



Total Metering and Billing Systems

Approval Scheme Guide

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Ofcom

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0 Glossary and Foreword

0.1 Glossary

ABF	Approval Body Forum
CDR	Call Detail Record (also known as Call Data Record)
Director	Director General of Telecommunications (the former regulator)
DTI	Department of Trade and Industry
EA	European Accreditation Body
GCoE	General Condition of Entitlement
MABG	Metering And Billing Guide
Ofcom	Office of Communications
Oftel	Office of Telecommunications (the former regulator)
OTR	Oftel Technical Requirement
PATS	Publicly Available Telephone Service
PBX	Private Branch Exchange
PECS	Public Electronic Communications Service
PTO	Public Telecommunications Operator
QMS	Quality Management System
SLA	Service Level Agreement
SUS	Service Usage Specification
TMBS	Total Metering and Billing System
UKAS	United Kingdom Accreditation Service

Note: Items that appear only once in the text are generally not included in the Glossary.

0.2 Foreword

This Total Metering and Billing System Approval Scheme Guide (this “Guide”) has been written by the Approval Bodies Forum (ABF) for the United Kingdom Telecommunications Metering and Billing Systems Approval Scheme (the “Scheme”). It provides details of the operational framework and rules for the administration of the Scheme together with guidance on the interpretation of the technical and administrative requirements contained in the Oftel Metering and Billing Direction (the “Direction”), which forms the Annex of the statement of the same title published on 22nd July 2003.

The Direction was published pursuant to Condition 11 (the “Condition”) of the General Conditions of Entitlement (GCoE), which were published by the Office of Telecommunications (Oftel) on 22nd July 2003 pursuant to the Communications Act 2003 (the “Act”). This framework was transferred to the Office of Communications (Ofcom), when it assumed the duties, responsibilities and obligations of the former regulator Oftel with effect from vesting day, 29th December 2003.

Title Case is used to highlight words where definitions and abbreviations are contained in the Direction or the GCoE or have a special meaning in the context of this document. References to clauses are to clauses of the Direction. References to paragraphs are to paragraphs in the Condition. References to sections are to sections in the Act. References to articles are to articles in this Guide.

The first edition of this Guide was published in December 2001. The second edition, reflecting changes brought about by the new regulatory framework, was published in May 2004. This third edition, reflecting the changes to primarily incorporate the revised Terms of Reference for the ABF and to standardize abbreviations and word capitalization, was published in June 2005.

1 Introduction

1.1 The purpose of the Scheme is to assess and where compliant, approve the Total Metering and Billing Systems (TMBS(s)) used by Communications Providers to ensure that they meet defined levels of accuracy.

The purpose of this document is to give an overview of the Scheme. It includes Scheme governance, the responsibilities, duties and obligations of all stakeholders and general interpretation of the Direction.

1.2 The Scheme is administered by the ABF, monitored by Ofcom and is intended to ensure that Communications Providers render accurate Bills. Paragraph 11.1 of the Condition requires all Communications Providers to ensure their Bills are accurate, and compliance with this Scheme is the primary method for any Communications Provider to demonstrate that appropriate controls are in place to achieve the level of accuracy required.

Furthermore, paragraph 11.4 of the Condition requires those Communications Providers with an annual relevant turnover in excess of £40M who provide Publicly Available Telephone Services (PATS) to participate in the Scheme.

1.3 Communications Providers participating in the Scheme are required to enter into a contract with an Approval Body for the assessment of their TMBS(s). Approval Bodies are those companies identified in paragraph 11(9)(b) of the Condition.

1.4 The Approval Body will assess a Communications Provider's TMBS(s) for products and services that meet the materiality rules described in the Direction and such other services as may be agreed between the Communications Provider and the Approval Body. Approval Bodies will approve TMBS that are compliant with the Direction and issue refusal to Approve Non-Compliant TMBS.

1.5 This Scheme has been designed to cater for a wide range of network services and applications. The overriding principle, described in paragraph 11.1 of the Condition, is that End-Users should be charged accurately and certainly no more than is specified in the appropriate tariff for the services they use.

1.6 The Scheme's governance framework and documentation structure are shown in Annex B of this Guide. The documentation required by or presented to support the Scheme therefore consists of, but is not limited to:

- The Act;
- The GCoE;
- EN 45011;
- The Oftel Metering and Billing Direction (the Direction);
- This Guide;
- Guidance Documents published by the ABF (the Metering And Billing Guide (MABG) series);
- Approval Bodies' proprietary documentation and certificates;
- Communications Providers' documented TMBS(s), including:
 - Service Usage Specifications (SUSs);
 - any SUS claims;

- Service Level Agreements (SLAs);
 - Quality Management Systems (QMSs); and
 - Measurement Strategy Documents (MSDs);
 - Communications Providers' Published Tariffs and Previously Agreed Tariffs; and
 - Agreements on tolerance apportionment for multi-Communications Provider TMBS(s).
- 1.7 Paragraphs 11.7 and 11.8 of the Condition describe the transition arrangements for approvals granted and applications made under the previous incarnations of this Scheme against the standards OTR 003: 1993 and OTR 003: 2001.

2 Background to the Scheme

- 2.1 Section 45 of the Act enables Oftel / Ofcom to set conditions that may be applied to all Communications Providers. Under section 51 of the Act, conditions may be set "making such provisions as Ofcom considers appropriate for protecting the interests of the end-users¹ of public electronic communications services".
- 2.2 Under these powers Oftel set the Condition. Paragraph 11.5 of the Condition provides that certain Communications Providers may not keep in use after 31st December 2003 any part of a TMBS which has not been approved or for which an application for Approval has not been made. Approval, in this context, means an Approval given by an Approval Body where a Communications Provider's TMBS is compliant with the Direction.
- 2.3 The Direction is based on the Oftel Technical Requirement (OTR) 003: 2001 that was developed as a part of Oftel's revised metering systems and billing systems scheme. The key milestones of the revised scheme were:
- publication of the Oftel consultation document "Meeting Customer Needs For Accurate Telephone Bills" (March 1998);
 - publication of the Oftel policy statement, "Ensuring Telephone Bills Are Accurate" (February 2000); and
 - adoption of the revised standard OTR 003: 2001 (December 2001).
- 2.4 It is the Scheme's intention to increase End-User confidence in the accuracy of their telephone Bills and three principles, which underpinned the revised scheme, have been carried forward into this new Scheme. They are:
- The long-standing recognition that a Bill for Electronic Communications Services can be regarded as a product in its own right, because it has significant cost implications for Communications Providers and their End-Users;
 - The verification to End-Users of claims by Communications Providers concerning the superiority of their billing product compared with rivals', which will inform End-User choice between Communications Providers' service offerings in a rapidly changing environment; and
 - The greater protection afforded to End-Users by extending the approval scheme previously operated with the standard OTR 003: 1993.

¹Not capitalised because a direct quotation from the Act where it isn't

3 Communications Providers

3.1 A Communications Provider in the context of the mandatory Scheme is both a provider of PATS and one that has a Relevant Turnover in its most recent complete financial year exceeding £40 million. This does not preclude voluntary applications from other Communications Providers that wish to benefit from Approval and the associated disciplines of good practice, which lie at the heart of the Scheme.

3.2 The Communications Provider is responsible for issuing a Bill to an End-User for the use of products and / or services arising from the operation of an electronic communications network of any description. A Bill in this context includes the decrement of credit from a pre-pay account.

3.3 A Communications Provider is likely to offer a range of products and / or services and would have difficulty in submitting all of its different product and services and their associated TMBS(s) for Approval at once. Having determined with its Approval Body which services are Material in the sense of the Direction, a Communications Provider can then agree a programme with its Approval Body for phasing assessment and Approval over a period of time.

Such phasing should mainly be based on the importance of different products and services (their “global” materiality to the Communication Provider’s End-Users both wholesale and retail or core nature to the Communication Provider’s business) but may also take account of the ease with which each aspect of Approval may be given.

3.4 Communications Providers may identify areas of operation in which they deviate from the Direction. The preferred way to deal with this would be for the Communications Provider to insert an appropriate statement in Published or Previously Agreed Tariffs, including Terms and Conditions. However, in exceptional circumstances the Communications Provider can remain compliant by generating a temporary SUS claim.

A SUS can remain confidential between a Communications Provider and its chosen Approval Body to avoid potential for fraud; save for the purposes of a review by the ABF. Any such SUS claim will need to be assessed and agreed by the chosen Approval Body and reviewed by the ABF.

