
Ofcom Metering and Billing Direction

Unofficial Consolidated Version

About this document

On 31 July 2014, Ofcom issued the Metering and Billing Direction¹. There have been a number of modifications to the Metering and Billing Direction since it was first issued, which Ofcom has made by way of notification under section 49A of the Communications Act 2003.

This is an unofficial consolidated version of the Metering and Billing Direction which incorporates, for ease of reference, all the modifications made to this direction since July 2014 in a single document.

While every reasonable effort is made to ensure that the information provided in this document is accurate, no guarantees of the accuracy of information are made, and this document has no legal effect. Therefore, in relation to each specific amendment, you are advised to consult the relevant notifications, listed on the final page of this document, as these contain an explanation of the reasons for the decision to amend and the specific modifications that have been made.

For the avoidance of doubt, in the case of any difference between texts, the text set out in the notification of 31 July 2014 and any subsequent notification published on Ofcom's website shall take precedence over this unofficial version of the Metering and Billing Direction.

¹ https://www.ofcom.org.uk/data/assets/pdf_file/0032/58838/statement.pdf

Contents

Section

1. Introduction	1
2. Document Structure	2
3. Communications Provider Applicability	3
4. Principal Obligations	6
5. Compliance with this Direction	14
6. Enforcement	18
7. Annex List	19

Annex

A1. Definitions and Interpretations	20
A2. Retail Services	26
A3. Wholesale Services	31

1. Introduction

1.1 Purpose

Consumers cannot reasonably be expected to verify the accuracy of all charges made by any **Communications Provider (CP)** for services provided, especially where those charges are based on the extent of consumers' usage of such services.

This Direction and its Annexes set out the requirements on CPs to ensure that the risk to consumers of being incorrectly charged for their use of **Regulated Services** is minimal.

1.2 Direction Overview

This Direction requires that the systems and processes used to generate any chargeable Event and the subsequent pricing of such Events are suitably designed to accurately record usage and enable charging at the correct tariffs, that they are being operated within their designed limits and that there is reported evidence of performance. In the event of overcharging the remedial action is set out in Clause 4.9.

This 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.

This Direction also describes the means whereby End-Users who suspect that there is an overcharge Event have access to a process to investigate and report on the issue, as set out in Clause 4.9.

In order to provide the End-Users with confidence, Ofcom uses independent **Approval Bodies (AB)**, who are accredited to approve those CPs who are required to demonstrate compliance with this Direction.

2. Document Structure

This document contains the following:

Communications Provider Applicability (3)

Section three clarifies the criteria against which CPs need to apply, gain and maintain Approval in accordance with this Direction.

Principal Obligations (4)

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

Compliance with this Direction (5)

Section five describes the process through which CPs shall demonstrate compliance with this Direction, and the role of an AB.

Enforcement (6)

Section six describes possible enforcement actions.

Annex List (7)

Section seven describes the annexes at the end of the core text.

Notes:

1. Defined terms will be presented in Title Case and can be found in the Definitions & Interpretations Annex. Additionally, the first occurrence (excluding section / sub-section titles) of a defined term will be marked in bold.
2. Reference to Clause numbers will appear in text such as 2.1 for example.
3. Where the term Direction is used throughout the document this includes relevant Annexes.

3. Communications Provider Applicability

3.1 Scope

A CP is required to comply with this Direction if it is a “Regulated Provider” for the purposes of General Condition C3.1(b).

This Direction applies to any **Total Metering and Billing System (TMBS)** used for either **Retail** or **Wholesale** purposes, or both. It does not apply to an invoice raised by one CP against another for handling telecommunications traffic passed between their systems e.g. **Interconnection** and settlement charges between CPs.

3.2 Initial Application

Initially, CPs shall apply to an AB for Approval in accordance with this Direction and achieve the milestones within the timescales detailed in the table below:

Milestone	No later than
CP applies for Approval	6 months from becoming a “Regulated Provider” for the purposes of General Condition C3.1(b)
All reasonable steps taken by the CP to agree an Approval plan with AB	6 months from application to AB
All reasonable steps taken by the CP to achieve compliance with this Direction	24 months from agreement of the Approval plan

3.3 Transfer of Approval

3.3.1 Existing Approval

CPs approved under the **2014 Ofcom Direction** shall apply to the AB and achieve the milestones within the timescales detailed in the table below:

Milestone	No later than
CP applies for Approval	6 months from the date of relevant modification of General Condition 11 ² (i.e. 1 April 2019)
All reasonable steps taken by the CP to achieve compliance with this Direction	24 months from agreement of the Approval plan

² The relevant modification to General Condition 11 referred to in this table is the modification of General Condition 11 to extend the scope of the Metering and Billing Scheme to the provision and billing of Publicly Available Internet Access Services and increase the Relevant Turnover threshold from £40m to £55m.

For the avoidance of doubt, where a CP who has obtained Approval under the 2014 Ofcom Direction for the TMBS it uses in respect of the Publicly Available Telephone Services it provides is required to obtain approval of the TMBS it uses in respect of the Publicly Available Internet Access Services it provides, it is for the AB to determine whether a new and separate Approval, or an extension of scope to an existing Approval is appropriate.

