same tolerance shall apply to the recorded value.

4.2. Non-Usage Non-Recurring Events

	Variable	Allowable Measurement Tolerance
a.	Duration	n/a
b.	Time of Day	n/a
c.	Count of Events	+0.05% (1:2K)
d.	Value of Charges	1p

4.3. Non-Usage Recurring Events

	Variable	Allowable Measurement Tolerance
a.	Duration	within +1 day
b.	Time of Day	n/a
c.	Count of Events	+0.01% (1:10K)
d.	Value of Charges	1p

Note: Where the recurring Event charge is based upon whole days, the start of the period is the day on which the service was first provided and the end is the day on which the service was de-provisioned, irrespective of the time of that provision, unless otherwise stated in the Tariffs.

5. Measurement Limits

Performance of the Total Metering and Billing System shall be assessed on the basis of how many errors in charging are made. An error will be defined by tolerance levels being exceeded.

It is not practicable to combine accuracy limits into a single quantity for values (£) and the numbers of Events counted or recorded. This requires that the accuracy requirement is separated into three elements for the purposes of demonstrating compliance with the limits in this section.

The tolerances in 4 above determine Event errors that are to be applied to these limits.

Value Overcharged (Billing)

Each Value Overcharged (Billing) measure has an individual limit because all are significantly material.

A Value Overcharged (Billing) limit (a) is the total calculated value of the Count of Events Overcharged (b) and Over Recorded (c).

Count of Events Overcharged and Over Recorded

There will be several orders of magnitude between the numbers of Usage Events when compared with the number of Non-Usage Events during any specified period. Usage Events are measured with the limits in 5.1.1.1/5.1.1.2 b & c below.

As described in 3.2 above Non-Usage Events consist of either Non-Recurring Events or Recurring Events. The type of transaction errors produced by these Events will not be significantly material and for this reason limits are not needed. A Value Overcharged (Billing) measure of these Events is sufficient and for this reason there are no limits in 5.1.2.1 b & c or 5.1.2.2 b & c below.

£600 Discretionary Threshold

Where a Communications Provider has a total relevant turnover of less than £360 million per year (exclusive of VAT and other taxes directly related to turnover), the sum total of Value Overcharged (Billing) for each individual calendar month shall not exceed £600.

5.1 Charge consistency

All charges shall be consistent with the Tariffs to the levels specified below:

5.1.1 Usage Events

5.1.1.1 Specific Usage Events:

	Specific Usage Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.002% (£1:£50k)
b.	Specific Usage Events Over-counted	0.002% (1:50k)
c.	Specific Usage Events Over Recorded	0.002% (1:50k)

a. Value Overcharged (Billing)

This is the total value of specific errors from b & c.

b. Specific Usage Events Over-counted

Typically includes Events charged that should not have been charged, charged at the wrong rate and duplicate counted Events.

c. Specific Usage Events Over Recorded

Typically includes duplicate usage Events and usage Events with start time and / or duration incorrect by more than the allowable tolerances.

5.1.1.2. Aggregate Usage Events:

	Aggregate Usage Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.04% (£1:£2.5k)
b.	Aggregate Usage Events Over-counted	0.04% (1:2.5k)
c.	Aggregate Usage Events Over Recorded	0.04% (1:2.5k)

a. Value Overcharged (Billing)

This is the total value of the errors from b & c. It is the total calculated value of the number of Events over-counted and over recorded, including duplicate, incorrectly charged and those charged for but not implemented.

b & c Aggregate Usage Events

These are measured through the use of an incremental counter, like an electricity bill, invoices might show the starting figure and the end figure, but the End-User has no independent means of checking the figures.

5.1.2 Non-usage Events

5.1.2.1 Non-Recurring:

	Non-Recurring	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.04% (£1:£2.5k)
b.	Events Over-counted	0.04% (1:2.5k)
c.	Events Over Recorded	0.04% (1:2.5k)

a. Value Overcharged (Billing)

Is the total calculated value of the number of Events over-counted and over recorded, including duplicate, incorrectly charged and those charged for but not implemented.

5.1.2.2 Recurring Events:

	Recurring Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.01% (£1:£10k)
b.	Events Over-counted	0.01% (1:10k)
c.	Events Over Recorded	0.01% (1:10k)

a. Value Overcharged (Billing)

Is the total calculated value of the number of Events over-counted and over recorded, including duplicate, incorrectly charged and those charged for but not implemented within the allowable tolerances specified.