Further guidance on SUS claims has been published by the ABF in the MABG series of documents available from Approval Bodies or Ofcom’s Metering and Billing web-pages. An example would be that situations could arise where the records of a number of chargeable events are quarantined and cannot be allocated to any valid Bill.

3.5 Communications Providers may wish to present an existing documented QMS, certified by an accredited certifying body, as evidence towards compliance with this Scheme. In any event the QMS is to be assessed with respect to an associated TMBS by the Approval Body. Part or all of such assessment may subsequently be delegated to the QMS certifier subject to the Approval Body’s discretion.

3.6 It follows from clauses 8 and 12 of the Direction that in accordance with normal practice under a QMS, a senior executive will be nominated by a Communications Provider to ensure the following:

- Financial resources;
- Human and other resources; and
- Full accessibility by the Approval Body to all component parts of a TMBS operated by the organisation.

It is expected that the person nominated will have an awareness of the following aspects of the metering and billing operations:

- Performance against the Direction;
- Assessment activity; and
- Recovery plan status of Category 1, 2 and 3 matters.

It is acceptable for Communications Providers to nominate a senior executive and an Approval liaison officer (see article 6.5 below in this Guide) to address these diverse requirements.

3.7 Communications Providers are subject to the Condition reproduced as Annex A to this Guide.

3.8 Paragraphs 11.1 and 11.2 of the Condition place overriding obligations on all Communications Providers to:

- Make charges that represent and do not exceed the extent of service consumption (i.e. that are accurate with no overcharging); and
- Retain records to demonstrate compliance with this obligation.

The period of records' retention defaults to 15-months in the absence of any specific Ofcom direction to limit it.

The Communications Provider determines the range of records it will retain in the absence of any specific direction from Ofcom. However it should be noted that failure to retain sufficient records to demonstrate accuracy could in itself constitute a breach of the Condition.

The obligation to retain records is subject to the requirements of the Relevant Data Protection Legislation².

3.9 Communications Providers should note that under paragraph 11.4 of the Condition, an Approval Body may make directions with which the Communications Provider must comply. In the vast majority of situations this process will be manifested as a mutual agreement of the appropriate interpretations to be placed upon Scheme documentation in the particular circumstances.

However, in the event of a failure ultimately to agree, an Approval Body may invoke this power and will inform Ofcom, who may wish to advise the Approval Body upon the appropriateness of the action.

² This expression is a direct quotation from the Condition

4 Approval Bodies

- 4.1 Approval Bodies are subject to the following requirements:
- 4.1.1 They are appointed by Ofcom or Ofcom and identified in the Condition.
 - 4.1.2 They have accreditation from a European Accreditation Body (EA) to the international standard EN 45011 to carry out the Metering and Billing Approval process as defined in the Direction. The EA will be the United Kingdom Accreditation Service (UKAS) or an appropriate alternative EA agreed between the Approval Body and Ofcom.
 - 4.1.3 If not accredited, as described above in article 4.1.2 of this Guide, they have an action plan for achieving accreditation within two years of appointment, with progress reports being made to Ofcom at agreed intervals.
 - 4.1.4 They will assess Communication Providers' TMBS(s) and approve compliant Communication Providers TMBS(s) in accordance with the Direction.
 - 4.1.5 They maintain their status in accordance with the Condition, the Direction and this Scheme.
 - 4.1.6 Their decisions are published in accordance with the various requirements of the Act, Condition and Direction.
 - 4.1.7 Their details are displayed on Ofcom's Metering and Billing web-pages.
- 4.2 The Approval Body, its director and the staff responsible for carrying out the tasks for which the Approval Body has been appointed must not be a designer, manufacturer, supplier or installer of electronic communications networks or of communications metering and / or billing solutions.
- They must be independent of Communications Providers and avoid direct involvement in the design, construction, operation or maintenance of electronic communications networks or communications metering and / or billing solutions. They shall not represent parties engaged in these activities.
- These restrictions do not, however, preclude the possibility of exchanges of technical information, including discussion of the means of meeting the requirements, between such organisations and the Approval Body.
- 4.3 The Approval Body and its staff must carry out the tasks for which the Approval Body has been accredited with the highest degree of professional integrity and technical competence.
- They must be free from all pressures and inducements, particularly financial, which might influence their judgement or the results of any assessment, especially from persons or groups of persons with an interest in such results.
- 4.4 The Approval Body must have at its disposal the necessary staff and facilities to enable it to perform properly the administrative and technical work associated with the tasks for which it has been appointed.
- 4.5 The staff responsible for assessments must have:
- Sound professional and technical qualifications;

- A satisfactory knowledge of the evaluations required to be carried out and adequate experience of such assessments; and
- The ability to draw up the certificates, records and reports required to authenticate the performance of the assessments.

4.6 The impartiality of inspection staff must be guaranteed. Their remuneration must not depend on the number of assessments carried out or on the results of such assessments. The Approval Body is similarly expected to ensure the impartiality of any contract staff.

4.7 The staff of the Approval Body are bound to observe professional secrecy with regard to all information gained in carrying out its tasks, although this does not preclude proportionate information-sharing with Ofcom.

4.8 Approval Bodies will promptly submit their implementation documentation for the Scheme to Ofcom, including reference copies of proprietary Scheme documentation.

4.9 Approval Bodies will be expected to contribute information for, and participate in, the ABF to strive for fair and consistent application of the Scheme to Communication Providers. The ABF will employ electronic communication and meet as appropriate.

4.10 Approval Bodies appointed under this Scheme are expected to recognise each other's Approval activities and to co-operate in the Approval of TMBS(s) spanning multiple Communications Providers. Inter-provider dependencies may result in one Approval Body finding evidence to suggest Non-Compliance or similar of a Communications Provider approved by another Approval Body.

This should be brought to the attention of the latter Approval Body for investigation and if unresolved, referred to the ABF for peer review.

4.11 In particular, where the TMBS for a particular service involves multiple Communications Providers, then it is expected that an Approval Body already assessing a second party Communication Provider's systems will also assess those parts on which other third party Communication Providers are dependant.

Each Communication Provider is expected to be responsible for the costs of its Approval Body. Article 5.4 of this Guide also refers.

4.12 Approval Bodies should note that under paragraph 11.4 of the Condition, they may make directions with which the Communications Provider must comply. In the vast majority of situations this process will be manifested as a mutual agreement of the appropriate interpretations to be placed upon Scheme documentation in the particular circumstances.

However, in the event of a failure ultimately to agree, an Approval Body may invoke this power and will inform Ofcom, who may wish to advise the Approval Body upon the appropriateness of their action.

5 Scope of Assessments

5.1 Background

- 5.1.1 Any Bill received by an End-User should meet the same accuracy standard, whether one or many parties have been involved in its preparation.
- 5.1.2 If an Electronic Communications Service is purchased from a Communications Provider within the Scheme, it is not relevant who carries out the metering and billing or if data or signals are accepted from overseas sources. That Communications Provider needs to have contracts, SLAs or similar arrangements in place to ensure that the data, on the basis of which the Bill is drawn up, will enable compliance with the obligations of the Direction to be met.
- 5.1.3 Where a Communications Provider is unable to establish best practice as described in article 5.1.2 of this Guide above, it should agree a suitable statement with its Approval Body to put in tariffs. An example is where there is recognised risk that late or poor signalling from an overseas Communications Provider may result in mistimed and thus overcharged events, e.g. calls.
- 5.1.4 In order to demonstrate compliance with all the various requirements in the Direction, a range of measures, suited to the particular Communications Provider, will need to be designed and agreed between the Communications Provider and the Approval Body. Per-occasion usage charges for example may usefully be checked by test calls or logging live traffic. There are many other aspects which will need to be measured, such as ensuring that new End-User accounts are correctly set up, with rentals, discount packages, etc. provided according to what was ordered.

Another area that is likely to require attention is to ensure that revised tariffs are tested before implementation and that databases that are required to remain in step actually do so. An example might be to check the alignment of the tariffs and the rating data tables.

5.2 A TMBS operated by one Communications Provider

In this situation Communications Providers operate in a manner that readily allows an End-to-End metering and billing process to be examined and, if appropriate, approved. All the components that could have an effect on accuracy are managed directly by one organisation. Additionally, the platform(s) supporting individual services may be readily distinguishable. In these cases, accuracy can be assessed on an End-to-End basis for each service for which Approval is sought.

An Approval can then be given listing the services found to be compliant. This might cover, for example, *"All customer-dialled telephone calls, excluding those made using 'calling cards' or involving operator assistance"*.