3.3.2 Gaining Approval

CPs in the process of gaining approval under the 2014 Ofcom Direction shall apply to an AB for Approval in accordance with this Direction and achieve the milestones within the timescales detailed in the table below:

Milestone	No later than
CP applies for Approval	6 months from the date of relevant modification of General Condition 11 ³ (i.e. 1 April 2019)
All reasonable steps taken by the CP to achieve compliance with this Direction	24-months from application

Note: ABs will agree a timescale for CPs in progress to achieve Approval dependent on progress to achieving approval to the 2014 Ofcom Direction. This will be no more than 24 months and will be likely to be shorter.

3.4 Additional Approvals

There are two routes by which additional products and services can be introduced into the TMBS by CPs with an approved TMBS: as a new and separate Approval or an extension of scope to an existing scheme.

In both instances, it is for the AB to determine whether a new and separate Approval or an extension of scope to an existing Approval is appropriate.

3.4.1 New and Separate Approvals

The first route is where the CP 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 AB. The application process is the same as for an initial application.

3.4.2 Extension of Scope to an Existing Approval

The second route is where the TMBS and its controls are not substantially changed by the new product or service. In this instance, the CP is required to extend the scope of its existing Approval to cover the new product or service. (A new product or service is one that requires a technical change

³ See preceding footnote

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 in the CP's most recent complete financial year reaches £2,000,000 (after the deduction of sales rebates, VAT and other taxes directly related to turnover).

Once a product or service reaches this threshold, the CP shall apply for an extension of scope and achieve the milestones within the timescales detailed in the table below:

Milestone	No later than
CP applies for extension of scope	3 months from the date the turnover from the new product or service reaches the above threshold
All reasonable steps taken by the CP to achieve compliance with this Direction	24 months from application for extension of scope

4. Principal Obligations

This section outlines those obligations which CPs should implement and demonstrate compliance with. They are applicable to all applications.

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

4.1 Accuracy requirement

The CP shall have systems and processes that accurately record usage by End-Users and enable charging at the correct tariffs.

4.2 High Level Description

The CP shall produce a **High Level Description (HLD)** for each TMBS and shall seek approval of the content of that description from its AB. A HLD is a documented explanation of the TMBS and the associated risks to completeness and accuracy of billing thereunder.

The HLD 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 HLD shall refer to lower level documents so that it is clear how the system and process elements interoperate and how the CP inter-works with its suppliers of components and services that may impact on the TMBS, and with other CPs.

4.3 Risk Management

The HLD shall be subject to change control and risk management throughout the life of the TMBS. Risk Management is an assessment of the risks to the TMBS accuracy for both the impact and the likely occurrence of risks.

A CP shall assess risks, documented in the HLD defined in Clause 4.2 above, to the TMBS accuracy, for impact and likely occurrence. In considering whether to approve the HLD, the AB shall assess whether mitigation actions are adequately documented and sufficient to address identified risks.

Whenever a change to the TMBS 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** (Clause 4.4), HLD and maintained list / register of risks.

Where the scope of Approval changes either to add or delete products or services, the AB will conduct an assessment of the revised TMBS.

The process of managing risks to TMBS accuracy is subject to audit by the AB.

4.4 Measurement Strategy

The Measurement Strategy is a documented statement of how risks are to be monitored and where the occurrence of the risk is measured for reporting on the TMBS performance.

The CP shall produce a Measurement Strategy Document (MSD) for each TMBS and shall seek approval of its content from its AB. The HLD (Clause 4.2) and risk management assessments (Clause 4.3) of the TMBS will determine the content of the MSD.

4.4.1 Purpose

The purpose of the MSD is to describe the measurements to be taken and supporting controls that the CP shall produce, and undertake, to demonstrate the performance of the TMBS, as described above in Clauses 4.1 and 4.2 above.

The Measurement Strategy shall be subject to change control throughout the period of its application.

For the measures to be used in the assessment of performance and which will be set out in the MSD, see Clause 4.8 below.

4.5 Process Management

A CP shall have in place and enforce the effective use of procedures and / or documentation covering all aspects of the TMBS.

All business and technical processes that can impact upon the TMBS 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 AB against the relevant requirements of ISO 9001 or an equivalent standard. Formal certification against ISO 9001 is not a requirement.

The TMBS shall be subject to change control throughout its life.

4.6 Tariffs

4.6.1 Introduction

In order for End-Users to understand the charges appearing on the **Bill**, the **Tariff** and rules that determine the Event charges shall be made readily available to those End-Users.⁴

Tariffs shall specify the method and the units of measure applied in relation to the resolution and rounding of Event durations and charges, both at an individual and aggregate level. For example, the expression 'rounded to the penny' defines the resolution, but not the method of rounding, whereas the expression 'rounded down to the nearest penny' defines the method of rounding.

⁴ General Condition C1.2(i) requires Communications Providers to specify details of prices and tariffs.

4.6.2 Tariff Types

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

4.6.2.1 Public Domain Tariff

A public domain Tariff is one that can be confirmed by the general public and shall be published⁵. It is a statement that specifies the charges which a CP makes for **Regulated Services**.

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

Note: This allows CPs 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.

4.6.2.2 Bespoke Tariff

A Bespoke Tariff is confidential between the End-Users and the CP. 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 to others. 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.