5.2 Monitoring Constraints

It is recognised that not all Billing systems can separate charges by type. In these circumstances the sum of the over charged values should be measured against the total revenue stream and shall not exceed the most stringent of the above requirements.

5.3 Period of Measurement

The results shall be based on a rolling 12 month average of performance.

6. Additional Notes and Exceptions

6.1. Where an item of service usage is completed other than intended, but the charge applied is correct for the service as delivered, this shall not be regarded as an overcharged Event.

Note: Examples include such actions as wrong files being downloaded and file transfers being interrupted.

6.2. The increase in duration of items of service usage resulting from degraded transmission performance shall not be taken into account when computing the performance of the system.

Note: Such degradation may result in the repetition of downloads or the reloading of web pages.

Annex E

Voice over Internet Protocol - Voluntary

1. Definition of Service

“Voice over Internet Protocol” (VoIP) is a technology that allows users to send calls using Internet Protocol, using either the public internet or private IP networks³.

VoIP gateways interface between a telephony network and an IP network. Calls either stay within the VoIP network, i.e. calls to other Communications Providers’ Voice over IP End-Users, or they can travel outside the VoIP network to a fixed network or mobile terminal. The nature of the service is such that speech quality is determined by the loading on the internet.

The VoIP product is such that in the event of a power failure at the End-User terminal, the End-User is unable to use this service to contact Emergency Organisations.

2. Inclusion Thresholds

2.1 Initial Application

As a voluntary scheme the Communications Provider may apply for Approval when the relevant turnover from VoIP exceeds £5million per annum (excluding VAT and other taxes directly related to turnover).

2.2 Extension of Scope

Where a Communications Provider introduces a new product or service that utilises the majority of the same elements as an existing Approved Total Metering and Billing System, e.g. it is delivered utilising a broadband channel or mobile packet data channel, mediated through an existing mediation device and billed through an existing billing engine any two of which are covered by an existing Total Metering and Billing System, then the Communications Provider can apply for a suitable extension of scope when the relevant turnover from this product or service reaches £1million per annum (excluding VAT and other taxes directly related to turnover). It will be for the Approval Body to determine whether a product or service falls into the category of Extension of Scope or Initial Application.

³ Definition from the Regulation of VoIP Services, Notification, 29 March 2007, at <http://www.ofcom.org.uk/consult/condocs/voip/voipstatement/>

Note: Whilst the application remains voluntary, the timetable for achieving approval remains.

3. Description of Service

The VoIP generally utilises three distinct types of Events for charging purposes. A Publicly Available Telephone Service Total Metering and Billing System utilises two distinct types of Events for charging purposes.

3.1 Usage Events

These are Event records that are generated by a telecommunications switch, triggered by the use of a Publicly Available Telephone Service by the End-User.

3.2 Non-Usage Events

These are sub-divided into two categories and cover the Event records not triggered by the use of a Publicly Available Telephone Service by the End-User.

3.2.1 Non-Recurring Events

These include costs for the provision, change, suspension or removal of services, products and equipment. They are likely to be actions that do not result in the creation of a usage Event record.

Note: Provision includes both cease and re-provision processes.

3.2.2 Recurring Events

These include subscriptions and rentals for equipment or availability that are applied on a regular basis to the Bill irrespective of any usage or non-usage Event.

4. Allowable Tolerances

These tolerances determine the Events in error that will be applied to the limits in 5 below. Unless otherwise stated, these tolerances apply to the units of measure used in the systems being measured. Measurement results can be presented as a ratio or percentage.

4.1 Usage Events

	Variable	Allowable Measurement Tolerance
a.	Duration	+1 second or +0.01% (whichever is less stringent)
b.	Time of Day	+ or – 1 second
c.	Count of Charges	+0.004% (1:25K)
d.	Value of Charges	0.1p

d. Value of Charges

The actual charge per usage Event, e.g. a Call Detail Record, shall be within 0.1p of the expected charge. Where rounding information is publicly available then the tolerance shall be + 0.1p of the rounded value for individual call charges. If no rounding is published then the same tolerance shall apply to the recorded value.