5.3 **Communications Providers using sub-contractors, evaluation of TMBS components in isolation and related considerations**

The Scheme recognises that sub-contracting may take place, while not allowing any compromises to the accuracy of the Bill received by the customer. This has several consequences:

- (a) It is not sensible to approve an individual part of a TMBS, such as a switch, or a rating, billing or mediation system at its manufacturer's premises. Experience suggests that only a minority of problems arise from hardware or software deficiencies. Most problems arise from human error, e.g. inadequate data management and audit techniques, or inadequate management of the interface between modules or between main and sub-contractors.
- (b) It may be possible to assess certain features of the individual building blocks of a TMBS. No numerical standard is relevant to this assessment, nor can one conveniently be written, because the "share of inaccuracy" appropriate to each part will change as the TMBS develops over a period of time. Although no Approval is feasible, an Approval Body may desire to give an opinion as to whether or not the item in question is considered to be fit-for-purpose.
- (c) Each part of the TMBS will need to be evaluated for fitness for purpose using headings such as, but not limited to:
 - Capacity;
 - Scalability;
 - Management information outputs;
 - Security;
 - Traceability and ownership;
 - Data management and audit;
 - Clarity and completeness of configuration and operating instructions;
 - SLAs; and
 - Contracts.
- (d) In practice, each Communications Provider and Approval Body will agree a different balance between the information garnered from reviews of controls and operations and that taken from substantive measures of performance.

Theoretically, one Communications Provider may provide sufficient substantive data to obviate the need for an evaluation of individual controls and operations. In contrast, another Communications Provider may opt to minimise the substantive evidence required by maximising the evidence taken from controls and operations reviews. A balance between the various possibilities will usually be required.
- (e) Crucial to overall accuracy is the management of the interfaces between the separate parts of a TMBS. It follows that the ownership and management of these interfaces are key items for assessment, measurement and surveillance of the TMBS.

- (f) Where the TMBS includes sub-contracted processes, the Communications Provider should have appropriate contract terms, reporting arrangements, management controls and SLAs in place to ensure that he can demonstrate compliance with the requirements of the Direction to the satisfaction of his Approval Body.
- (g) Circumstances may arise where a Communications Provider may be regarded as a sub-contractor, for example if contracted to maintain a system that it does not use for its own customers. Such sub-contractors, who are also Communications Providers in their own right, may be assessed for the sub-contract functions as appropriate by their own Approval Body rather than the one associated with the contract holding Communications Provider. The scope of such assessment activity will need to be agreed between the two Approval Bodies.

5.4 **A TMBS Operated by more than one Communications Provider**

This is perhaps best illustrated by the example shown in the table below:

Multi-Communications Provider TMBS Example		
Communications Provider	Communications Provider 1	Communications Provider 2
Type formerly known as	Network Operator or Public Telecommunications Operator (PTO)	Service Provider
Communications Provider activity	Produces Call Detail / Data Records (CDRs) for Communications Provider 2	Receives CDRs from Communications Provider 1 and prices them as the basis for billing
Approval Body	AB1	AB2
Approval Body Activity	Assesses CDR production, output controls (e.g. duplication, missing records) and transmission arrangements at Communications Provider 1. This may be deemed part of another TMBS at Communications Provider 1 or separately assessed as appropriate.	Assesses CDR transmission, reception and input controls to billing system (e.g. gross error, duplication, missing or corrupted records) at Communications Provider 2. Assesses rest of this TMBS at Communications Provider 2 as appropriate.
Approval Certificate Statements (Qualifications)	Includes production of CDRs for third parties (may be named)	Includes dependency on third party CDRs (sources may be named)

For the avoidance of doubt, neither Approval Body is expected to visit both Communications Providers and each Communications Provider is expected to be responsible for its chosen Approval Body's costs.

Further guidance on the treatment of multi-Communications Provider TMBS(s) has been published by the ABF in the MABG series available on Ofcom's Metering and Billing web-pages.

Approval Bodies will normally use the available guidance on the tolerance apportionment of Table 1 of the Direction in a multi-Communications Provider TMBS. Where two or more Communications Providers have agreed a different apportionment and documented such, this can take precedence over the generality of guidance documents. See also article 12.9 below in this Guide.

5.5 **Other Standards**

A Communications Provider may submit data used by or assessments made against other standards or codes of practice for consideration by its Approval Body when that Approval Body is assessing the TMBS. However such data or assessments shall not be used as the substantive basis, or be solely relied on, for issuing an Approval certificate or for the use of any Approval mark under this Scheme.

An example of such information would be where a Communications Provider has a QMS, which encompasses the TMBS, and / or associated aspects defined in the Direction and that is certified to the appropriate ISO standard by an EA accredited certifier. This may permit the Approval Body, at its sole discretion, to delegate appropriate aspects of the TMBS QMS assessment to the ISO 9001: 2000 certifier by agreement.

5.6 **Services Scope**

The mandatory Scheme is confined to PATS, but the technical requirements in the Direction have been drawn up to cater for a wider range of communications product and services.

Communications Providers are encouraged to submit other material products and / or services voluntarily, particularly where it would be difficult to separate their treatment from products or services that anyway fall within the Approval. To quote one example, Communications Providers of mobile network services have typically included text messaging (or Short Message Service, (SMS) messaging) and other data services within the scope of their Approvals.

5.7 **Billing Bureaux**

Although the Scheme is aimed at Communications Providers, it is also open for a billing bureau to apply for voluntary Approval in its own right. This is a logical extension to the concept of the multi-Communications Provider TMBS.

It may have appeal when a billing bureau has a number of Communications Provider clients and its services can be adequately bounded and suitably described on an Approval certificate.

6 Assessment and Compliance

- 6.1 The methods agreed with an Approval Body by different Communications Providers and used to demonstrate compliance with the requirements of the Scheme will vary depending on the nature of the technology and the size of the network under consideration.
- 6.2 The chosen Approval Body will make both the initial and full assessment.
- 6.3 The initial assessment is an evaluation by the Approval Body of the Communications Provider to discover the scope and construction of the TMBS. It allows the Approval Body to set such requirements for the demonstration of compliance that it considers appropriate in accordance with paragraph 11.4 of the Condition. These requirements will be defined as an output from the initial assessment.
- 6.4 Following the initial assessment, compliance with the Direction shall be assessed and monitored by that Approval Body for a sufficient period to enable it to come to an appropriate conclusion as regards approving a TMBS and granting a certificate. Experience has shown that such a period is unlikely to be less than 6-months and more typically extends up to 12-months.
- 6.5 It follows from clause 8 of the Direction that any changes (e.g. hardware modifications, changed management processes or software up-grades) to the approved TMBS shall be addressed in accordance with the Communication Provider's documented change control process. As well as the necessary change management aspects, this will require the Communications Provider to agree with its Approval Body how it will assess the potential impact on accuracy of changes within the TMBS.

It will also be necessary for the Communications Provider to agree when it will inform its Approval Body of any significant changes to a TMBS, which may have the potential to affect its continued compliance with the Direction. The Approval Body will acknowledge such changes, assess their effects and inform the Communications Provider of any resulting requirements for continuation of Approval. The change control process and associated records will be subject to assessment by the Approval Body.

The change control process may include the appointment within the Communications Provider of an Approval liaison officer who is responsible for assessing and authorizing changes.

Note: This may be the same person as is identified in article 3.6 of this Guide above.

7 Approval and Certification

- 7.1 Only Approval Bodies may give, subject to Notification (see article 8 of this Guide below), Approvals to Communications Providers. An Approval Body will give Approval to a Communications Provider for those aspects of the TMBS(s) for which the Communications Provider is directly responsible. Approvals and certificates may be qualified in terms of dependencies on third parties, including other Communications Providers, other Approval holders and sub-contractors.
- 7.2 Both the Communications Provider and its chosen Approval Body will advise Ofcom that they are beginning the Approval process (on a service by service basis) to enable tracking of the Scheme.
- 7.3 Approval and certification duration can be ascertained from the Approval Body chosen, as the Scheme does not dictate a standard period.
- 7.4 In any event the Approval Body giving an Approval shall regularly review, usually on a 12-month cycle, approved Communications Providers' TMBS(s) to confirm continued compliance. This will typically be by a systematic, often monthly, inspection of measurement results and such other activities, as the Approval Body shall deem appropriate to the circumstances.
- 7.5 Each Approval Body shall maintain procedures covering the giving, modification, or withdrawal of Approval and any certification.
- 7.6 Each Approval Body is required by EN 45011 to make an appeal process available.
- 7.7 Ofcom will be responsible for resolving unresolved disputes which have been considered under an Approval Body's appeal process. Ofcom, at its discretion, may consult other Approval Bodies.
- 7.8 Ofcom will be responsible for sanctioning transfers by a Communications Provider between Approval Bodies.
- 7.9 Communications Providers will be required to inform a new Approval Body of any other Approval Bodies used before and of any unresolved or outstanding matters, which will include category 1, 2 and 3 items.
- 7.10 Details of Communications Providers holding an Approval certificate, including the scope of such Approval, will be posted on the relevant Approval Body's web-site. Communication Providers seeking Approval are also encouraged to agree to posting of their application by the Approval Body. The web-site of each appointed Approval Body will be accessible via a link from Ofcom's Metering and Billing web-pages.
- 7.11 Communications Providers and others voluntarily working towards Approval are encouraged by Ofcom to have their names published on Ofcom's Metering and Billing web-pages.