4.6.3 Tariff Description and Detail

The CP shall provide a Tariff schedule (which is a list of charges) which shall include a clear statement of what is and is not included in a particular tariff, bundle or additional bolt-on. It must indicate what charges will occur for call types not included in bundles (for example, 08XX calls or calls to certain destinations) or when the bundle is exceeded. Details of resolution and rounding (see Clause 4.6.1 above) for all charges (inside or out of bundle) must be made clear.

⁵ General Condition C2 sets out relevant publication requirements for Communication Providers

It shall also be used to provide additional information to assist the End-User to understand the Bill. This information would normally be provided to the End-User by the Retail service provider; however, a **Wholesale** CP shall make any such information available to the Retail service provider so that it can be made available to the End-User.

The following are non-exhaustive examples of instances where it may be helpful to provide such information:

4.6.3.1 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.

4.6.3.2 Inadvertent Roaming

The End-Users will be charged for the call on the network that provided the service, even if this was not the End-Users' intended CP.

4.6.3.3 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, End-Users should be careful to end each call as set out in the user instructions for the handset e.g. pressing the "End" button.

4.6.3.4 Minimum Call Charges and Durations

Where call charges include a minimum charge or a minimum chargeable duration these should be clearly indicated in the published tariff.

4.6.3.5 Rounding within Bundles

If rounding is applied to call durations for calls within bundles, for example, if a call of less than 1 minute will result in 1 minute being deducted from the bundle, this should be made clear in the published tariff.

4.6.3.6 Initial Connection Charges

Any initial connection charge, i.e. a charge which is applied as soon as a call is connected before any usage takes place, should be clearly displayed in the published tariff.

4.6.3.7 Long Texts

The standard length of a mobile network text message is 160 characters; if this limit is exceeded the network will normally charge for a further message (or messages). Most mobile phones are capable of seamlessly splitting and recombining longer messages into multiple texts, often without the user being aware. Customers with unlimited text bundles may only become aware if they send chargeable texts while roaming. Tariffs should make clear the basis of charging for text messages.

4.6.3.8 International and Roaming Charges

Published tariffs should make it clear what charges will be incurred for international and roaming calls and data and which, if any, such calls are included in bundles or inclusive call plans.

4.6.3.9 SMS and Related Anomalies in Delivery Depending on Handset

Customers should be made aware of any known handset-dependent features or settings which could result in anomalous charging or charging which may appear to be anomalous to the customer.

4.6.3.10 Excluded number ranges – clarification and related charges

Published tariffs should make clear which number ranges (for example, calls to 08xx numbers, calls to Channel Islands and Isle of Man) are excluded from bundles or inclusive call plans and what charges will be incurred for calls made to these numbers.

4.7 Interworking between Communications Providers

Where a CP owns part (or all) of the overall TMBS and receives a service from a non-Approved source, either from another CP or via a sub-contractor, it shall ensure the quality of that service either by direct reference to compliance with **this** Direction or by including explicit requirements that would result in such compliance.

Where Wholesale service contracts exist between two or more CPs approved under **this** Direction, it shall be for each CP to satisfy itself that the services it offers or receives meet the requirements of this Direction.

Such contractual agreements shall not require any individual party to operate its TMBS free from error. However, any errors or accumulation of errors shall be subject to the measurement capability limits and the principles of corrective action laid down in this Direction.

Approval Bodies will work with each CP in the end-to-end TMBS to ensure the removal of systematic sources of error, and that data sent and received over the interfaces of the supply chain is accurate and measured.

Where a disagreement arises about compliance with this Direction that cannot be resolved between CPs in a reasonable timeframe, escalation shall be first to the appropriate AB(s) concerned. ABs shall seek to resolve differences involving all parties. ABs may escalate the disagreement to Ofcom for consideration in the context of the CP's compliance with General Condition C3.

4.8 Assessment of Performance

4.8.1 Measurement Reporting

The Measurement Strategy shall be documented in the MSD and shall specify the type and frequency of regular reports from operational or assurance systems demonstrating accuracy against the allowable measurement limits.

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

4.8.2 Assessment of Performance

Measures shall be produced in accordance with the Measurement Strategy approved by the AB, with accuracy measurement 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 measurement limits are defined in the relevant annexes.

Performance measurement processes shall be effective in supporting increased knowledge of the end-to-end TMBS. They shall include the identification of root causes of Bill inaccuracies and the implementation of activities aimed at achieving improvements in the accuracy of End-Users' Bills.

4.8.2.1 Routine Performance

The CP shall measure performance of the TMBS within the required measurement capability limits over a rolling 12 month period. Where there is a failure to address the significant causes of routine TMBS performance or measurement capability failures, remedial action shall be proposed to and agreed by the AB. Routine performance is the underlying or business as usual performance of the system resulting from normal conditions and measurement capability. The Measurement Strategy shall define risk and benefit criteria for identifying significant routine performance failure through root cause analysis. These criteria shall be subject to acceptance by the AB and shall support the aim of continual improvement in underlying performance.

4.8.3 Extraordinary Performance Failure

An **Extraordinary Performance Failure (EPF)** is a significant detrimental deviation from the normal daily performance of a CP with regard to its capability to accurately bill or to accurately measure performance in line with the documented Measurement Strategy (which requires CP to identify and assess the risks to their TMBS for accuracy, impact and likely occurrence), that is distinguishable from routine performance measurements as a result of special or one off conditions.

