GAMBLING COMMISSION

This document details the proposed changes to the GMTS to assist consultation respondents. The current versions that licensees must comply with can be found on the Gambling Commission website - Gaming Machine Technical Standards (opens in a new tab).

Gaming Machine Technical Standards (GMTS)

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Contents

Introduction

This standard is applicable to all gaming machines as defined under section 235 of the Gambling Act 2005 (the Act). The original versions of this standard came into force for all categories of gaming machine supplied or sited within Great Britain from 1 September 2007.

The purpose of this standard is to set out in detail the Gambling Commission's (the Commission) requirements with respect to game features, display notices and general machine operation including metering. These have been developed to help ensure the Commission's three licensing objectives are met:

- preventing gambling from being a source of crime or disorder, being associated with crime or disorder or being used to support crime
- ensuring that gambling is conducted in a fair and open way
- protecting children and other vulnerable persons from being harmed or exploited by gambling.

Operators or end users should not rely upon these standards as a measure of reliability, quality or minimal security requirements.

It is not the Commission's intention to define in a prescriptive manner how the manufacturer should comply with the standard or to limit game content and the use of new technological developments, provided that the licensing objectives are met.

This standard is broken down into specific requirements and details the gaming machine category or categories to which each apply. Some requirements apply to all machine categories and some to specific categories only, this is made clear in the text.

Legacy Machines

(Note - Legacy machines of categories B3 and B4 could become obsolete subject to the consultation outcomes with regards to GMTS proposals 15.1 to 15.3. Subject to the consultation outcomes, references to legacy machines of categories B3 and B4 may be removed.)

A gaming machine, as defined by section 235 of the Act, is a legacy machine, if:

- it is of category B3, B4, C or D
- it was available for lawful use on premises within Great Britain on 31 August 2007 (whether as a 'jackpot' machine under the provisions of section 31 of the Gaming Act 1968 or as an 'amusement with prize' machine under the provisions of section 34 of that Act)
- it was so configured as to comply with any regulations made under section 240 of the 2005 Gambling Act which apply to it
- prescribed details of it were registered with the Gambling Commission by 31 August 2007.

A legacy machine will not be required to comply with the Commission's full technical standards which would apply to a newly manufactured machine of the appropriate category. Rather the purpose of the legacy requirements is to set out the minimum requirements legacy machines must meet if they were sited after 1 September 2007. These draw upon large parts of the previous industry and trade association voluntary guidelines on gaming machines.

In general, any legacy machine which is adapted after 1 September 2007 will thereafter be required to comply in full with the Commission's technical standard and test and approval processes for the relevant category of machine. However, downgrading a legacy machine from one category to a lower category, or adapting it to take advantage of its relevant pre-existing stake or prize limits, will not disqualify a machine from its legacy status provided no other aspect of the machine's operation is affected.

‘Complex’ and ‘non-complex’ gaming machines

The Commission uses the term ‘non-complex’ to refer to machines where the game outcome is achieved by mechanical means such as a coin drop and moving decks, or electro-mechanical or electronically selected game outcomes which are not automated or capable of alteration through electronic or other circuitry, other than, in the case of Crane grabs only, a feedback control via a microprocessor (or equivalent) to maintain a winner percentage output.

In contrast, ‘complex’ refers to gaming machines where the outcome of a game is determined by a random number generator (or equivalent) and/or where there is some form of closed loop feedback control (a measurement of game outcome used to determine or alter the chance of winning) to control the percentage return to the player.

Other applicable documents

i. Gaming Machine (Circumstances of Use) Regulations – (SI 2007 / 2319 as amended)
ii. Gaming Machine Testing Strategy.

Layout of the GMTS

The GMTS are drafted in a format that sets out the key principles, without being overly prescriptive as to how these must be met. The general makeup and format of each part of the GMTS is structured as follows:

- **the aim,** describing what the Commission is seeking to achieve
- **the requirement,** which sets out specific requirements to meet the aim
- **implementation guidance**, providing guidance as to how the requirement should be complied with, without exhaustively describing all possible solutions. Licensees may adopt alternative approaches to those set out in the guidance provided they can meet the requirement in full and can demonstrate that an alternative approach is reasonable and similarly effective in the particular circumstances.

There may be multiple versions of the ‘requirement’ and ‘implementation guidance’ sections for some standards, each applicable only to specific categories, this is made clear within each section. The gaming machine categories covered by the main GMTS document are Category A, B1, B2, B3, B3A, B4, C, D (complex). In addition, requirements for the following are also included:

Category D (non-complex) machines
Legacy machines
Wireless networks
Linked progressives
Server networked and downloadable games
Cashless payments
Gambling management tools, information provision and responsible design

A summary of which GMTS applies to which machine category is included at the end of this document.

Note that category B3A gaming machines play lottery style games, where the game outcome is determined solely by the virtual lottery ticket drawn. Any player interaction with the game must be for entertainment purposes only, thus in these standards, games played on category B3A machines are termed ‘pseudo’ games.

GMTS 1 Hardware requirements

1.1 Physical security

1.1 Aim

To ensure the machine is adequately secured against tampering or theft.