4.2 Non-Usage Non-Recurring Events

	Variable	Allowable Measurement Tolerance
a.	Duration	n/a
b.	Time of Day	n/a
c.	Count of Events	+0.05% (1:2K)
d.	Value of Charges	1p

4.3 Non-Usage Recurring Events

	Variable	Allowable Measurement Tolerance
a.	Duration	+1 day
b.	Time of Day	n/a
c.	Count of Events	+0.01% (1:10K)
d.	Value of Charges	1p

Notes:

1. Where the Recurring Event charge is based upon whole days, the start of the period is the day on which the service was first provided and the end is the day on which the service was de-provisioned, irrespective of the time of that provision, unless otherwise stated in the Tariffs.

2. Duration: shall be within +1 day on the entire lifetime of the rental or equivalent.

5. Measurement Limits

Performance of the Total Metering and Billing System shall be assessed on the basis of how many errors in charging are made. An error will be defined by tolerance levels being exceeded.

It is not practicable to combine accuracy limits into a single quantity for values (£) and the numbers of Events counted or recorded. This requires that the accuracy requirement is separated into three elements for the purposes of demonstrating compliance with the limits in this section.

The tolerances in 4 above determine Event errors that are to be applied to these limits.

Value Overcharged (Billing)

Each Value Overcharged (Billing) measure has an individual limit because all are significantly material.

A Value Overcharged (Billing) limit (a) is the total calculated value of the Count of Events Overcharged (b) and Over Recorded (c).

Count of Events Overcharged and Over Recorded

There will be several orders of magnitude between the numbers of Usage Events when compared with the number of Non-Usage Events during any specified period. Usage Events are measured with the limits in 5.1.1 b & c below.

As described in 3.2 above Non-Usage Events consist of either Non-Recurring Events or Recurring Events. The type of transaction errors produced by these

Events will not be significantly material and for this reason limits are not needed. A Value Overcharged (Billing) measure of these Events is sufficient and for this reason there are no limits in 5.1.2.1 b & c or 5.1.2.2 b & c below.

£600 Discretionary Threshold

Where a Communications Provider has a total relevant turnover of less than £360 million per year (exclusive of VAT and other taxes directly related to turnover), the sum total of Value Overcharged (Billing) for each individual calendar month shall not exceed £600.

5.1 Charge consistency

All charges shall be consistent with the Tariffs to the levels specified below:

5.1.1 Usage Events

	Usage Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.002% (£1:£50k)
b.	Count of Events Overcharged	0.002% (1:50k)
c.	Events Over Recorded	0.002% (1:50k)

a. Value Overcharged (Billing)

This is the total value of the errors from b & c.

b. Count of Events Overcharged

Typically includes Events charged that should not have been charged, charged at the wrong rate and duplicate charged Events.

c. Events Over Recorded

Typically includes duplicate usage Events and usage Events with start time and / or duration incorrect by more than the allowable tolerances.

5.1.2 Non-usage Events

5.1.2.1 Non-Recurring:

	Non-Recurring Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.04% (£1:£2.5k)
b.	Count of Events Overcharged	n/a
c.	Events Over Recorded	n/a

a. Value Overcharged (Billing)

Is the total calculated value of b & c above, including duplicate, incorrectly charged and those charged for but not implemented.

5.1.2.2 Recurring Events:

	Recurring Events	Inaccuracy Limits
a.	Value Overcharged (Billing)	0.01% (£1:£10k)
b.	Count of Events Overcharged	n/a
c.	Events Over Recorded	n/a

a. Value Overcharged (Billing)

Is the total calculated value of b & c above, including duplicate, incorrectly charged and those charged for but not implemented within the tolerances specified.

5.2 Monitoring Constraints

It is recognised that not all Billing systems can separate charges by type. In these circumstances the sum of the over charged values should be measured against the total revenue stream and shall not exceed the most stringent of the above requirements.

5.3 Period of Measurement

The results shall be based on a rolling 12 month average of performance.

6. Additional Notes and Exceptions

6.1 Where an item of service usage is completed other than intended, but the charge applied is correct for the service as delivered, this shall not be regarded as an overcharged Event.

Note: Examples include such occurrences as wrong numbers.

Annex F

Undercharging Detrimental to End-Users – Voluntary

1. Definition of Service

With each of the products and services covered in the Annexes it is possible that a Communications Provider may disadvantage End-Users or **Business Partners** (i.e. a reseller of a product or service supplied by a Communications Provider) by under recording Events, either through temporary loss of, or delays in processing, those Events.

The disadvantage to End-Users arises from the possibility that the under recording may result in Bills that show lower usage than expected, leading to the uncertainty of whether or not the 'missing' charges will follow on a later Bill.