The Measurement Strategy shall define criteria for identifying significant instances of extraordinary performance failure⁶. These criteria shall be subject to acceptance by the AB. Where significant extraordinary performance failures are identified then the following actions shall be followed:

⁶ Examples of such instances may include maximum error rates or thresholds expressed in terms of numbers or percentage deviations.

- a) The AB shall be informed within five working days of the performance failure being identified;
- b) The CP shall ensure that End-Users are not financially disadvantaged, but where individual End-Users cannot be identified, the CP shall derive no financial benefit from the failure, either by donating an equivalent sum to charity or by an adjustment of tariffs;
- c) The CP shall ensure that an initial recovery plan shall be made available to the AB 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 by the CP and reviewed at regular Approval review meetings and in planned audit and assessments by the CP and AB;
- e) Root cause and impact analysis shall be carried out and corrective actions recorded by the CP; and
- f) The impact of the EPF shall be presented by the CP along with the routine performance results to the AB when measurement results are required.

The AB 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 AB, of the TMBS shall take place to re-establish fitness for Approval.

4.8.4 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.

The CP shall not subsequently bill any chargeable Event details not so presented.

Agreement between the CP and the AB to extend the time scales shall be subject to written approval by 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.

4.8.5 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. following the failure and recovery of the TMBS), to ensure that the End-Users affected are not disadvantaged, the CP shall undertake the actions set out under Clauses 4.9.1 and 4.9.2 as appropriate.

4.8.6 Timely Despatch of Bills

The CP shall ensure that an effective file delivery schedule is in place for Bills or billing data.

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

4.9 Individual Bill Accuracy

4.9.1 Error Handling and End-User Complaints

A CP shall employ and document processes for receiving, identifying, investigating and dealing with incorrect charges, including processes whereby End-Users can readily question the accuracy of their charges.

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

The CP 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.

It is a requirement for incorrect charges to be measured, counted and included in TMBS Measurement Reports.

4.9.2 Detection of Gross Billing Errors

A CP shall employ a suitable mechanism, for which it must obtain approval from its AB, 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; and
- e) Specific analysis of the reasons for unexpected reports produced by mediation / rating / billing systems etc.

For the purposes of this Direction, CPs can make use of any data provided to Ofcom for another purpose e.g. providing quality of service data. If not subject to dispute with Ofcom and agreed to be suitable by the AB, this data need not be separately audited.

5. Compliance with this Direction

5.1 The Communications Provider Activities

The CP shall provide the AB with access to all people, locations, **Equipment** and data necessary to establish compliance with this Direction.

The CP 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 CP.

The responsibility of the nominated person is to provide the strategic direction for the implementation of this Direction within a CP, to act as the escalation point for the AB and to ensure that an **Ofcom Billing Accuracy Programme Manager (OBAPM)** 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 OBAPM, who shall have responsibility for maintaining compliance internally with the CP. The OBAPM will be the point of contact between the AB and the CP. The AB shall confirm the capability and appointment of this manager.

The CP will also agree to, and have in place, processes which facilitate the disclosure of information to Ofcom by the CP and/or the AB in connection with the performance by the CP of its regulatory obligations in connection with this Direction.

5.2 The Assessment Process

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

5.2.1 Approval Body Selection

Once it has been determined that a CP should be complying with this Direction, either through a voluntary or mandatory route, the CP selects an AB. Each AB is independent and appointed by Ofcom to approve CPs' TMBSs; their details may be found on Ofcom's website.

5.2.2 Initial Meeting

The CP shall meet with the AB to determine the extent of the TMBS to be assessed. The CP and the AB will develop a joint and agreed Approval plan, showing the scope of Approval, resources, activities, dependencies and timescales required by both parties.

5.2.3 Initial Assessment

The CP must submit its technical/functional design documentation of the applicable TMBS in accordance with Clauses 4.2, and 4.3 to the AB for initial assessment.

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

- a) Tariff, and pricing, management processes;

- b) Transaction data processing activities;
- c) Billing operational & audit processes;
- d) Customer management processes;
- e) Network data transaction processes;
- f) Customer and product reference data integrity processes;
- g) Timeliness of processes; and
- h) Complaints handling.

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

5.2.3.1 Revision of the Approval plan

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

5.2.4 Main Assessment

The main assessment of the TMBS conducted by the AB shall comprise:

5.2.4.1 System Design

The AB will review the HLD and the lower level appraisal documents to ensure that there are no inherent weaknesses within the design and that it is capable of complying with the requirements of this Direction.

5.2.4.2 System Process Management

The AB will assess the processes surrounding the operation of the TMBS to ensure that these processes are being operated correctly to achieve compliance with the requirements of this Direction.

5.2.4.3 System Performance

The AB will assess the on-going performance of the TMBS in meeting the standards in this Direction by means of a measurement system as defined in the approved MSD. The requirement is for the CP to present a rolling 12 months' results. However, based on the stability of the results presented, the AB 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.

5.2.4.4 Conducting Assessments

Audits will be scheduled in accordance with the agreed Approval plan which will incorporate a mix of internal / third party and external AB audits. Audit reports and relevant findings from all sources will be documented by the AB and agreed with the CP. Findings will be categorised (in accordance with the categories set out in Annex 1) and recorded. CPs may appeal against the categorisation of any

matter by following the AB's documented appeal process (provision of such a process is required by EN 45011 (ISO 17065)).