1.1 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

All reasonable efforts shall be made to ensure that a gaming machine is robust enough to withstand forced entry which would not leave behind evidence of the attempted entry.

1.1 Implementation Guidance

Where any form of attempted or forced entry causes an error condition, the machine should only commence play once the error condition has been cleared. Provided that any security device or sensor (for example, a door open sensor) which has detected an attempted entry no longer indicates there to be a problem the machine may automatically clear the error condition and commence play. Otherwise, operator action shall be required to clear the error condition.

1.2 Machine identification

1.2 Aim

To uniquely identify any new gaming machine by displaying specific data.

1.2 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

A gaming machine must have an identification plate of metallic construction or of an equally resilient material permanently affixed to the exterior of the cabinet by the manufacturer. This must not be easily removable, without leaving evidence of tampering. The identification plate shall be mounted on the front or side of the cabinet where it is clearly visible.

1.2 Implementation Guidance

As a minimum, the following information must be displayed on the identification plate:

a) the manufacturer (machine manufacturer or brand name under which it is to be sold)
b) a unique serial number
c) the gaming machine model number (which may refer to the cabinet type and not the game)
d) the date of manufacture.

1.3 Gaming machine alarm and/or alert requirements

1.3 Aim

To stop play and alert staff in the event of a machine problem.

1.3 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Gaming machines must be designed to automatically prevent further play and alert the site management in the following situations:

a) a player winning an amount or redeeming credits that the machine cannot automatically pay;
b) an error condition occurring; or
c) a machine fault occurring.

1.3 Implementation Guidance

Such a system must be transparent to the player when activated and sufficiently able to attract the attention of the site management.

1.4 Logic area

1.4 Aim

To prevent machine tampering which could affect game fairness.

1.4a Requirement
(Applicable to machines / games of Category A, B1)

Any electronic logic components that could significantly influence the operation of the gaming machine shall be housed in an area that can be separately locked (with its own locked door) and should only be able to be accessed with the appropriate key.

1.4a Implementation Guidance

As a minimum, the following electronic component items are required to be housed in one or more logic areas:

a) central processing units and other electronic components involved in the operation and calculation of game play (for example, game controller electronics and components housing the game or system firmware program storage media);
b) electronics involved in the operation and calculation of game result determination;
c) electronics involved in the calculation of game display, and components housing display program storage medium (other than passive display equipment);
d) communication controller electronics, and components housing the communication program storage media may reside outside the gaming machine; and
e) alterable storage media that hold control programs.

There may be more than one such logic area in a gaming machine.

1.4b Requirement
(Applicable to machines / games of Category B2, B3, B3A, B4, C, D (complex))

Manufacturers must, so far as is reasonably practicable, incorporate in gaming machines design, features aimed at preventing tampering with any electronic logic component that has the potential to significantly influence the operation of the machine.

1.4b Implementation Guidance - None

1.5 Configuration settings

1.5 Aim

To prevent machine tampering which could affect game fairness.

1.5a Requirement
(Applicable to machines / games of Category A, B1)

It must not be possible to change a configuration setting in any manner that may affect the proper operation of an electronic accounting meter without a critical memory clear.

1.5a Implementation Guidance

A change to the accounting denomination must be done by a secure means, which includes access to the locked logic area.

All switches and/or jumpers must be fully documented and any hardware system within the machine which may alter the configuration settings such as pay tables, accounting denomination, or payout percentages in the operation of the gaming machine must be housed within a separately locked secure logic area. This includes top award changes (including progressives), selectable Blackjack settings, or any other option that would affect the payout percentage.

1.5b Requirement
(Applicable to machines / games of Category B2, B3, B4, C, D (complex))

All switches and/or jumpers must be fully documented and any hardware system within the machine which may alter the configuration settings such as pay tables, accounting denomination, or payout percentages in the operation of the gaming machine must either be housed within a separately locked secure logic area or comply with the implementation guidance section. This includes top award changes (including progressives) or any other option that would affect the payout percentage.

1.5b Implementation Guidance

As an alternative to a separate secure logic area, any change in configuration as defined in the requirements section must be logged and date stamped within the secure non-volatile memory of the machine. This log must cover a minimum period of not less than 1 month and be made available for display on demand with the test and diagnostic routine of the machine.

1.5c Requirement
(Applicable to machines / games of Category B3A)

All switches and/or jumpers must be fully documented and any hardware system within the machine which may alter the configuration settings such as accounting denomination must either be housed within a separately locked secure logic area or comply with the implementation guidance section.

1.5c Implementation Guidance

As an alternative to a separate secure logic area, any change in configuration as defined in the requirements section must be logged and date stamped within the secure non-volatile memory of the machine. This log must cover a minimum period of not less than 1 month and be made available for display on demand with the test and diagnostic routine of the machine.

1.6 Video monitors and/or touch screens

1.6 Aim

To ensure game fairness and that the player can properly interact with the game.

1.6 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

All video-based games shall meet the following requirements:

a) touch screens shall be accurate and, once calibrated, shall maintain that accuracy for at least the manufacturer's recommended maintenance period;
b) a touch screen should be able to be re-calibrated without access to the machine cabinet other than opening the main door;
c) there shall be no hidden or undocumented buttons and/or touch points anywhere on the screen that affect game play, except as provided for by the game rules.