A business partner who is a reseller of a product or service supplied by a Communications Provider derives revenue from the ability to recharge for their Customers Event records and may experience a financial loss as a result of the under recording of Events by the Communications Provider.

Additionally there are services that are specifically designed to be revenue share services, where the failure to capture and invoice Event records represents lost revenue to the revenue share service provider and / or is distressing to the beneficial End-User.

Note: Charities are an example of this.

2. Applications for Approval

Because this is a voluntary application the Communications Provider can apply for an extension to Approval provided it already has, or is in the process of gaining, an Approval.

3. Description of Service

The description of the service is identical to the description in the appropriate annex for the same product or service e.g. Voice over Internet Protocol, fixed and mobile PATS. Two distinct types of Events are utilised for charging purposes.

3.1 Usage Events

These are Event records generated by a telecommunications switch or high speed internet router to record usage by an End-User.

3.2 Non-Usage Events

These are sub-divided into two categories.

3.2.1 Non-Recurring Events

These include costs for the provision, change, suspension or removal of services, products and equipment. They are likely to be actions that do not result in the creation of a usage Event record.

Note: Provision includes both cease and re-provision processes.

3.2.2 Recurring Events

These include subscriptions and rentals for equipment or availability that are applied on a regular basis to the Bill irrespective of any usage or non-usage Event.

4. Allowable Tolerances

Where undercharging has been included within scope the following overall under and overcharging tolerances and limits shall apply:

4.1 Usage Events

	Variable	Allowable Measurement Tolerance (+/-)
a.	Duration	+/-1 second or +/-0.01% (whichever is less stringent)
b.	Time of Day	+ or -1 second
c.	Count of Charges	+0.004% (1:25K) -0.01% (1:10K)
d.	Value of Charges	+/-0.1p

d. Value of Charges

The actual charge per usage Event, e.g. a Call Detail Record, shall be within 0.1p of the expected charge. Where rounding information is publicly available then the tolerance shall be +/- 0.1p of the rounded value for individual call charges. If no rounding is published then the same tolerance shall apply to the recorded value.

4.2 Non-Usage Non-Recurring Events

	Variable	Allowable Measurement Tolerance (+/-)
a.	Duration	n/a
b.	Time of Day	n/a
c.	Count of Events	+0.05% (1:2K) -1.25% (1:80)
d.	Value of Charges	+/-1p

4.3 Non-Usage Recurring Events

	Variable	Allowable Measurement Tolerance (+/-)
a.	Duration	+/-1 day
b.	Time of Day	n/a
c.	Count of Events	+0.01% (1:10K) -0.25% (1:400)
d.	Value of Charges	+/-1p

Notes:

1. Where the Recurring Event charge is based upon whole days, the start of the period is the day on which the service was first provided and the end is the day on which the service was

de-provisioned, irrespective of the time of that provision, unless otherwise stated in the Tariffs.

2. Duration: shall be within +/-1 day on the entire lifetime of the rental or equivalent.

5. Measurement Limits

The description of the Events is identical to the description in the appropriate annex for the same product or service.

Performance of the Total Metering and Billing System shall be assessed on the basis of how many errors in charging are made. An error will be defined by tolerance levels being exceeded.

It is not practicable to combine accuracy limits into a single quantity for values (£) and the numbers of Events counted or recorded. This requires that the accuracy requirement is separated into three elements for the purposes of demonstrating compliance with the limits in this section.

The tolerances in 4 above determine Event errors that are to be applied to these limits.

Value Incorrectly Charged (Billing)

Each Value Incorrectly Charged (Billing) measure has an individual limit because all are significantly material.

A Value Incorrectly Charged (Billing) limit (a) is the total calculated value of the Count of Events Incorrectly Charged (b) and Incorrectly Recorded (c).

Count of Events Incorrectly Charged and Incorrectly Recorded

There will be several orders of magnitude between the numbers of Usage Events when compared with the number of Non-Usage Events during any specified period. Usage Events are measured with the limits in 5.1.1 b & c below.

As described in 3.2 above Non-Usage Events consist of either Non-Recurring Events or Recurring Events. The type of transaction errors produced by these Events will not be significantly material and for this reason limits are not needed. A Value Incorrectly Charged (Billing) measure of these Events is sufficient and for this reason there are no limits in 5.1.2.1 b & c or 5.1.2.2 b & c below.