5.2.4.5 Tracking Corrective Actions

The AB will agree with the CP a process for documenting, tracking and addressing non-compliances and deficiencies by means of corrective action.

5.3 Approval and Certification

Once the AB has satisfied itself that all the requirements for Approval have been met, it will publicise its intention to approve the CP and offer a one month consultation period. Such a proposal would be subject to the requirements of sections 49 and 49A-49C of the Communications Act 2003.

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

The AB will issue a Certificate of Approval as soon as reasonably practical after any queries arising have been satisfactorily resolved. The CP's Approval number and scope will then be published on the AB's own website.

5.4 Maintenance of Approval

Once Approval has been granted, the CP is required to maintain its Approval. This is achieved through the on-going audit and surveillance of the TMBS by the AB.

Changes to the TMBS continue to be assessed through the review of appraisals of the key parts of the system.

The on-going performance is reported monthly through the presentation of results to the AB.

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 AB to Ofcom.

In the case of a dispute arising between the AB and the CP that they cannot resolve themselves, either Party can take the dispute to Ofcom.

5.4.1 Change of Approval Body

Where a CP changes AB, the Approval Bodies are expected to recognise each other's certification.

The CP is able to initiate a change of AB once the initial Approval has been achieved. However, in order to prevent switching being used to circumvent poor performance, the CP must obtain Ofcom's agreement to the transfer and Ofcom will monitor the process as necessary. Handover will be subject to a mutually agreed action list and timescale.

A change of AB may also occur in circumstances where an AB is no longer able to continue serving a CP.

5.4.2 Re-certification

The CP shall seek a renewal of its certificate which shall be granted by the AB subject to satisfactory reassessment. The renewal period shall be set out in the certificate and shall not exceed three years. Prior to any such renewal, the AB 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 CP's Approval.

5.5 Change of Scope of Approval

Where the scope of Approval changes either to add or delete products/services, the AB will conduct an assessment of the revised TMBS, using the above process.

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

5.6 Withdrawal of Approval

Withdrawal of Approval can occur in one of two ways.

5.6.1 Services/products not covered by Direction

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

5.6.2 CP's performance and actions

The CP's performance and actions are such that continued certification would contradict the requirements of General Condition of Entitlement C3 and this Direction.

6. Enforcement

An AB may issue, and a CP must comply with, directions issued to the CP by the AB in connection with the requirements of this Direction. Failure to comply with any such direction and/or with this Direction may lead to enforcement action against the CP for a breach of General Condition of Entitlement C3, pursuant to sections 96A-96C of the Act.

7. Annex List

In addition to the general obligations and principles contained in the main body of this Direction, the following annexes have been developed to give more specific information.

Annexes

Definitions and Interpretations – Annex 1

Retail services – Annex 2

Wholesale services – Annex 3

A1. Definitions and Interpretations

Where a word or phrase is not defined below, the definitions in the Communications Act 2003 or the General Conditions of Entitlement shall apply, otherwise the definitions in the Oxford English Dictionary apply.

Term	Definition and Interpretations	Notes
2014 Ofcom Direction	means the Direction made by Ofcom on 31 July 2014 for the purposes of GC 11 of the general conditions set under section 45 of the Act by the Director General of Telecommunications on 22 July 2003, as subsequently amended	
Approval	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Approval Body (AB)	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Bespoke Tariff	means a Tariff that is only available to a single End-User or to a limited class of individual End-Users.	
Bill	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Category (Categorisation)	<p>covers the following categories:</p> <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 CP will resolve it as a matter of the utmost importance. • A detailed corrective action plan must be approved by the AB within one month and put into effect within four months. • All Category 1 matters for an existing Approval are to be reported by the AB to Ofcom. • As a Category 1 matter has the potential to constitute a breach of Condition C3, Ofcom reserves the right at its own discretion to 	<ul style="list-style-type: none"> • The Categorisation of Non-Compliances, Deficiencies and Observations. • An Observation generally comes below “Category 3” in seriousness

	<p>provide guidance when a resolution is sought. One resolution would be to amend the scope of Approval until satisfactory Corrective Action has been undertaken.</p> <ul style="list-style-type: none"> • Withdrawal of an Approval will only take place after discussion between Ofcom, the AB and the Approval holder. Such a proposal would be subject to the formal public Notification procedure required under section 49 of the Communications Act 2003. <p>Category 2:</p> <ul style="list-style-type: none"> • non-compliance or deficiency which is a matter of concern. It is to be resolved within a period approved by the AB, but not exceeding 24 months. • In any event a detailed corrective action plan must be approved 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 CP, possibly leading to corrective and / or preventative action, but not of sufficient importance to warrant Category 1 or 2 status. 	
CDR	means the records, supplied by the wholesaler, of the calls made by users; these records form the basis of the Bills issued by the Retail CP who either applies its own retail tariff to the calls or in the case of 'rated CDRs' rely on the wholesaler applying the tariffs set by the retailers.	
Certificate of Approval	means the certificate issued by the AB to CP on completion of the assessment by the AB that requirements of this Direction have been met.	
Communications Provider (CP)	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Electronic Communications Services	has the meaning given to it in s.32(2) of the Communications Act 2003.	