1.6 Implementation Guidance

Requirement (1.6 c) does not apply to audit functions and controls but this must be documented in such a way that is accessible to anyone carrying out a machine audit.

1.7 Mechanical devices used to display game outcomes

1.7 Aim

To ensure game fairness when mechanical devices are used.

1.7 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

If the game has mechanical or electro-mechanical devices, which are used for displaying game outcomes, the following rules shall be observed:

a) mechanical assemblies (for example, reels or wheels) shall have some mechanism that ensures the correct mounting of reels' artwork;
b) displays shall be constructed in such a way that winning symbol combinations match up with pay lines or other indicators; and
c) a mechanical assembly shall be so designed that it is not obstructed by any other components.

d) Plus, for category A and B1 only:
electro-mechanically controlled display devices (for example, reels or wheels) shall have a sufficiently closed loop of control to enable the software to detect a malfunction, or an attempt to interfere with the correct operation of that device;

1.7 Implementation Guidance

The purpose of requirement 1.7d is to ensure that if a reel or wheel is not in the position it is supposed to be in, an error condition will be generated.

1.8 Multi-station games

1.8 Aim

To ensure game fairness and consistency when components are shared.

1.8 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

Where more than one terminal available for play uses a shared component of the gaming system (for example, a RNG), each shall comply fully in its own right.

1.8 Implementation Guidance

In any multi-station game, each player terminal and any other shared device must comply with the relevant sections of this standard, including its requirements for machine identification and metering.

All game rules shall be transparent to the player at each terminal and any shared device that is used to display information pertaining to the game shall be clearly visible to all players participating.

1.9 Patch wires

1.9 Aim

To ensure modifications are documented.

1.9 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

All patch wires and track cuts shall be documented, in an appropriate manner, in the relevant service manual and/or service bulletin.

1.9 Implementation Guidance

This does not prohibit required repairs in the field.

GMTS 2 Software requirements

2.1 Control program authentication

2.1 Aim

To ensure the game has not had any unauthorised modifications since manufacture.

2.1a Requirement
(Applicable to machines / games of Category A, B1)

The control program must utilise an integrity check, suitable for the media, providing at least the level of integrity of CRC 16 (for non-alterable storage media) or a secured hashing method such as MD5 or SHA (for alterable storage media) to authenticate that the program and/or support files have not been corrupted or altered prior to use and/or loading.

2.1a Implementation Guidance

The program residing in the gaming machine or device must be contained in a storage medium, which cannot be altered through use of the circuitry or programming of the machine or device itself. If the program is contained in any other medium, then the following minimum requirements should be met, or an alternative method used providing at least the same level of integrity:

a) authentication is required for all critical game files. This authentication shall employ a hashing algorithm which produces a 'Message Digest' (the mathematical results/signature of the hashing algorithm) output of at least 128 bits[1] ;
b) the Message Digests for all files must reside on a memory device (ROM based or other medium) within the gaming machine or device. Message Digests which reside on any other medium shall be encrypted or digitally signed, using a public and/or private key algorithm with a minimum of a 512-bit key or an equivalent encryption algorithm with similar security[1];
c) the gaming machine or device shall authenticate all critical game files against the stored Message Digests;
d) in the event of a failed authentication, after the game has been powered up, the gaming machine or relevant device should immediately enter an error condition and the operator be notified by the device accordingly. The machine should also record the details, including time and date of the error in a log. Clearing of such an error condition must require operator intervention. The game must display specific error information and not clear until either the file authenticates properly, following the operator intervention, or the medium is replaced or corrected, and the device's memory cleared, the game restarted, and all files authenticated correctly; and
e) the device must be capable of displaying the 'Message Digest' of any and all files on demand through the audit mode.

Any alterable media must be write protected. For non-alterable storage media, it is acceptable to have a test methodology which detects at least 99.99 percent of all possible failures.

2.1b Requirement
(Applicable to machines / games of Category B2, B3, B3A, B4, C, D (complex))

The control program must utilise an integrity check, suitable for the media, providing at least the level of integrity of CRC 16 (for non-alterable storage media) or a secured hashing method such as MD5 or SHA (for alterable storage media) to authenticate that the program and/or support files have not been corrupted or altered prior to use or loading.

[1] This requirement will be reviewed periodically as technology advances and new security methods become available

2.1b Implementation Guidance

The integrity check must be carried out during each start up or at least once every 24 hours where the machine is specifically designed for permanent serviceable operation.

Any error detected must result in the machine displaying the appropriate error message and being unavailable for play.

2.2 Alterable storage media devices

2.2 Aim

To ensure game storage media is suitably secure.

2.2 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Any gaming machine and any procedural requirements involving gaming machines must include sufficient security to ensure that any software that can influence the game outcome, including configurable settings that reside on any alterable media, is a true replication of that version of the game, control or other software.

2.2 Implementation Guidance

Reference to ‘game’ in Requirement 2.2 shall be taken to mean ‘lottery’ for category B3A machines / games.

2.3 Program storage medium identification

2.3 Aim

To ensure game program media can be readily identified.

2.3 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Any program medium placed in the field shall be uniquely identified.