Ofcom will publish the names of:

- all those holding Approval;
- all those Communications Providers working towards Approval as a requirement of the Condition; and

- all Communications Providers and other voluntarily applicants requesting that their names be posted.

8 Approval Notifications

- 8.1 Section 49 of the Act places an obligation on an Approval Body to enter into a formal period of Notification when it is proposing to give, modify or withdraw an Approval.
- 8.2 An Approval Body is only permitted to give, modify or withdraw an Approval if having taken account of any representations made, it is still satisfied that its proposed course of action is objectively justified, proportionate, non-discriminatory and transparent.
- 8.3 Section 49(4) of the Act requires Ofcom to issue the formal Notification.
- 8.4 Section 49(5) of the Act requires that the period must be one ending not less than one month after the day of the publication of the notification.
- 8.5 Ultimately, once other processes have been exhausted, an Approval Body's decision may be subject to appeal at the Competition Appeal Tribunal, which will review the decision and may direct the Approval Body as to how to proceed.
- This right of appeal is covered in section 192 of the Act.
- 8.6 Approval Bodies will publish a formal notice on its web-site and will include:
- The Approval Body's identity;
 - The identity of the applicant / Approval holder;
 - The scope of the proposal;
 - The reasons for making it;
 - How to make representations; and
 - The closing date for comments.
- 8.7 Notifications will be published on Ofcom's Metering and Billing web-pages.
- 8.8 The Approval Body initiating the Notification will advise interested parties (i.e. those on the list maintained by the ABF) by blind copy Email of Notification.
- 8.9 Ofcom will advise those subscribing to the Email reflector of Notifications by blind copy email.

9 Scheme Review

- 9.1 The Scheme shall be reviewed at the discretion of Ofcom.
- 9.2 The Direction has been devised as far as possible to be technology neutral for application to the products and services currently available and those envisaged. It is intended that this Guide will be a living document, updated to interpret the Direction as necessary when general issues are discovered. Guidance on specific topics will also be published by the ABF in the MABG series as necessary and made available from Approval Bodies or Ofcom's Metering and Billing web-pages.
- 9.3 It is intended but not committed to, that an annual metering and billing forum will be held for all interested stake holders to discuss the operation of the Scheme and identify areas of innovation, difficulty or new development for further consideration. Approval Bodies and Communications Providers may advise agenda items for inclusion in advance to Ofcom and it is hoped that a full, frank exchange of information will be forthcoming from all stake holders.
- Participants should however be clear that in the interests of continuity and consistency, this forum is not convened to revise and rework the underlying Direction on an annual basis. Attendance will be by invitation and may have to be limited.
- 9.4 Ofcom may establish working groups or call ad hoc meetings from time to time to consider and address issues arising within the Scheme. Participants may be drawn from the Approval Body, Communication Provider or other communities as appropriate.

10 Categorisation of Non-Compliances, Deficiencies and Observations

10.1 Areas of concern identified by an Approval Body during the assessment of a Communications Provider's TMBS against the Direction may come to light in the form of:

- A Non-Compliance ~ an instance of failure to comply with an established requirement. The nature of the failure and the requirement in question need to be made explicit in documenting any Non-Compliance.
- A Deficiency ~ an instance of a lack of adequacy in meeting a requirement. An example might be where a Billing system has no facility to detect duplication of records for the same Service Usage. This would be likely to lead to a breach of Table 1 in the Direction, but the absence of a detection facility only causes a problem when such duplication occurs.
- An Observation ~ a comment about something that has been seen during an assessment, but is not considered sufficiently serious to be a Deficiency. However, it may possibly lead to corrective and / or preventative action.

10.2 These will result in matters being raised, which will be categorised in three categories as described below.

10.2.1 Category 1:

- An important matter 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.
- As a Category 1 matter has the potential to constitute a breach of the Condition, 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 for a determined period.
- 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 formal public Notifications as described in article 8 of this Guide above.
- All Category 1 matters for an existing Approval are to be reported by the Approval Body to Ofcom.

10.2.2 Category 2:

- A matter of concern, which is a condition of Approval and which 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.

10.2.3 Category 3:

A matter 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.

10.3 **Re-categorisation**

The Approval Body can re-categorise a previously categorised matter dependent on the Communication Provider's response and / or the implementation and progress of his corrective action plan. For example:

- A Category 2 matter that has not been acted upon to the satisfaction of the Approval Body can be raised to Category 1 status;
- An accumulation of matters which individually would only warrant Category 3 status might in aggregate be deemed Category 2; or
- A residual matter from a large Category 2 group might be reduced to a Category 3.

10.4 **Appeals**

10.4.1 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).

10.4.2 Ofcom will be responsible for reconciling unresolved disputes, which have been considered under and exhausted an Approval Body's Appeal Process.

11 Publications

- 11.1 Ofcom will maintain Metering and Billing web-pages containing Scheme public documents or references or links thereto, information about Approval Bodies, Approval holders and those Communications Providers seeking Approval and links to related sites and other relevant items.
- This is accessible from the Ofcom home page (www.ofcom.org.uk) by following the links through; **Telecoms > Industry Groups > Metering and Billing**.
- 11.2 Documents forming part of the Scheme are available from Approval Bodies or Ofcom's Metering and Billing web-pages.
- 11.3 The following documents are downloadable:
- This Guide;
 - The Direction;
 - The GCoE; and
 - The MABG series of documents published by the ABF.
- 11.4 Not all documentation will be placed in the public domain, for example Approval Bodies' proprietary documentation, Communication Providers' confidential information, confidential records of the ABF and UKAS or other EA records.

12 Interpretation of the Direction

12.1 Principle and major concepts

12.1.1 The Direction has been intentionally devised to cover a wide range of users, applications and products and services. The overriding principle is that End-Users should be charged neither more nor less for the products and / or services they use than is specified in the related tariff to which they subscribe.

12.1.2 This guidance explains how the Direction may be interpreted in various situations. The Direction makes use of three major concepts, defined formally in the Condition and quoted in clause 2 of the Direction:

- Communications Provider;
- TMBS; and
- Chargeable Event.

12.1.3 The main attributes of the Direction are that a Communications Provider is required to:

- Demonstrate the accuracy and reliability of its TMBS against defined parameters using an appropriate test, measurement and reporting regime;
- Operate the TMBS under systematic management processes which will encompass any sub-contractors used;
- Handle billing Complaints under an appropriate, systematic management process;
- Systematically analyse the root causes of Bills that were the subject of upheld Complaint and implement improvements to the TMBS to eliminate such matters;
- Feed upheld Complaint matters into test and measurement programmes; and
- Respond appropriately to matters raised by the Approval Body (ref. article 10 of this Guide above).

12.1.4 The Direction has been written to cater for a wide variety of products and services as it is expected that some Communications Providers will wish to achieve a more comprehensive Approval than just for the services that currently lie at the heart of the mandatory Scheme.

12.2 Communications Provider

A Communications Provider in the context of the mandatory Scheme is an undertaking providing Public Electronic Communications Services (PECS) that is a provider of PATS and that has a Relevant Turnover in its most recent complete financial year exceeding £40 million.

It includes for example:

- traditional fixed networks;
- mobile networks;

- cable networks;
- switchless fixed or mobile network resellers;
- those using BT Calls and Access or Wholesale Line Rental (WLR);
- those offering indirect access including Carrier Pre-Selection (CPS); and
- those offering personal numbering.

Notwithstanding the above criteria, self-motivated voluntary Approval applications are welcomed from Communications Providers below the threshold and others such as billing bureaux who wish to enter the Scheme. Compliance with the Scheme may be used by any Communications Provider as evidence of meeting the requirements of paragraph 11.1 of the Condition.