End-User	has the meaning given to it in s.151(1) of the Communications Act 2003.	
Extraordinary Performance Failure (EPF)	has the meaning given to it in Clause 4.8.3.	An EPF is declared by the CP and is not necessarily a non-conformity but may be linked to one
Equipment	means all the hardware and software and / or firmware necessary for the correct operation of a function including mobile terminals.	
Event	means a circumstance where a charge can occur e.g. a telephone call, data download, access, content, bandwidth or non-usage based e.g. recurring charges.	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 Events may occur without having been initiated by the user. An example would be charges for terminating a 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	An example of (b) is multiple entries relating to the same service usage

	b) any other incident which results in a charge being logged or added erroneously to the Bill.	
(Event) undercharging/ under-recording	means a chargeable Event, either: <ul style="list-style-type: none"> 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.	Examples of (b) are: <ul style="list-style-type: none"> - The loss of call records as a result of a switch restart; - Delay to or loss of call records due to file corruption in mediation; - Delay to or loss of call records due to suspense issues not addressed; or - Line rental or installation fee charged inaccurately
General Condition	means a condition of the General Conditions of Entitlement.	
General Conditions of Entitlement	means the conditions set under section 45 of the Act by Ofcom on 19 September 2017, which will enter into force on 1 October 2018.	
High Level Description (HLD)	has the meaning given to it in Clause 4.2.	
Interconnect	means the passing of communications traffic between the systems of two or more CPs.	
Interworking	means the passage of usage data between CPs which will result in an entry and / or charge on an End-User's Bill.	
Issue	means the action whereby the CP, having completed preparation of a Bill, passes it to the delivery agent or posts the information electronically.	The CP has completed preparation of the Bill if any further processing still to be performed by the delivery agent is for presentational purposes only

Key Performance Indicators (KPI)	means agreed measures of performance.	
OBAPM	means the Ofcom Billing Accuracy Programme Manager who shall have the authority to enforce compliance internally within the CP. The Ofcom Billing Accuracy Programme Manager will be the point of contact between the CP and the AB.	
Measurement Strategy	has the meaning given to it in Clause 4.4.	
Measurement Strategy Document (MSD)	means the document prepared by the CP setting out its Measurement Strategy.	
Management System Requirements	means the requirements that set out the documented processes and procedures linked to the HLD and any upstream and downstream contractual arrangements including service level agreements (SLAs) and key performance indicators (KPIs).	
Publicly Available Internet Access Service	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Publicly Available Telephone Services (PATS)	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Public Electronic Communications Services (PECS)	has the meaning given to it in s.151(1) of the Communications Act 2003.	
Public Pay Telephones	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Regulated Services	means Publicly Available Telephone Services and/or Publicly Available Internet Access Services.	
Retail	means communications services provided to End-Users.	
Retail Communications Provider (Retail CP)	means a provider of Regulated Services to End-Users.	

Relevant Turnover	has the meaning given to it the Definitions set out in the General Conditions of Entitlement.	
Tariff	means publicly available statements (unless it is a Bespoke Tariff), that specify the charges which a CP makes for Electronic Communications Services.	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
Total Metering and Billing System	has the meaning given to it in the Definitions set out in the General Conditions of Entitlement.	
Wholesale	means the supply of products and services by CPs both for their internal use and to other CPs for the purpose of resale by those other CPs. Wholesale services are one of the key building blocks in the supply of retail products and services to End-Users.	
Wholesale Communications Provider (Wholesale CP)	means a CP which provides Regulated Services to other CPs.	

A2. Retail Services

1. Scope of Annex

The provisions of this Direction in respect of fixed and mobile Retail communications services relate to the provision of usage and non-usage records generated by Retail CPs which are “Regulated Providers” for the purposes of General Condition C3.1(b) for billing End-Users.

The scope of this Direction includes CPs that have no network switch as well as those that employ their own network switching.

1.1 Overcharging

The processes and requirements set out in this Direction with respect to preventing overcharging for any Retail Regulated Services are mandatory.

1.2 Undercharging Detrimental to End-Users

The processes and requirements set out in this Direction with respect to preventing **Undercharging** for any Retail Regulated Services are voluntary.

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

2. Communications Provider Inclusion Thresholds

2.1 Mandatory Applications

2.1.1 Initial Application

A CP providing Retail Regulated Services shall apply for Approval of its TMBS when it becomes a “Regulated Provider” for the purposes of General Condition C3.1(b).

2.1.2 Extension of Scope

Where a CP introduces a new product or service that utilises the majority of the same elements as an existing approved Regulated 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 TMBS, then the CP shall apply for a suitable extension of scope when the turnover from this product or service in the CP’s most recent complete financial year reaches £2,000,000 after the deduction of sales rebates, VAT and other taxes directly related to turnover.

However, the AB will retain the power to determine whether a product or service falls into the category of an extension of scope or an initial application described above.

2.2 Voluntary Applications

2.2.1 Initial Voluntary Application

Any CP which is not a “Regulated Provider” for the purposes of General Condition C3.1(b) may apply for Approval on a voluntary basis in respect of all or part of the Regulated Services that it provides when its Relevant Turnover in its most recent complete financial year from the services for which it intends to seek Approval exceeds £5,000,000.