2.3 Implementation Guidance

Some examples of program mediums could be (ROMs, EPROMs, Alterable storage media, DVD and CD-ROM)

As a minimum the following should be displayed:

a) program ID number
b) manufacturer or game provider
c) version number
d) type and size of medium (unless already located on the medium as purchased unused from the supplier)
e) location of its installation in the gaming machine or device, if potentially confusing.

The information a) to e) must be available for inspection on the site operator's premises either on the label of the storage media or via a video or display monitor.

For EPROM based games, an identification label shall be placed over the UV window to avoid erasing or alteration of the program.

Reference to 'game' in Requirement 2.3 or this Implementation Guidance shall be taken to mean 'lottery' for category B3A machines / games.

2.4 Program interruption and resumption

2.4 Aim

To ensure interruptions do not affect game fairness.

2.4 Requirement
(Applicable to machines / games of Category A, B1)

After a program interruption (for example, power down or power failure), software must be able to recover to the state it was in immediately prior to the interruption occurring.

2.4 Implementation Guidance

If a gaming machine or device is powered down while in an error condition, and power is later restored, the gaming machine or device must either:

a) detect that the error has been corrected, in which case play may continue; or
b) if the error remains, continue to display the error message and cause the gaming device to remain locked-up.

On program resumption, the following procedures must be performed as a minimum requirement:

c) any communications to an external device must not begin until the program resumption routine, including self-tests, is completed successfully;
d) gaming device control programs shall test themselves for possible corruption due to failure of the program storage media. The authentication may use the checksum; however, it is preferred that the Cyclic Redundancy Check (CRC) calculations are used as a minimum (at least 16 bit). Other test methodologies must be approved by the Commission, its agent or approved test house; and
e) the integrity of all critical memory must be checked.

Microprocessor controlled reels (for example, stepper motor reels) must re-spin automatically to the last valid play-mode result when the play mode is re-entered, and the reel positions have been altered (for example, when the main door is closed, power is restored, audit mode is exited, or an error condition cleared).

The program must not be adversely affected by the simultaneous or sequential activation of the various inputs and outputs, such as 'play buttons', which might, whether intentionally or not, cause malfunctions or invalid results.

Where a peripheral device such as a note acceptor (accepting a note) or printer (printing a ticket and/or credit note) is in operation during a power failure it must, where practicable, on resumption of the power either complete or restart the task successfully or display an error message indicating that a fault has occurred. The error message must remain until the fault has been resolved by either the actions of the device or the operator. In all circumstances the metering or audit controls must be able to identify any accounting anomalies and a record be maintained for dispute resolution purposes.

2.5 Last game recall

2.5 Aim

To ensure game transparency and provide relevant information about recent play to assist with complaints and disputes.

2.5a Requirement
(Applicable to machines / games of Category A, B1)

Information on at least the last five games must be always retrievable on the operation of a suitable external key-switch, or another secure method not available to the player.

2.5a Implementation Guidance

Last play information must provide all information required to reconstruct fully the last five plays. All values must be displayed, including the initial credits, credits bet, credits won, and credits paid. If a progressive prize was awarded (see Progressive section of this Standard), it is sufficient to indicate that fact: the value need not be displayed. This information should include the final game outcome, including all player choices and bonus features, plus the results of any ‘Double-up’ or ‘Gamble’.

The last five game recall shall reflect bonus rounds in their entirety. If a bonus round lasts 'x number of events’, each with separate outcomes, each of the ‘x events’ shall be displayed with its corresponding outcome, if the outcome results in an award. The recall shall also reflect position dependent events if the outcome results in an award. For games that may award unlimited free plays, there shall be a minimum of fifty plays recallable.

2.5b Requirement
(Applicable to machines / games of Category B2, B3, B4, C, D (complex))

Information on at least the last five games must be always retrievable on the operation of a suitable external key-switch, or another secure method not available to the player.

2.5b Implementation Guidance

This will be a minimum of any collected winnings and bank status for each of the five individual games.

2.5c Requirement
(Applicable to machines / games of Category B3A)

Information on at least the last fifty lottery tickets purchased on the machine must always be retrievable on the operation of a suitable external key-switch, or another secure method not available to the player.

2.5c Implementation Guidance

This information must include a minimum of which lottery has been entered (but only if several exist on the machine), timestamp of ticket purchase, unique ticket identifier (if system uses one), bank and/or credit meter details and outcome (losing chance or win amount).

2.6 Test and/or diagnostic mode

2.6 Aim

To ensure transparency when the game is being used in test and normal play modes.

2.6 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

When a gaming machine or device is in a test mode, any test that involves credits entering or leaving the gaming machine or device (for example, a hopper test) must be completed prior to resumption of normal operation.

2.6 Implementation Guidance

When exiting from test mode, any game in play must return to the original state it was in when the test mode was entered. If the gaming machine or a device is in a game test mode, the machine must clearly indicate that it is in a test mode, not normal play.

The main cabinet door of a gaming machine may automatically place the machine in a service or test mode. Test/diagnostics mode may also be entered, via an appropriate instruction, by an attendant during an audit mode access.

2.7 Software verification

2.7 Aim

To ensure game integrity and fairness.