12.3 **TMBS**

12.3.1 The use of TMBS overcomes the practical difficulties of applying the Direction to current designs of switch and billing systems. It encompasses the totality of all Equipment, procedures and activities used to determine the charges to be applied for service provision and Service Usage, and the presentation of those charges on End-Users' Bills.

12.3.2 The term meter means any system or apparatus constructed or adapted for use in ascertaining the extent of usage of Public Electronic Communications Services. It therefore follows that metering includes not only measurement of time, but also logging and counting where charges are determined by the number of items recorded.

12.3.3 A Communications Provider may be deemed to operate more than one TMBS even if they share common components; for example, mobile network pre-pay and post-pay platforms may share the same switches but be approved as separate TMBSs. The requirements of the Direction can be applied End-to-End to each TMBS.

12.3.4 A TMBS covers an "End-to-End" process. It begins with the recording of the event being charged. It ends with that event being in a format suitable for inclusion in a Bill, other than for superficial changes for the purpose of presentation only. In testing the end product of the TMBS, it is possible to test either:

- the data output as Bill-inclusion-ready, excepting presentational changes only; or
- the data as finally presented on the Bill.

This choice exists because it is reasonable to assume that the content of data is unaffected by the superficial presentational changes alluded to. If there is reason to believe that the content of data will be altered by such changes, then these cannot be considered to be of a presentational nature only.

12.4 **Chargeable Events**

12.4.1 The rapid development of new services makes for difficulties in setting requirements for traditional, individual billing items, such as rentals, supplementary services and time related usage charges. Typically, no Bills are issued for pre-pay services. Instead, the Direction uses the

concept of a Chargeable Event, encompassing all items for which the End-User will be charged. This allows for the introduction of new services, such as data provision by a per packet charge.

12.4.2 Chargeable Events can be sub-divided into service provision (e.g. rental and supplementary services) and individual, effective items of Service Usage (e.g. telephone calls). Such items are identifiable from records of duration (or count) and time of initiation or completion.

12.4.3 In general, where non-Electronic Communications Services or other goods are included on a Bill it is expected that, although not subject to assessment under this Scheme, the calculation of the relevant charges and their presentation on a Bill by the Communications Provider will be accurate and will not be detrimental to this Scheme by association.

Where such charges are directly determined by an End-User's usage of a specific Electronic Communications Service, then such an Electronic Communications Service shall be deemed to be within the scope of this Scheme, subject to the materiality criteria.

An example of this would be dialling a special number, which triggered charges, without further intervention, to the End-User's Bill in respect of the anticipated supply of a non-electronic communications item. The correct charge for calling that special number must appear on the Bill and will be subject to this Scheme.

12.4.4 Similarly, it is expected that third party data in respect of non-Electronic Communications Services and other goods will be accurately processed by the TMBS and so presented so that it is not detrimental to this Approval Scheme by association. As above, there are no assessment requirements associated with this Communications Provider responsibility.

12.4.5 For the avoidance of doubt, this Scheme does not concern itself with any aspects of the supply and quality of non-Electronic Communications Services or other goods, which are subject to the normal laws concerning the supply of goods and services.

12.4.6 It should be noted that this Scheme is specific to the electronic communications sector as regulated by Ofcom. It caters only for network services, which are considered to be any of the following:

- A service consisting only of functions which enable End-Users to send, receive, or both, messages to or from one or more End-Users, including functions which enable the establishment of a prior connection between such End-Users;
- A service which consists only of functions which could not practically be provided to any End-Users in identical form by anyone other than the provider, because those functions are dependent upon the functions referred to above; or
- Any service which has been agreed by the provider and Ofcom.

12.4.7 An appraisal of the factors affecting or effecting accurate Bill generation should be introduced.

12.4.8 Within the switch environment it is not practical to assume that all Chargeable Events correctly create CDRs or other Service Usage records. However, there are audit tools and control processes that can provide the necessary confidence in this stage of the call generation process. A similar methodology should be used for other types of event generation where it is not practical to perform active reconciliation or measurement.

12.4.9 The appraisal of the processes and systems which generate non-Service Usage (i.e. "non-call") Chargeable Events will identify the key controls that give the necessary confidence for event generation and billing accuracy. The Communications Provider should ensure that system design and manual procedures are developed which will assure the accurate generation and billing of these non-call Chargeable Events and agree a compliance reporting structure with the Approval Body.

12.5 **Measurement of TMBS Accuracy and Reliability (clause 3 of the Direction)**

12.5.1 Ideally, a TMBS should neither over record nor under record Service Usage.

12.5.2 Metering accuracy under clause 3.2 of the Direction is normally only determined by measuring test calls rather than live traffic, although a logger may alternatively be employed to test against a time standard.

12.5.3 Ofcom recognises that the available technology might set a finite limit on the precision with which Service Usage can be recorded. Where it is in excess of the limits given in clause 3.2 of the Direction, the Communications Provider should make a statement in his Previously Agreed Tariffs and / or Published Tariffs, as appropriate, to stipulate what accuracy will be achieved by his TMBS.

12.5.4 When it is determined that Logging / Metering Equipment is over metering, correction should take place. Where correction is not possible, the Communications Provider should make a declaration in its Previously Agreed Tariffs and / or Published Tariffs, as appropriate. Such over metering shall not count against the Direction, but shall be reported to the Approval Body, which may take a view as to any underlying threat to the integrity of the Equipment.

For example, failing to achieve clock or call duration timing accuracy standards should result in CDRs being corrected before charges are presented on a Bill or a prepaid event log is debited. Similar considerations apply where the useable duration of a call is less than the measured duration due to a signalling feature, such as the guards against premature call release on mobiles or termination of a call by the called party.

12.5.5 Ofcom recognises that publication of the means to prevent overcharging, such as in built undercharging, might lead to fraud. It is acceptable for such means to be included in a SUS claim agreed between the Communications Provider and the Approval Body in specific terms on a per-TMBS basis. Such SUS claims will be subject to review in the ABF by other Approval Bodies and Ofcom, but treated as commercially confidential.

Where the resulting error is such that the charge incurred for a service is within the tolerances declared in the Published Tariff and / or Previously Agreed Tariff for that service, such features are not errors since they accord with the published basis of charging.

- 12.5.6 Communications Providers should take care to prevent duplicate billing of the same usage. For example, ensuring that the maximum likely discrepancy in “time stamps” is allowed for, where any part of the TMBS processes involves the matching of Service Usage details. The term time stamp derives from traditional telecommunications networks where CDRs are marked with the time of day when the answer signal has been received and processed.

In this context it simply refers to matching of CDRs which include the time of day / date and which may derive such from different reference sources or at different points in the network or connection. Errors to be avoided include both duplication of charges for a single item of Service Usage on one Bill and repeat billing of a single item of Service Usage on the end of one Bill and at the beginning of the next.

- 12.5.6 Situations can arise where the records of a small number of Chargeable Events are quarantined and cannot be allocated to any valid Bill.

In the event that the Communications Provider can satisfy the Approval Body that the cost of reworking such records would exceed their monetary value, it is acceptable for a write-off process to be included in a SUS claim agreed between the Communications Provider and the Approval Body. These particular records would then be disregarded in determining compliance with the Direction.

- 12.5.8 Under sub-clause 3.2b of the Direction, where the time of day is inaccurately recorded but the resultant Bill is correct, then a Non-Compliance is recorded against this clause of the Direction for corrective action as appropriate and there is no input to Table 1 of the Direction.

- 12.5.9 Clause 3.2 of the Direction specifies the metering accuracy required and sub-clause 3.2c of the Direction specifies the accuracy of logging Equipment used to count events where multiple occurrences trigger a single unit of charge. Examples of application are to inclusive, or bulk charged, numbers of SMS messages, or fixed fee calls, and to transportation of data where charges are determined by counting bytes or data packets.

In cases where the subject number is small relative to the accuracy requirement, the Approval Body may determine measurement processes and logging accuracy requirements more appropriate to their subject, in discussion with the Communications Provider and in the spirit of the Direction. Such arrangements will be subject to peer review in the ABF and may be published in the MABG series of documents or future revisions to the Scheme.

Note: When one occurrence triggers one unit of charge this is not a subject for Direction clause 3.2c, but rather clause 3.4 and thus clause 3.3 Table 1. See article 12.6.13 of this Guide below.

12.5.10 Clause 3 Table 1 of the Direction defines, in column 1 “Logging / Metering”, the permissible numbers of Chargeable Events that fail to meet the accuracy requirements of clause 3.2 of the Direction.