2.2.2 Extension of Voluntary Scope

Any CP which is not a “Regulated Provider” for the purposes of General Condition C3.1(b) can also apply for ~~an~~ a voluntary extension to Approval.

Where a CP who has already gained, or is in the process of gaining, an Approval on a voluntary basis, introduces a new product or service that utilises the majority of the same elements as an existing Approved TMBS, 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 TMBS, then the CP can apply for a suitable extension of scope when the turnover in its most recent complete financial year from the service for which it intends to seek Approval reaches £1,000,000 after the deduction of sales rebates, VAT and other taxes directly related to turnover.

However, the AB will retain the power to determine whether a service falls into the category of an extension of scope or an initial application.

3. Allowable Measurement Capabilities

A TMBS 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 the 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 the service by the End-User. The two categories are:

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.

The measurement system must be able to confirm that recorded Events fall within the limits shown within section 3. Unless otherwise stated, these limits apply to the units of measure used in the systems being measured.

3.3 Usage Events: Measurement Capabilities

	Variable	Allowable Measurement Capabilities
a.	Duration	± 1 second or $\pm 0.01\%$ (whichever is less stringent)
b.	Data Volume	± 100 kB or $\pm 0.01\%$ (whichever is less stringent)
c.	Time of Day	± 1 second
d.	Count of Events	$\pm 0.004\%$ (1:25K)
e.	Value of Charges	$\pm 0.1p$ or $\pm 0.01\%$ whichever is less stringent

Note: Value of Charges (e.) - the actual charge per usage Event, e.g. a Call Detail Record, shall be within $\pm 0.1p$ of the expected charge after rounding rules have been applied.

3.4 Non-Usage Non-Recurring Events: Measurement Capabilities

	Variable	Allowable Measurement Capabilities
a.	Count of Events	$\pm 0.05\%$ (1:2K)
b.	Value of Charges	$\pm 1p$ or $\pm 0.01\%$ whichever is less stringent

3.5 Non-Usage Recurring Events: Measurement Capabilities

	Variable	Allowable Measurement Capabilities
a.	Duration	± 1 day
b.	Count of Events	$\pm 0.01\%$ (1:10K)
c.	Value of Charges	$\pm 1p$ or $\pm 0.01\%$ Whichever is less stringent

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.

4. Performance Measurement Requirements

4.1 Performance Measurement

The performance of the TMBS shall be assessed on the basis of how many errors are made. An error will be defined as exceeding the allowable measurement capability as set out in paragraphs 3.3 to 3.5 of this Annex. This assessment of performance requires that the accuracy requirements are assured by a robust and credible management system, controlling processes and monitoring and recording Events. This is separated into the elements above for the purposes of demonstrating compliance with the allowable measurement capabilities.

Performance will be based on measurements taken over a rolling 12 month average.

The measurements and other performance indicators which the CP must produce and present to its AB on a regular basis to demonstrate that the charging performance of its TMBS is accurate and consistent shall be set out in detail in the MSD.

Measurement processes shall be effective in supporting increased knowledge of the end to end TMBS. They shall include the identification of root causes of bill inaccuracies and the implementation of activities aimed at achieving continual improvement of End-Users' bills.

4.2 MSD Requirements

It is a requirement of this Direction (Clause 4.4) that the CP produces a MSD and agrees its content with its AB. In order to obtain the AB's agreement to the content of the MSD, the CP must show that the proposed strategy will enable the accuracy and consistency of charging to be demonstrated to the satisfaction of the AB.

As each TMBS is unique, its MSD will need to be tailored to ensure that its content relates to the HLD (see Clause 4.2) and risk management assessment (see Clause 4.3). Typically the MSD will contain Key Performance Indicators relating to charging accuracy and detail the controls and measurements in place in areas such as, but not limited to:

- a) Billing pipeline measures;
- b) Bill accuracy checks;
- c) Customer complaint handling;
- d) Credits and Bill adjustments;
- e) Handling of suspense and write-offs; and
- f) Testing to ensure the accuracy of published Tariffs.

There may be a requirement for the MSD to contain controls and measures specific to certain customer groups, for example large business customers or mobile pre-pay customers, to ensure that risks and potential charging errors specific to these groups are mitigated and recorded.

A3. Wholesale Services

1. Scope

The provisions of this Direction in respect of fixed and mobile Wholesale communications services relates to the provision of usage and non-usage records by Wholesale CPs which are “Regulated Providers” for the purposes of General Condition C3.1(b) to other CPs for billing End-Users.

The Scope of this Direction includes CPs that have no network switch as well as those that employ their own network switching.

It does not apply to the bills provided by Wholesale CPs to their customers.

1.1 Overcharging

The processes and requirements set out in this Direction with respect to preventing overcharging for any Wholesale Regulated Services are mandatory.

1.2 Detrimental Under-Recording

The processes and requirements set out in this Direction with respect to preventing under-recording for any Wholesale Regulated Services are also mandatory.

2. Communications Provider Inclusion Thresholds

2.1 Application

A Wholesale CP shall apply for Approval of its TMBS when it becomes a “Regulated Provider” for the purposes of General Condition C3.1(b).