2.7a Requirement
(Applicable to machines / games of Category A, B1)

All gaming machines must be capable of permitting an independent integrity software check utilising an external device.

2.7a Implementation Guidance

This can be accomplished by the medium being able to be removed and authenticated by a third-party or having an interface port for third-party equipment to authenticate the media. The purpose of such an integrity check is to provide a means for field testing the software to identify and validate the program.

2.7b Requirement
(Applicable to machines / games of Category B2, B3, B3A, B4, C, D (complex))

As a minimum, the machine must have the ability to allow visual inspection of the following using either an available matrix or video display:

a) identity of the game provider;
b) game identity code;
c) version number of game software; and
d) check sum of game software

And if the operating system is not proprietary to the manufacturer, game provider, supplier or operator then:

e) identity of operating system; and
f) version number of operating system.

2.7b Implementation Guidance

On machines or terminals which offer the player a choice of games the information listed above concerning the game software must be made available for each game.

It is permissible for the machine not to display such information during each start up, but it must be accessible when required. This may involve the machine being restarted or an appropriate security key being used.

Reference to ‘game’ in Requirement 2.7b or this Implementation Guidance shall be taken to mean ‘lottery’ for category B3A machines / games.

GMTS 3 Critical memory requirements

3.1 Contents of critical memory

3.1 Aim

To ensure the integrity of memory critical to game play.

3.1a Requirement
(Applicable to machines / games of Category A, B1)

The clearing or resetting of such data must require deliberate action by appropriately authorised personnel.

3.1a Implementation Guidance

Critical memory means computer memory used to store all data that is vital to the continued operation of the gaming machine or device. This includes, but is not limited to, memory which records:

a) the current value of:
    i. credit and bank (deposited, committed funds and winnings) values; and
    ii. last bank note data.
b) power up and door open occurrences;
c) gaming device and/or game configuration data;
d) information pertaining to the last five plays with the RNG outcome (including the current game, if incomplete); and
e) software state (that is the last normal state the gaming machine or device software was in before interruption).

3.1b Requirement
(Applicable to machines / games of Category B2, B3, B3A, B4, C, D (complex))

The clearing or resetting of such data must require deliberate action by appropriately authorised personnel.

3.1b Implementation Guidance

Critical memory means computer memory used to store all data that is vital to the continued operation of the gaming machine or device. This includes, but is not limited to, memory which records:

a) credit and bank values (deposited, committed and winning funds);
b) electronic meters;
c) previous game data (lottery data for B3A), as stated in appropriate part of requirement 2.5;

and for categories other than B3A:

d) data used in any control of the game (if the game is non-random).

3.2 Maintenance of critical memory

3.2 Aim

To ensure the integrity of memory critical to game play.

3.2 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Critical memory storage must be maintained by a methodology that enables errors to be identified and corrected in most circumstances.

3.2 Implementation Guidance

Comprehensive checks of critical memory must be made during each gaming machine or device restart (for example, power up cycle).

Gaming machine or device control programs (software that operates the machine or device's functions) shall test for possible corruption caused by failure of the program storage medium and all critical game files. Test methodology must endeavour to detect 100 percent of all possible failures.

The control program (software that operates the gaming machine or device's functions) must allow for the machine or device to ensure the integrity of all control program components during execution of said components.

All program storage devices ('PSD') in the executable address space of a main processor shall be validated during the following conditions:

a) any power up;
b) the first time the files are loaded for use (even if only partially loaded).

The methodology used may involve signatures, checksums, partial checksums, multiple copies, timestamps and/or effective use of validity codes.

Memory and PSD space that are not critical to machine security (for example, video or sound ROM) are not required to be validated.

3.3 Program / critical memory and non-volatile devices used to store program

3.3 Aim

To ensure the integrity of memory critical to game play.

3.3 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

The following are requirements for critical memory:

a) a battery back-up (where required), or an equivalent, must be installed on the gaming machine or device for the electronic meters and must be capable of maintaining the accuracy of all information required for thirty days after power is discontinued from the machine. The back-up device must be kept within the locked logic area;
b) if the rechargeable battery back-up is used as an 'off chip' battery source it shall re-charge itself to its full potential in a maximum of twenty-four hours and have a shelf life of at least five years; and
c) critical memory that uses an off-chip back-up power source to retain its contents when the mains power is switched off must have a detection system which will provide a method for software to interpret and act upon a low battery condition.

3.3 Implementation Guidance

If a locked logic area is not available (requirement 3.3a), for categories other than A and B1, then a secure location behind the locked main door may be used.

As an alternative in requirement 3.3c, but only for categories other than A and B1, a suitable software check can be carried out to ensure the integrity of storage is maintained.

3.4 Unrecoverable critical memory

3.4 Aim

To ensure the integrity of memory critical to game play.

3.4 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

An un-correctable corruption of critical memory must result in an error condition. Critical memory should not be cleared automatically but must only be cleared by an authorised person.

3.4 Implementation Guidance - None

3.5 Function of critical memory reset

3.5 Aim

To ensure the integrity of memory critical to game play.