12.5.11 Apart from the obvious, such as incorrect rating, clause 3 Table 1 of the Direction defines, against rows 1 and 2, in column 3 “Billing”, the permissible numbers of Chargeable Events that have been the subject of incorrect application of discount, as described in clause 3.4 of the Direction. The “value under” or “number not charged” will also record errors such as the zero rating of items that should have incurred a fee, prior to or during billing.

12.5.12 The implication of clause 3.4 of the Direction is that the Bill should accurately reflect the Communications Provider’s End-User database records of equipment and service provision, including discounts and features. This further implies a link to the Complaints handling process and its outcomes to maintain database accuracy. In demonstrating compliance with the accuracy requirements for charges relating to apparatus located on customers’ premises, such as rentals for Communications Provider provided terminal equipment, private branch exchanges (PBXs) or lines, neither the Communications Provider’s nor the Approval Body’s staff shall be obliged to visit such premises.

Acceptable means of demonstrating compliance include comparison of the Bill with an inventory of equipment held by the Communications Provider raising the charge.

12.5.13 Clause 3.4 of the Direction also applies Table 1 requirements directly to service provision where one item of usage triggers a unit charge. Examples of this are SMS messages or fixed fee calls charged per message or call respectively.

12.5.14 Where a Communications Provider’s tariffs offer inclusive calls or “free minutes”, then the requirements of the Direction also apply to such inclusive items. The metering requirements shall be treated as though the End-User were paying for the call, but the billing requirements may be treated as though a discount were being applied if this is appropriate.

The Communications Provider shall agree with its Approval Body the most appropriate way to deal with such items in the spirit of the Direction, the arrangements being subject to peer review within the ABF.

12.5.15 Where incorrectly metered or rated calls arising from a fault are corrected before Bill Issue they shall not count against the Direction. However the Communications Provider shall report such instances to the Approval Body, which will take a view on any underlying threat to the accuracy and integrity of the metering or billing arrangements.

12.6 Individual Bill Accuracy (clause 4 of the Direction)

12.6.1 This aspect of the Direction requires the implementation of a quality circle or similar formal process that continually reduces risks to Bill accuracy by causal identification and remedial action.

12.6.2 Communications Providers will be expected to use additional, appropriate safeguards against conspicuously wrong errors being allowed to be

included in individual End-Users' Bills. For example, a Bill for £10,000 should receive special scrutiny before dispatch if the End-User normally receives Bills of the order of £2,000. Approval Bodies are expected to assess such arrangements and form an opinion as to their fitness for purpose. It is expected that Communications Providers will improve such safeguards over time, employing increasing sophistication and narrower capture windows as customer management systems develop.

12.6.3 A Communications Provider's customer Complaint handling process may remain unchanged but must be subject to documented process control procedures. Upheld billing Complaints include those that have been investigated by Ofcom or an Alternative Disputes Resolution provider, as well as those upheld by the Communications Provider.

In general an upheld billing Complaint may be considered to be one which has resulted in a justified (as distinct from goodwill) adjustment to the End-User's account.

12.6.4 The concept of proportionate remedial action suggests that where only a single End-User is affected then only actions arising in normal business practice need be taken, but where multiple accounts are affected then special remedial action should be undertaken. So, for example, changes to manual procedures are readily made, but issues of software change or hardware modification are often better grouped together for implementation. Further guidance has been published by the ABF in the MABG series of documents. This includes an example of good practice for the steps in dealing with upheld Complaints.

12.6.5 It will be incumbent on the Approval Body to ensure that the incoming Complaints handling process operates equitably and that the upheld Complaints process, root cause analysis and the resultant remedial action and recovery programmes are operated in the spirit of the Direction. In assessing these aspects the Approval Body may take account of the Communication Provider's internal audit and self-appraisal records.

The Communications Provider and Approval Body may wish to consider trends in sub-sets of upheld Complaint statistics to check the effectiveness of resolution processes.

12.6.6 Given that the requirement in clause 4.4 of the Direction to include affected Bills in a recovery programme arises via upheld billing Complaints, it is most likely to be concerned with refunds or credits to End-Users. It is not to be misconstrued as a mandatory requirement for undercharged customers to be subsequently billed for any shortfall. In any event the Communications Provider should advise and agree with its Approval Body when it considers it "not practicable" to include Bills in a recovery programme.

An example might be where the cost of administering a large number of very small credits is disproportionate and a charitable donation to the total refundable value is made in lieu of individual refunds.

12.7 **Timeliness of Post Pay Billing (clause 5 of the Direction)**

12.7.1 The time periods in clause 5.2 of the Direction are intended to establish maximum limits for late billing, as this is a major cause of consumer

Complaints. It is expected that Communications Providers will wish to establish good practice and achieve prompt billing with much stricter internal limits and targets.

12.7.2 As the Direction applies to a TMBS “End-to-End”, it follows that the time periods are based on the limits of acceptability for late billing in a retail context. Timeliness in a wholesale environment therefore needs to be considerate of the retail billing obligations downstream.

12.7.3 Communications Providers may occasionally seek agreement from Ofcom to extend the late billing times permitted under clause 5.2 of the Direction on an exceptional basis. Examples might be corrupted CDRs that can be repaired or missing CDRs that can be retrieved, but not within the time-scales described in the Direction. Applications for such agreement, made under clause 5.3 of the Direction, should include the Communication Provider’s plans for informing End-Users so affected, for confirming the integrity of the billing process audit arrangements and for prevention of similar occurrences in future.

It would be helpful if a Communications Provider were to segregate such late charges into a separate portion of the Bill.

Ofcom may publish details of such agreements on its Metering and Billing web-pages at its discretion.

12.7.4 Where a Communications Provider has its own internal criteria stricter than the Direction regarding late billing, then any goodwill waivers in respect of late usage records will not be counted against the Direction, provided they were calculated correctly and did not exceed the lateness permitted by the Direction.

For clarity, it should be noted that charges that are written off under the requirements of clause 5.2 of the Direction are not to be counted as goodwill payments.

12.8 Tariffs (clause 6 of the Direction)

12.8.1 It follows from the principle in article 12.1.1 of this Guide above that End-Users should have access to the tariff details of the service which they use. It would be helpful if Communications Providers were to indicate the sources of such information on Bills. Unless there is a Previously Agreed Tariff in force, the applicable tariffs need to have been published. In order to meet the requirements of clause 6 of the Direction, such Published Tariffs need to specify the fee for each Chargeable Event.

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

An example of End-User choice is making a call by dialling a number. The End-User should be able to establish the fee from a list of dialling codes or call types and grouped by tariff.

12.8.2 In general a Previously Agreed Tariff takes precedence over Published Tariffs for the purposes of the Direction. However where there is potential for conflict, the Communications Provider should confirm to its Approval Body which takes precedence and how this is made known to the End-Users concerned.

12.8.3 Clause 6.2 of the Direction requires that tariffs include statements to define the resolution and rounding of charges and their underlying units of measurement.

Where arithmetic rounding is used it is expected that normal practice will be followed whereby the significant digits up to 49999 (recurring) will be rounded down and significant digit 5 and above will be rounded up.

12.9 **Interworking between Communications Providers (clause 7 of the Direction)**

12.9.1 Clause 7 of the Direction is intended to cover the situation where “more than one Communications Provider is involved in the TMBS” for a given service and such Communications Providers:

- May not be regarded as the sub-contractors of the Communications Provider applying for Approval (the lead Communications Provider); and
- Are also qualified to apply for Approval under this Scheme in their own right.

For the avoidance of doubt the concept of “Communications Providers involved in the TMBS” does not include all those Communications Providers through whose networks a call may be routed and each of which may contribute to signalling delays or malfunctions. Rather it applies only to the network of the originating Communications Provider to the point of interconnect, as the reference point for signals which are aggregated to produce CDRs. A similar consideration applies in the case of a TMBS operated End-to-End by a single Communications Provider.

Clause 7 of the Direction is however clearly concerned with apportionment of error allowances under clause 3.3 Table 1 of the Direction between communications network operators and the communications service providers or resellers that they host, as described below.

12.9.2 Under these circumstances the permissible levels of error and tolerance described in clause 3.3 Table 1 of the Direction will need to be applied divided or even sub-divided between different parts of the TMBS undergoing Approval. Annex B gives some examples of such an application of the Direction.

Such apportionment of the tolerances should be equitable and reflect the scope of the activities being undertaken by each Communications Provider, such as logging, metering, rating or billing. It should not be based on any evidence concerning the Communications Provider’s actual performance.

The relevant apportionment arrived at under article 7.4.2 of this Guide above shall be included in each Communications Provider’s Approval details. If not published, such information shall be made available to the ABF and other interested stake holders to ensure transparency. Additional guidance on effecting such apportionment has been published by the ABF in the MABG series of documents.