5.1 Charge consistency

All charges shall be consistent with the Tariffs to the levels specified below:

5.1.1 Usage Events

	Usage Events	Inaccuracy Limits +/-
a.	Value Incorrectly Charged (Billing)	+0.002% (£1:£50k) -0.05% (1:2K)
b.	Count of Events Incorrectly Charged	+0.002% (1:50k) -0.01% (1:10K)
c.	Events Incorrectly Recorded	+0.002% (1:50k) -0.01% (1:10K)

a Value Incorrectly Charged (Billing)

This is the total value of the errors from b & c.

b Count of Events Incorrectly Charged

Typically includes omitted usage Events, Events charged at the wrong rate and duplicate charged Events.

c Events Incorrectly Recorded

Typically includes omitted usage Events, usage Events with start time and / or duration incorrect by more than the allowable tolerances.

5.1.2 Non-usage Events

5.1.2.1 Non-Recurring:

	Non-Recurring Events	Inaccuracy Limits +/-
a.	Value Incorrectly Charged (Billing)	+0.04% (£1:£2.5k) -1% (£1:100)
b.	Count of Events Incorrectly Charged	n/a
c.	Events Incorrectly Recorded	n/a

a. Value Incorrectly Charged (Billing)

Is the total calculated value of b & c above, including omitted, incorrectly charged and those charged for but not implemented or implemented but not charged for.

5.1.2.2 Recurring Events:

	Recurring Events	Inaccuracy Limits +/-
a.	Value Incorrectly Charged (Billing)	+0.01% (£1:£10k) -0.25% (£1:400)
b.	Count of Events Incorrectly Charged	n/a
c.	Events Incorrectly Recorded	n/a

a Value Incorrectly Charged (Billing)

Is the total calculated value of b & c above, including omitted, incorrectly charged and those charged for but not implemented or implemented but not charged for.

5.2 Monitoring Constraints

It is recognised that not all Billing systems can separate charges by type, therefore in these circumstances the sum of the incorrectly charged values should be measured against the total revenue stream and shall not exceed the most stringent of the above requirements.

5.3 Period of Measurement

The results shall be based on a rolling 12 month average of performance.

6. Additional Notes and Exceptions

6.1 Approval restrictions.

Approval for undercharging is only valid as part of an existing Total Metering and Billing System Approval. That is, should the Communications Provider lose its Total Metering and Billing System Approval, undercharging Approval will be removed automatically. However, failure to achieve or maintain an undercharging Approval will not cause the loss of overall Total Metering and Billing System Approval, provided that it has been satisfactorily maintained, but will result in the removal of undercharging from scope of Approval.

6.2 Additional Notes and Exceptions

The additional notes and exceptions of the product or service are identical to the additional notes and exceptions in the appropriate annex for the same product or service.

Annex 4

The Ofcom Metering and Billing Direction

A4.1 The previous Ofcom Metering and Billing Direction for reference purposes is set out below.

- 1 Scope
- 2 Definitions and Interpretation
- 3 Measurement of Accuracy and Reliability
- 4 Individual Bill accuracy
- 5 Timeliness of Post Pay Billing
- 6 Tariffs
- 7 Interworking between Communications Providers
- 8 Quality
- 9 Materiality
- 10 Measurement Systems
- 11 Service usage Specification
- 12 Conformity to this Direction

1 Scope

1.1 This Direction applies to any Total Metering and Billing System run by a Communications Provider or Communications Providers to record access to and usage of, and charge accordingly for, Electronic Communications Services.

1.2 This Direction applies to the cumulative performance of a Total Metering and Billing System concerned in the billing of a Chargeable Event, whether in being at the date of issue of this Direction or subsequently.

1.3 This Direction applies to any Total Metering and Billing System used for both retail and wholesale purposes. It does not apply to charging and billing raised by one Communications Provider against another for handling telecommunications traffic passed between their systems (i.e. interconnection and settlement charges between Communications Providers).

Note: This Direction, however, does apply to Logging/Metering of such traffic; see clause 7.

2.1 Definitions

In this Direction, except in so far as the context otherwise requires:

2.1.1 "Act" means the Communications Act 2003;

2.1.2 "Approval Body" shall have the same meaning as in the Condition;

2.1.3 "Bill" means either:

- (a) the documentation Issued by a Communications Provider to an End-user informing him of the charges levied; or
- (b) the information retained by a Communications Provider recording and allowing debits to be made from an End-user's account; Note: Prepay services are typical examples of (b).