3.5 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Clearing critical memory must only be capable of being undertaken by accessing the logic area in which it is housed. Following the initiation of a critical memory reset procedure, the program must execute a routine which initialises each and every bit in memory to the default state.
For machines that allow for partial critical memory clears, the methodology for doing so must be accurate and the machine must validate the un-cleared portions of memory.

3.5 Implementation Guidance

For games other than category B3A:
The default reel position or game display after a critical memory reset must not be the top award on any selectable line. The default game display, upon entering game play mode, must also not be the top award. This applies to the base game only and not to any secondary bonus devices.

For category B3A lotteries only:
If a pseudo ‘game’ is used to display the result of the ticket, the default reel position or lottery ‘game’ display after a critical reset must not be the top award on any selectable line. The default lottery ‘game’ display, upon entering lottery ‘game’ play mode, must also not be the top award. This applies to the base lottery ‘game’ only and not to any secondary bonus devices.

GMTS 4 Machine credit and payment requirements

4.1 Coin, note and other methods of adding money / money's worth

4.1 Aim

To prevent crime and to ensure the full value added to a machine is credited for play.

4.1a Requirement
(Applicable to machines / games of Category A, B1)

Devices used to accept currency or currency equivalent must be designed and configured to resist tampering and manipulation, such that the correct value of valid currency or its equivalent is transferred to the machine for use.

4.1a Implementation Guidance

To satisfy the above requirement, devices must at minimum meet the following:

a) the coin and/or token acceptor must be designed to prevent the use of cheating methods such as slugging (counterfeit coins and/or tokens), stringing (coin pullback), the insertion of foreign objects and other manipulation. The device must be capable of handling rapidly-fed coins and/or tokens so that the possibility of cheating is minimised. The devices must have suitable detectors for determining the direction and the speed of coin and/or token travel in the receiver. If a coin and/or token travelling at too slow a speed or in an invalid direction is detected, the gaming device shall enter an error condition and display an error condition for at least thirty seconds or be cleared by an attendant;

b) other than for diagnostic purposes coins and/or tokens judged invalid by the acceptor must be rejected to the coin tray and shall not be counted as credits. Acceptance of coins and/or tokens for crediting to the credit meter must only be possible when the gaming machine is enabled for play. Other states, such as error conditions, including 'door open' and 'audit mode' must disable the coin and/or token acceptor system. Each coin and/or token inserted must register the actual monetary value or a number of credits on the player's credit meter for the current game or bet meter. If coins or tokens inserted in a machine are registered directly as credits, the conversion rate must be clearly stated, or be easily ascertainable from a help menu or similar;

c) all acceptance devices must be able to detect the entry of valid notes, coupons, paper tokens, or other approved voucher, and provide a method to enable the gaming device software to interpret and act appropriately upon a valid or invalid input. Acceptance devices must be electronically based and configured to ensure that they only accept valid banknotes, vouchers or paper tokens, and reject all other notes. The note input system must be constructed in a manner that protects against vandalism, abuse, or fraudulent activity.
In addition, note acceptance devices must meet the following requirements:

d) where a stacker is installed, credits must only be registered when:
   i. the note or other valid token has passed the point where it is accepted and stacked; and
   ii. the acceptor has sent an 'irrevocably stacked' message to the machine.

e) if note acceptors are designed to be factory set only, it must not be possible to access or conduct maintenance or adjustments to those note acceptors in the field, other than:
   i. the selection of notes, coupons, or paper tokens and their limits;
   ii. changing of EPROMs or downloading of software;
   iii. adjustment of the tolerance level for accepting notes or tokens of varying quality should only be allowed with adequate levels of security in place. This can be accomplished through lock and key, physical switch settings, or other accepted methods approved on a case-by-case basis;
   iv. maintenance, adjustment, and repair per factory approved procedures; or
   v. options that set the direction or orientation of acceptance.

4.1b Requirement
(Applicable to machines / games of Category B2, B3, B3A, B4, C, D (complex))

Devices used to accept currency or currency equivalent must be designed and configured to resist tampering and manipulation, such that the correct value of valid currency or its equivalent is transferred to the machine for use.

4.1b Implementation Guidance

Reference to ‘game’ in this guidance shall be taken to mean ‘lottery’ for category B3A machines / games.

To satisfy the above requirement, devices must at minimum meet the following:

a) the coin and/or token acceptor must be designed to prevent the use of cheating methods such as slugging (counterfeit coins and/or tokens), stringing (coin pullback), the insertion of foreign objects and other manipulation; and
b) other than for diagnostic purposes, coins and/or tokens judged invalid by the acceptor must be rejected to the coin tray and shall not be counted as credits. Acceptance of coins/tokens for crediting to the credit meter must only be possible when the gaming machine is enabled for play. Other states, such as error conditions, including ‘door open’ and ‘audit mode’ must disable the coin/token acceptor system. Each coin and/or token inserted must register the actual monetary value or a number of credits on the player's credit meter for the current game or bet meter. If coins or tokens inserted in a machine are registered directly as credits, the conversion rate must be clearly stated, or be easily ascertainable from a help menu or similar.