12.9.3 The assessment of each Communications Provider in such a TMBS should be carried out by its chosen Approval Body, not the Approval Body

to whom the Approval application for the multi-party TMBS was made by the lead Communications Provider. See also article 5.4 of this Guide above and the associated table.

12.9.4 Although under clause 7.2 of the Direction, a receiving Communications Provider is generally not accountable for errors in data supplied from another Communications Provider, clause 7.3 provides for such errors to be counted against the receiving Communications Provider's performance if there is evidence of such errors and they remain uncorrected. Communications Providers are expected to establish at least basic controls for acquiring and detecting such evidence.

Approval Bodies are expected to assess the arrangements and form a view as to their fitness for purpose. The following are examples where good practice suggests there would be such evidence:

- Late arrival of files;
- File header missing or corrupted;
- Corresponding fields within records corrupted in a file;
- Regular loss of files or records from particular sources;
- Duration timing errors reported by sender;
- Clock setting errors reported by sender;
- Gaps in file sequence numbers, files being either irretrievable or late; and
- Signalling errors or delays caused e.g. by multiple transits of the same network because of routing problems.

There is an implicit duty on sending Communications Providers to advise the recipient of known errors or where the integrity of data is questionable.

12.10 **Quality (clause 8 of the Direction)**

It is not a requirement of this Scheme that a Communications Provider has a QMS certified by an accredited certifier to ISO 9001: 2000. However the same principles of establishing and enforcing the use of a QMS apply in respect of the TMBS and associated aspects of the Direction.

12.11 **Materiality (clause 9 of the Direction)**

12.11.1 The materiality clause of the Direction is primarily intended to provide a Communications Provider with a derogation to exceptionally omit new products and / or services from its Approval until such time, if ever, as they become significant. That is material in relation to the number of End-Users using them or their value in relation to average relevant Bills.

Obviously those End-Users who have committed to take the service, even if its provision has not actually commenced, should be considered under this article of the Guide.

12.11.2 The Communications Provider must obtain agreement from its Approval Body for all such derogation.

12.11.3 It is expected that the Approval Body will rigorously examine the basis of the Communications Provider's calculations of total target End-User numbers or turnover value to ensure their relevance to the product / service proposed for derogation. In this context, the term End-User is deemed not to include potential End-Users, who do not yet procure services from the Communications Provider concerned.

12.11.4 In the event that the Communications Provider and Approval Body cannot agree, then Ofcom will mediate, but in any event reserves the right to direct that particular products / services be included in the Approval.

12.11.5 For the avoidance of doubt, a Communications Provider's core services, e.g. a basic switched circuit telephone call, are deemed to be material and will not be considered for such derogation. However other, possibly obsolete, services may be considered for derogation if they cease to be Material in the terms of the Direction.

12.12 Measurement Systems (clause 10 of the Direction)

12.12.1 Clause 10.1 of the Direction leaves the method of demonstrating compliance to be agreed between the Communications Provider and the chosen Approval Body. This involves the preparation by the Communications Provider of a MSD to comprehensively address the requirements. This is likely to include the use of test calls or analysis of real traffic, but other measurement techniques will need to be devised to address less obvious areas, such as:

- Errors in the provisioning of service that result in the incorrect application of tariffs, bundles, discounts, charging method, effective dates, etc.;
- Errors in the cessation of service that result in unwarranted charges;
- Significant errors in the data tables that will implement changed tariffs; and
- Proper maintenance of Databases where charging errors would result from lack of alignment.

These and other measurement requirements will become apparent as the Communications Provider appraises the TMBS and discusses its measurement strategy with the Approval Body.

12.12.2 Where it is decided to demonstrate compliance with some requirements of the Direction by the use of test calls, test call patterns should be agreed between the Communications Provider and Approval Body. Alternatively, the analysis of real traffic may be used, which has the advantage of being directly representative of customer behaviour.

However, as discussed above, Communications Providers and Approval Bodies need to be aware that there are usually many aspects of accuracy that will not be adequately addressed by either of these techniques.

12.12.3 Small Communications Providers may find it difficult to use test calls as a statistically meaningful measure without the test traffic becoming an

unrealistically large fraction of the total traffic on the network. In such cases, other techniques, such as the logging and analysis of live traffic, may be of value.

- 12.12.4 In general a measurement sample size should provide a high level of confidence that the Direction will be met. As such a 95% statistical confidence level is preferred, but it is realised that this may not always be achievable or realistic in relation to events, which occur in relatively small numbers. Under these circumstances the Approval Body will specify a sample size appropriate to the subject of a measure. When a sample size is being defined, consideration of its effectiveness should take account of all the measures being applied to the subject.
- 12.12.5 It is expected that test call patterns and sample sizes will be varied and increased respectively where problems have been encountered in cases involving small sample sizes.
- 12.12.6 Additional guidance concerning test call sample sizes to assess metering accuracy has been published by the ABF in the MABG series of documents.

Condition 11 of the General Conditions of Entitlement

Note: This is a reference copy of the Condition published on 22nd July 2003. In the event of conflict, the original publication takes precedence. It follows that paragraph numbering in this Annex A refers to the original Condition numbering.

11 METERING AND BILLING

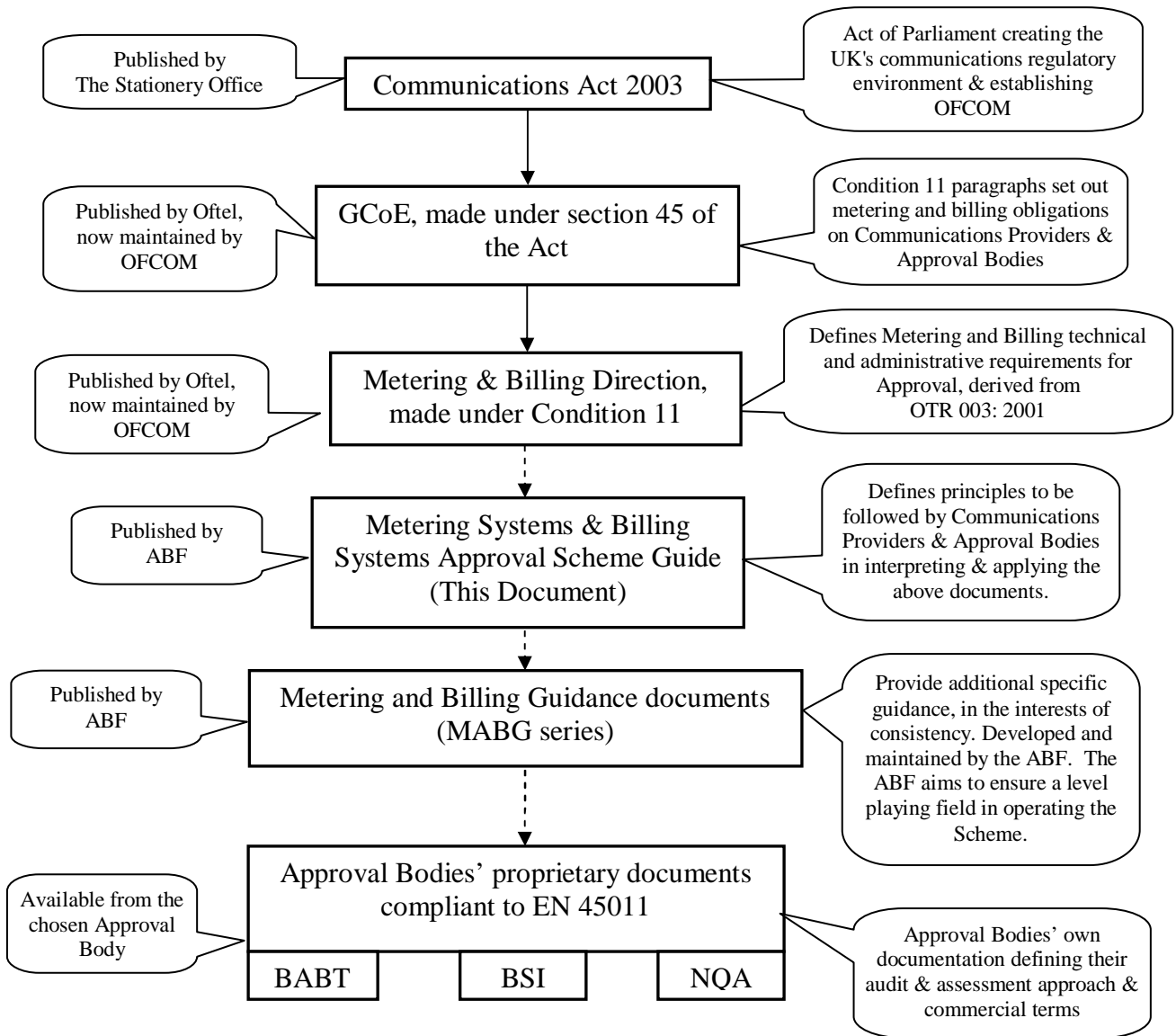
- 11.1 The Communications Provider shall not render any bill to an End-User in respect of the provision of any Public Electronic Communications Services unless every amount stated in that bill represents and does not exceed the true extent of any such service actually provided to the End-User in question.
- 11.2 The Communications Provider shall retain such Records as may be necessary, or as 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, 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 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 11.8 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, and shall obtain 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 Communications 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.
- 11.6 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 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 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 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 OTR 003: 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 OTR 003: 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.
- 11.9 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 Of tel Metering and Billing Direction;
 - (b) "Approval Body" means the British Approval Board for Telecommunications (BABT), the British Standards Institution (BSI), or National Quality Assurance Ltd (NQA);
 - (c) "Communications Provider" means a person who provides Public Electronic Communications Services;
 - (d) "Of tel Metering and Billing Direction" means a direction made by the Director from time to time under this Condition setting out various requirements relating to metering and billing accuracy;
 - (e) "OTR 003: 1993" means the Office of Telecommunications Standard for Telecommunications Metering Systems issued on 10th December 1993 in Designation No. Of tel / 92 / 1 under section 24(6) of the Telecommunications Act 1984;
 - (f) "OTR 003: 2001" means the Office of Telecommunications Standard for Metering Systems and Billing Systems issued on 21st December 2001 and redesignated without amendment on 26th June 2002 in Designation No. Of tel / 2001 / 1 under section 24(6) of the Telecommunications Act 1984;
 - (g) "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) "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) "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.