2.1.4 "Chargeable Event" means either:

- (a) an implementation of a request for a service, feature or discount that attracts a recurring or non-recurring charge; or
- (b) a use of such a service that attracts an individual charge for each use;

Note 1: The term Service Usage (see clause **2.1.16**) corresponds to (b). A typical example of Service Usage charged for by duration is a telephone call. Another example is the transmission of data, which could be charged for by counting the number of bytes or data packets required.

Note 2: Chargeable Events may occur without having been initiated by the user. An example would be charges for the terminating leg of a call. Where charges apply to both the origination and termination of the same call, two distinct Chargeable Events will have occurred. Examples are call diversion or mobile telephone roaming.

2.1.5 "Communications Provider" shall have the same meaning as in the Condition;

2.1.6 "Complaint" means an expression of dissatisfaction with the Communications Provider or the service it provides, received from an End-user;

2.1.7 "Condition" means General Condition 11 of the General Conditions of Entitlement;

2.1.8 "Director" means the Director-General of Telecommunications as appointed under section 1 of the Telecommunications Act 1984;

2.1.9 "Equipment" means all the hardware and software and/or firmware necessary for the correct operation of a function;

2.1.10 "General Conditions of Entitlement" means the conditions set out in the Schedule to the Notification published by the Director on 22 July 2003 pursuant to Section 48(1) of the Act;

2.1.11 "Issue" means the action whereby the Communications Provider, having completed preparation of a Bill, passes it to the delivery agent;

Note: The Communications Provider has completed preparation of the Bill if any further processing still to be performed by the delivery agent is for presentational purposes only.

2.1.12 "Logging/Metering" means the operation of any Equipment constructed or adapted for use in ascertaining the extent of Service Usage of an Electronic Communications Service;

2.1.13 "Overcharged Event" means either:

- (a) a Chargeable Event for which the charge to the End-ser exceeds that calculated on the basis of the applicable Published Tariffs, or Previously Agreed Tariffs; or
- (b) any other incident which results in a charge being logged or added erroneously to the Bill;

Note: An example of (b) is multiple entries relating to the same Service Usage.

2.1.14 "Previously Agreed Tariff" means a written agreement between a Communications Provider and an End-user stating charges for Electronic Communications Services that is not made public;

2.1.15 "Published Tariff" means publicly available statements that specify the charges which a Communications Provider makes for Electronic Communications Services;
Note: The term is intended to cover paper documents made available for public inspection, statements published in The London Gazette or other periodicals, advertisements, information published on the Internet, and the like.

2.1.16 "Service Usage" means the extent of the End-user's use of the service provided when successfully accessed;

2.1.17 "Service Usage Specification" means the detailed description of the basis on which an End-user's use of a Communications Provider's electronic communications facilities is assessed for charging purposes;

2.1.18 "Total Metering and Billing System" shall have the same meaning as in the Condition;

2.1.19 "Undercharged Event" means a Chargeable Event, either :
(a) for which the charge to the End-user is lower than that calculated on the basis of Published Tariffs, or Previously Agreed Tariffs; or
(b) which has been omitted from the logged record or Bill owing to an incident; and which is not covered by a Service Usage Specification claim.

Note: An example of (b) is the loss of call records as a result of a switch restart.

2.2 Interpretation

For the purpose of interpreting this Direction:

- (a) except in so far as the context otherwise requires, words or expressions used shall have the meaning assigned to them and otherwise any word or expression shall have the same meaning as it has in the Act;
- (b) the Interpretation Act 1978 shall apply as if this Direction were an Act of Parliament;
- (c) headings and titles shall be disregarded;
- (d) expressions cognate with those in this Direction shall be construed accordingly.

3. Measurement of Accuracy and Reliability

3.1 All charges must be consistent with the Published Tariff or Previously Agreed Tariff applicable to the End-user charged.

3.2 Unless otherwise specified in the Published Tariff or Previously Agreed Tariff, a charge shall be determined in accordance with all of the following limits that apply to it:

- (a) where the charge is dependent upon duration, the recorded duration shall be measured to within:
 - (i) between +500 milliseconds and -1,000 milliseconds; or
 - (ii) between +0.01% (1:10,000) to -0.02% (1:5,000)whichever is less stringent; and
- (b) where the charge is dependent upon the time of day, the time of day shall be recorded to within ± 1 second, traceable to an appropriate time reference; and

(c) where the charges are dependent upon the counting of occurrences of a particular type, the count shall be accurate to no more than plus 1/25,000 (0.004%) or minus 1/1,000 (0.1%).