All acceptance devices must be able to detect the entry of valid notes, coupons, paper tokens, or other approved voucher and provide a method to enable the gaming device software to interpret and act appropriately upon a valid or invalid input. Acceptance devices must be electronically based and be configured to ensure that they only accept valid banknotes, vouchers or paper tokens and reject all other notes. The note input system must be constructed in a manner that protects against vandalism, abuse, or fraudulent activity.

4.2 Tokenisation

4.2 Aim

To ensure tokens are correctly interpreted.

4.2 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

For games that may be played using tokens, the gaming machine or relevant device must receive from the acceptor and post to the player’s ‘bank’ the entire amount inserted.

4.2 Implementation Guidance

If the currency amount is not an even multiple of the token for a game or the credit amount has a fractional component, the system must retain the value for the benefit of the next player.

4.3 Printers

4.3 Aim

To ensure printed information is adequate and secure.

4.3a Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C)

If a gaming machine is equipped with a printer that is used to make payments, the printer must be located in a locked area of the machine (for example, require opening of the main door to access), but not in the logic area. For categories other than A and B1, the printer may be located in the logic area if the implementation guidance in requirement 1.5b is complied with.

4.3a Implementation Guidance

Any printed ticket, voucher and/or hand pay receipt must display the following information as a minimum:

a) operator's name or reference;
b) gaming machine number;
c) date and time (24-hour format) of issuance;
d) alpha numeric currency amount;
e) sequence number;
f) validation number and/or unique identifier (for example, a bar code);
g) transaction type (cash out ticket, hand pay receipt.); and
h) duplicate ticket indicator (for example, duplicate number 3).

4.3b Requirement
(Applicable to machines / games of Category B3A)

If a gaming machine is equipped with a printer that is used to make payments, the printer must be located in a locked area of the machine (for example, require opening of the main door to access), but not in the logic area. The printer may be located in the logic area if the implementation guidance in requirement 1.5c is complied with.

4.3b Implementation Guidance

Any printed ticket, voucher and/or hand pay receipt must display the following information in addition to that required by the provisions of the Gambling Act 2005 (the Act) which apply to the particular type of lottery concerned (for example, a private society lottery or small society lottery):

a) date and time (24-hour format) of issuance
b) alpha numeric currency amount
c) validation number and/or unique identifier (for example, a bar code)
d) duplicate ticket indicator (for example, duplicate number 3).

4.4 Ticket validation

4.4 Aim

To ensure printed information is validated correctly.

4.4 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C)

Payment by ticket printer as a method of credit redemption is only permissible when:

a) there is an independent means to validate the printed ticket, voucher and/or hand pay receipt prior to any credit or other type of redemption; and
b) such a validation system is capable of identifying duplicate tickets to prevent fraud by reprinting and redeeming a ticket previously issued.

4.4 Implementation Guidance

To meet this requirement, an audit trail of at least one month’s data relating to all ticket transactions must be maintained for dispute resolution purposes.

GMTS 5 Specific game requirements

5.1 General requirement (Random games and Lottery machines only)

5.1 Aim

To ensure fairness and that players understand the type of game they are playing.

5.1a Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

A random game must clearly display to the player either at all times when it is in operation, or at the point a game is selected for play, the following statement:

THIS GAME IS RANDOM

5.1a Implementation Guidance

Where the outcome results in a player winning a prize, it must be determined randomly and in particular no compensator or regulator may be used to determine any stage of the game.

5.1b Requirement
(Applicable to machines / games of Category B3A)

The machine must clearly display to the player either at all times when it is in operation or at the point a lottery is selected for play the following statement:

THIS IS A LOTTERY MACHINE

5.1b Implementation Guidance

The outcome of the lottery must not be determined or influenced by means of the machine. To stop a class before it has completed there must be a valid reason such as evidence of fraud or manipulation. A class may only be suspended, stopped or replaced by a new class by a secure operator action.

However, it is permissible for a machine to randomly select a new class of lottery tickets (when the current class is completed) from a previously randomised selection of classes, which have been pre-loaded into the machine, but the new class selected must be different from the class just completed. This requirement that the new class selected must be different from the class just completed only applies to machines that are manufactured from 27 December 2008.

NOTE: Compensated games are covered in technical standard 5.8.

5.2 Random number generator (RNG) requirements

5.2 Aim

To ensure game fairness.

5.2a Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

Each possible permutation or combination of game elements that produces winning or losing game outcomes shall be available for random selection at the initiation of each play, unless otherwise clearly stated.

5.2a Implementation Guidance

A gaming machine or device must use appropriate communication protocols to protect the RNG and random selection process from influence by associated equipment which may be communicating with the machine or device. The RNG must be protected from external influences, such as electromagnetic and electrostatic interference and radio waves. (Compliance with the Electromagnetic Regulations would satisfy these requirements.)

A machine or device must not present a losing game result which indicates a 'Near Miss', for example, where the odds of the top award symbol landing on the pay line are limited it must not frequently appear above or below the pay line.

The selection process must:

a) be distributed over the entire output range and pass appropriate statistical tests;
b) ensure the output is unpredictable; and
c) not reproduce the same output stream, nor must two instances of an RNG produce the same stream as each other. Where seeding is required to achieve this seeding should not introduce predictability.