Governance Framework and Documentation Structure



Examples of the application of Table 1 To a multi-Communications Provider TMBS

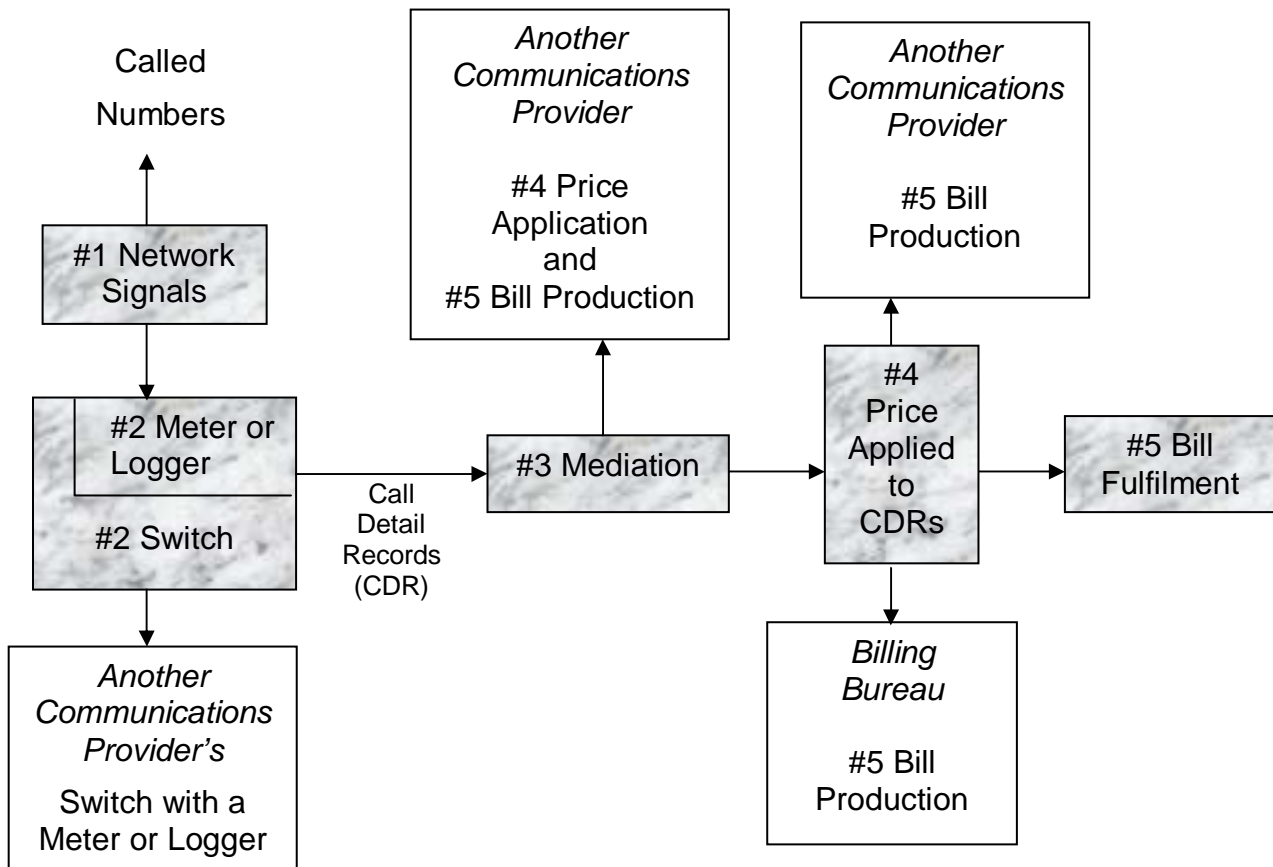


Figure 1 Typical TMBS Components

The shaded boxes show a traditional single party TMBS, such as might be operated by a former PTO.

#1, #2 and #3 are typically performed by a communications network provider.

#2 and #3 are subject to the requirements of Table 1 Column 1 (Logging / Metering).

#4 and #5 can each be performed by communications network providers or communications service providers.

#4 and #5 may also be undertaken by billing bureaux. Where not performed by the same undertaking, the requirements of Table 1 Column 3 (Billing) should be sub-divided to give the same combined performance across #4 and #5.

In other cases the functional split may not readily be assimilated against the requirements of Table 1 Columns 1 and 3 of the Direction, in which case the requirements of Column 2 (End-to-End) should be equitably divided between the undertakings involved.

Further guidance has been published by the ABF in the MABG series of documents.

Annex D**Metering and Billing Approval Body Forum Terms of Reference****1 FORUM MEMBERSHIP**

- 1.1 Representatives of Approval Bodies named in General Condition of Entitlement; Condition 11.
- 1.2 Representatives of Ofcom (direct or indirect) as necessary.

2 FORUM OBJECTIVES

- 2.1 To obtain such information as is necessary to inform discussion.
- 2.2 To hold a free and open exchange of views.
- 2.3 To share experiences.
- 2.4 To ensure all Approval Bodies work in comparable ways.
- 2.5 To ensure equitable treatment of Communications Providers.
- 2.6 To review SUS Claims and ensure equitable treatment of Communications Providers' claims.
- 2.7 To provide advice and support to each other and the Communications Provider industry.
- 2.8 To own and manage the Scheme Guide and associated or supplementary MABG series of documentation.
- 2.9 To communicate proposals and decisions to appropriate interested stake holders, generating documentation as appropriate.
- 2.10 To identify opportunities for improvements in the TMBS Approval Scheme.
- 2.11 To communicate future revisions to the Standard.

3 FORUM RULES

- 3.1 Forum Meetings will be conducted in an informal manner and held as necessary (currently 6 per year rotating at alternate Approval Body locations).
- 3.2 Delegates attend as professional independent experts not as employees representing their employer's interests.
- 3.3 Discussion shall be free and honest.
- 3.4 Absolute confidentiality will be observed.
- 3.5 The Forum Chair will be responsible for the organisation of meetings, inviting representation and the distribution of material before and after the meeting.
- 3.6 The Forum Chair will be provided by the Approval Body hosting the meeting.
- 3.7 No recordings or notes shall be taken by the delegates apart from those to be used for their individual confidential use.
- 3.8 Any agreed notes shall be taken by the Forum Secretary appointed by the Forum Chair and shared with the Forum.

4 OTHER REPRESENTATIONS

Communications Providers may submit representations in writing via an Approval Body and may be invited to attend a meeting to present their arguments in person.

5 TERMS OF REFERENCE REVIEW

These Terms of Reference may be reviewed by the Forum at its discretion and any recommended changes will be communicated to Ofcom.