Where measurement under clauses **3.2 (a), (b) & (c)** reveals systematic errors in timing or counting that result in Overcharged Events which are not stated in Published Tariffs or Previously Agreed Tariffs then correction should take place to ensure accurate Bills (see clause **11.2**).

3.3 The performance of a Total Metering and Billing System shall be such that, subject to the tolerances specified in clause **3.2**:

- (a) the numbers of items of Service Usage that are Overcharged Events or Undercharged Events shall not exceed as a proportion of the total number of Chargeable Events the limits shown in the column marked “Logging / Metering” in Table 1; and
- (b) the sum of the values of the errors in the Overcharged Events or Undercharged Events shall not exceed as a proportion of the total value of the total number of Chargeable Events the limits shown in the Column marked “Billing” in Table 1.

Note: Measurement results can be presented as a ratio or percentage.

Table 1 – Total Metering and Billing System reliability performance requirements

Chargeable Events	(1) Logging/Metering	(2) End to End	(3) Billing
Number under or not charged	0.01% (1:10K)	0.1% (1:1K)	0.09% ^a (1:1.1K)
Number overcharged	0.002% (1:50K)	0.004% (1:25K)	0.002% (1:50K)
Value under or not charged	Not Applicable	0.05% (1:2K)	0.05% (1:2k)
Value overcharged	Not Applicable	0.002% ^b (1:50K)	0.002% ^b (1:50K)

Note a: Determined from end to end and logging requirements.

Note b: This requirement shall be deemed to have been met if the value overcharged does not exceed £500 per calendar month.

3.4 Where implementation of an order for a service, feature or discount which depends on the number or duration of Chargeable Events is applied at variance with Published Tariffs or Previously Agreed Tariffs, each Chargeable Event within the scope of the incorrectly applied order shall be an Undercharged Event or an Overcharged Event, as appropriate, for the purposes of clause **3.3**.

3.5 Where an item of Service Usage is completed other than intended, but the charge applied is correct for the service as delivered, this shall not be regarded as either an Undercharged Event or an Overcharged Event.

Note: Examples include such events as wrong numbers.

3.6 The increase in duration or number of items of Service Usage resulting from degraded transmission performance shall not be taken into account when computing the performance of the system.

Note: Such degradation may result in the repetition of voice or data messages.

4. Individual Bill Accuracy

4.1 The Communications Provider shall employ safeguards to prevent gross errors being included in individual End-users’ Bills.

4.2 The Communications Provider shall have a documented process for identifying, investigating and dealing with billing Complaints and creating appropriate records thereof.

4.3 The Communications Provider shall carry out a root cause analysis for each upheld billing Complaint, categorise the cause and establish proportionate remedial action to correct it.

4.4 Where the root cause affects multiple End-user accounts, then all affected Bills shall, if practicable, be included in a recovery programme.

4.5 Where remedial action has not been completed and the cause is likely to affect other Bills when Issued, then the Communications Provider shall take reasonable steps to ensure that they are checked and, if necessary, corrected, before being sent to the End-user. If not checked and corrected such Bills shall be included in a recovery programme (clause **4.4**).

5. Timeliness of Post Pay Billing

5.1 The timeliness of Bill **Issue** or Bill data file Issue shall be subject to systematic processes.

5.2 Unless Published Tariffs or Previously Agreed Tariffs contain alternative provisions, any Chargeable Event the details of which are not to hand when the Bill is prepared shall be included in a Bill no later than:

- (a) the next Bill, when Bills are rendered quarterly or less frequently; or
- (b) where Bills are rendered monthly, the fourth monthly Bill after the Chargeable Events occurred.

Any details not so presented shall, unless permission to do otherwise is obtained from the End-user, be written off, and if significant counted against the performance for Undercharged Events in clause **3.3**. Exceptionally, Chargeable Event details from a separate Communications Provider (see clause **7**) may be billed by the receiving Communications Provider up to three months after receipt.

5.3 Agreement to extend the time scales described in clause **5.2** may be sought from the Director via the Approval Body. An extension will only be available on an irregular basis. Decisions will be made on application for an extension concerning:

- (a) how End-users will be informed of a protracted delay in rendering call records onto a subsequent Bill; and
- (b) the integrity of the billing process audit arrangements.

Note: All such decisions made by the Director will be published on the Oftel web-site.

5.4 The Communications Provider shall contract with its delivery agent to ensure that an effectual Bill or Bill data file delivery schedule is in place. The existence of such a contract shall be subject to audit.