2.2 Extension of Scope

Where an approved Wholesale CP introduces a new Wholesale service that utilises the majority of the same elements as an existing approved Wholesale Regulated Service, e.g. it is delivered utilising a switched voice channel covered by an existing approved TMBS, then the CP shall apply for a suitable extension of scope when the turnover from this product or service reaches £2,000,000 per annum (after the deduction of sales rebates, VAT and other taxes directly related to turnover).

However, the AB will retain the power to determine whether a product or service falls into the category of extension of scope or initial application described above.

If it is deemed to be an initial application then that CP will ultimately have more than one TMBS.

3. Approval Criteria

The usage and non-usage communications services provided by the Wholesale CP should be managed and documented in an accurate, timely and complete way that supports the compliance

with this Direction by CPs providing Regulated Services to End-Users and conforms with the requirements set out in of clauses 4 to 8 of this Annex.

4. Description of a Wholesale Service

A TMBS for Wholesale Regulated Services utilises two distinct types of Event records for future billing purposes:

4.1 Usage Events

These are Event records that are generated by a communications switch, triggered by the use of Regulated Services by the End-User.

4.2 Non-Usage Events

These are Event records that are generated by non-usage activities and are sub-divided into two categories and cover the Event records triggered by the use of a service. The two categories are:

4.2.1 Non-Recurring Events

These include chargeable Events for the provision, installation, change, suspension or removal of services and products. 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.

4.2.2 Recurring Events

These include subscriptions and rentals for Equipment or availability and accessibility to additional services that are applied on a regular basis to the Bill irrespective of any usage Event.

4.3 Rated Call Data / Detailed Records

Wholesale CPs may rate the Call Data / Detailed Records (**CDRs**) and Non-Usage Event records produced for a downstream CP and if contracted to do so, this shall be within the scope of the TMBS.

5. Allowable Measurement Capabilities

The measurement capabilities in paragraph 5.1 to 5.3 below are to be used by the CP to determine Events in error.

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

5.1 Usage Events: Measurement Capabilities

	Variable	Allowable Measurement Capabilities
a.	Duration	± 1 second or $\pm 0.01\%$ (whichever is less stringent)
b.	Data Volume	± 100 kB or $\pm 0.01\%$ (whichever is less stringent)
c.	Time of Day	± 1 second
d.	Count of Events	$\pm 0.004\%$ (1:25K)
e.	Value of Charges	$\pm 0.1p$ or $\pm 0.01\%$ whichever is less stringent

5.2 Non-Usage Non-Recurring Events: Measurement Capabilities

	Variable	Allowable Measurement Capabilities
a.	Count of Events	$\pm 0.05\%$ (1:2K)
b.	Value of Charges	$\pm 1p$ or $\pm 0.01\%$ whichever is less stringent

5.3 Non-Usage Recurring Events: Measurement Capabilities

	Variable	Allowable Measurement Capabilities
a.	Count of Events	$\pm 0.01\%$ (1:10K)
b.	Value of Charges	$\pm 1p$ or $\pm 0.01\%$ whichever is less stringent

6. Measurement Capabilities

The performance of the TMBS shall be assessed on the basis of how many errors are made. An error will be defined as exceeding the allowable measurement capability as set out in paragraphs 5.1 to 5.3 of this Annex. This requires that the accuracy requirements are assured by a robust and credible management system, controlling processes and monitoring and recording Events. This is separated into the elements above for the purposes of demonstrating compliance with the allowable measurement capabilities.

6.1 Period of Measurement

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

7. Detrimental Under-Recording

7.1 Definition of Service

With each of the products and services covered in the Annexes it is possible that a Wholesale CP may disadvantage business partners and their wholesale customers (i.e. a reseller of a product or service supplied by a CP) by under-recording Events, either through 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 CP 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 CP.

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.

Note: Charities are an example of this.

7.2 Count of Events Under Recorded

Where the Wholesale CP applies for TMBS Approval, that CP shall include prevention and monitoring of under recording within its HLD, MSD and Management System as in section 8 below.

8. The Management System Requirements

The Management System Requirements set out the documented processes and procedures linked to the HLD and any upstream and downstream contractual arrangements including SLAs and **KPIs**. The documented procedures shall promote the aims and outputs of the MSD.

The MSD and HLD will be regarded as integral parts of the 'Management System Requirements' required by this Annex.

The MSD, HLD and documented procedures shall include but not be limited to:

- a) Under and over recording and rating;
- b) Monitoring and recording as required by this Annex;
- c) Interworking;
- d) Unresolved suspense;
- e) Incomplete records; and
- f) Reported misdirected records sent to the wrong downstream CP regardless of the resolution.

Version history

The table below sets out the date and effect of changes that have been made to the Metering and Billing Direction, in order to assist users in accessing the most up-to-date version of the Metering and Billing Direction.

Date	Summary of change	Relevant Ofcom document(s)
31 July 2014	The 2008 Direction was withdrawn, and 2014 Direction was issued	Review of the Metering and Billing Direction, A statement on the revisions to the Direction ⁷
1 October 2018	Revised direction to reflect new General Conditions	Review of the General Conditions of Entitlement, Statement and Consultation ⁸

⁷ https://www.ofcom.org.uk/data/assets/pdf_file/0032/58838/statement.pdf

⁸ https://www.ofcom.org.uk/data/assets/pdf_file/0026/106397/Statement-and-Consultation-Review-of-the-General-Conditions-of-Entitlement.pdf