Note: For avoidance of doubt, the Communications Provider does not need to establish when the Bill is actually delivered, only that it has Issued the Bill with sufficient time for the delivery agent to deliver the Bill on time. It is reasonable to assume that the delivery agent performs to the level described in its agreement with the Communications Provider or in its public statements.

6. Tariffs

6.1 Where more than one document has been placed in the public domain to constitute Published Tariffs, and conflicts in the information so published exist between them, the Communications Provider shall:

- (a) confirm which document takes precedence for the purposes of this Direction; and

(b) make such confirmation public so that it is visible to the End-user.

6.2 Tariffs shall include statements to define the resolution and rounding of charges, including the underlying units of measurement. This applies to both aggregated and individual charges.

6.3 Where the fee varies according to a choice made by the End-user, then such variations should appear in the Published Tariffs.

7. Interworking between Communications Providers

7.1 Where a Total Metering and Billing System is operated by more than one Communications Provider, each Communications Provider shall be responsible for the timeliness and accuracy of output produced by its Equipment, procedures, and data.

7.2 No Communications Provider shall be responsible for the accuracy of output produced by another Communications Provider's Equipment, procedures, and data.

7.3 If there is evidence that signals or data handed over to a receiving Communications Provider contain errors, then such errors, if uncorrected, shall be counted by the receiving Communications Provider in determining compliance with this Direction. The correction of errors shall be subject to systematic processes.

Note: An example of signalling error is a premature answer signal being transmitted.

7.4 Application of Table 1

7.4.1 Where:

- (a) the Total Metering and Billing System is operated by more than one Communications Provider; and
- (b) the activities of each Communications Provider do not fall within the scope of Table 1, Columns 1 or 3;

then the limits in Table 1 Column 2 shall be apportioned equitably to each Communications Provider according to the scope of its activity.

7.4.2 After agreement with (and between) the relevant Approval Body (or Approval Bodies) such apportionment shall be made contractually binding between the Communications Providers.

7.4.3 Limits shall not be applied which would require any Communications Provider to operate its part of the Total Metering and Billing System free from any error.

8 Quality

8.1 A Communications Provider operating a Total Metering and Billing System shall have and enforce the effective use of procedures and documentation covering all aspects of Total Metering and Billing System operation for which it is responsible.

Note: This shall include sub-contractors' formal procedures and documentation.

8.2 Where accuracy of Logging/Metering and/or billing may be affected by the performance of Equipment operated and/or maintained by a sub-contractor, the Communications Provider shall contractually commit the sub-contractor to operate and/or maintain the Equipment so as to maintain compliance with this Direction.

9 Materiality

9.1 Compliance with the requirements contained in this Direction shall need to be

demonstrated only in relation to products and services that have a material impact on the End-user's Bill. This materiality is deemed to be:

- (a) where the Communications Provider's turnover from a product or service comprises 5% or more of its total turnover with the End-users targeted for that product or service; or
- (b) where the number of End-users subscribing to a product or service offered by the Communications Provider comprises 5% or more of the End-users targeted for that product or service; or
- (c) at the specific direction of the Director.

Note: Such a direction may, for example, be given in the event of a product or service raising a disproportionate level of Complaints.

10 Measurement Systems

10.1 The means for demonstrating conformity with the requirements of this Direction shall be subject to agreement between the Communications Provider and Approval Body. Such agreement shall take the form of a measurement strategy document.

Note: Where conformity to the performance requirements is monitored through the deployment and use of call logging/call sending equipment, it is permitted to express the requirements so monitored in terms of the results to be expected from that equipment.

11 Service Usage Specifications

11.1 The Communications Provider shall produce a Service Usage Specification for each Total Metering and Billing System and agree its content with its Approval Body.

11.2 Where design features and operating processes are used to protect customers' interests and, under normal operation of the Communications Providers Total Metering and Billing System, result in one or more Undercharged Events, such undercharging shall not count against the requirements of this Direction provided the said features and processes do not under any circumstances result in Overcharged Events.

12 Conformity with this Direction

12.1 The Communications Provider will provide the Approval Body with access to all people, locations, Equipment and data necessary to establish conformity to this Direction.

12.2 In general, compliance with this Direction shall be assessed by:

- a) appraisal of the relevant Equipment, procedures and associated documentation; and
- b) analysis of the associated data relevant to the Total Metering Billing System.