If a gaming machine offers a game which is recognisable (for example, Poker, Blackjack, or Roulette) and is described as such by title or visual presentation and the chances of winning differ from an equivalent real game then this must be made plain to the player either via the artwork or help menus. In any event the rules of the simulated game must be evident and transparent to the player.

For category A and B1 only.
In the case of games other than the simulated games mentioned directly above (such as spinning reel games or video spinning reel games); the mathematical probability of each possible stage of the game outcome shall be constant.

5.2b Requirement
(Applicable to machines / games of Category B3A)

Class sizes within any lottery must contain a minimum number of chances, with chances awarding wins (winning tickets) randomly distributed among the chances not awarding wins (losing tickets).

5.2b Implementation Guidance

The minimum number of chances depends on how the next class is selected:

a) if the next class is selected from a limited number of re-usable classes, then the minimum class size is 10,000. The number of classes from which a re-useable class is selected must be sufficient to provide a reasonable assurance that there is no possibility that a player or observer is able to predict the order in which chances have been randomised within a class.
b) if the next class is not selected from a limited number of re-usable classes (for example, a new class is downloaded from a server each time) then the minimum class size is 1,000 chances.

The randomisation process must:

c) ensure chances which award prizes and the value of those prizes are randomly distributed over the entire range and pass appropriate statistical tests
d) ensure prize awards are randomly distributed over the entire range
e) ensure the output is unpredictable
f) not reproduce the same output stream, nor must two instances of an RNG produce the same stream as each other. Where seeding is required to achieve this, it should not introduce predictability.

A machine or device must not present a losing lottery ticket result which indicates a 'Near Miss', for example, where the odds of the top award symbol landing on the pay line are limited it must not frequently appear above or below the pay line.

If a gaming machine uses a pseudo 'game' to display the result of a lottery ticket which is recognisably a known game (for example, poker, reels or bingo) and is described as such by title or visual presentation, it must be made clear to the player that the chances of winning in the lottery differ from an equivalent real game and that the outcome of the 'game' is totally dependent upon the result obtained from the next chance drawn from the class.

5.3 Mechanically based RNG games

5.3 Aim

To ensure game fairness.

5.3 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

Mechanically based RNG games are games that use the laws of physics to generate the outcome of the game. All mechanically based RNG games must meet the requirements of this standard with the exception of the part of requirement 5.2 that is clearly applicable only to electronic RNGs.

5.3 Implementation Guidance

Mechanically based RNG games must also meet the following requirements:

a) the mechanical pieces must be constructed of materials to prevent decomposition of any component over time (for example, a ball shall not disintegrate);
b) the properties of physical items used to choose the selection shall not be altered; and
c) the player must not be able to interact with, come into physical contact with, or manipulate the mechanics of the game.

This requirement is not intended to prohibit mechanically based skill and chance features used for entertainment purposes which may form a part of an otherwise electronic game.

5.4 Scaling algorithms

5.4 Aim

To ensure any rescaling does not affect game fairness.

5.4 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

If a random number with a range shorter than that provided by the RNG is required for some purpose within a game, the method of re-scaling (that is converting the number to the lower range), is to be designed in such a way that all numbers within the lower range are equally probable.

5.4 Implementation Guidance - None

5.5 Single game requirements

5.5 Aim

To ensure games are not linked.

5.5a Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

The stakes for every gambling opportunity within a game selected by the player must be deducted from the credit or play meter prior to the outcome of any gambling opportunity being displayed to the player.

Before credits for play in a game can be taken, the previous game must first have been completed in full and the result shown to the player.

5.5a Implementation Guidance

This requirement does not preclude the use of multi lines, multi stake and multi reel games provided that the total stake and prize do not exceed the statutory maxima for the single game.

5.5b Requirement
(Applicable to machines / games of Category B3A)

The price for any lottery ticket purchased by the player must be deducted from the credit or play meter prior to the outcome of the chance in the class represented by that ticket being displayed to the player.

5.5b Implementation Guidance

This section does not preclude the use of multi-line and multi-reel pseudo ‘games’ to display the result of the lottery tickets provided that the aggregate ticket price and total prize do not exceed the statutory maxima.

5.6 Initiating the next game (auto start and/or play)

5.6 Aim

To prevent inadvertent continuous play.

5.6 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Except where an 'auto play' or 'auto start' feature is permitted[2] it must always be necessary to release and then depress the machine's real or virtual 'start button' to start a game cycle.

5.6 Implementation Guidance

Reference to 'game' in Requirement 5.6 shall be taken to mean 'lottery' for category B3A machines / games.

5.7 Game speed of play

5.7 Aim

To set limits for repetitive play.

5.7a Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4)

Each game cycle must last at least 2.5 seconds.

5.7a Implementation Guidance

A game cycle starts when a player using a gaming machine once[3] has paid for each gamble selected and depresses the 'start button' or takes equivalent action to initiate the game and ends when all money or money's worth staked or won during the game has been either lost or delivered to, or made available for collection by the player and the start button or equivalent becomes available to initiate the next game.

Where auto play or auto start is permitted then a game cycle is measured from the point at which the game is initiated by the system (equivalent to the player depressing the start button) to the point at which it is able to automatically start the next game.

5.7b Requirement
(Applicable to machines / games of Category B3A)

Each lottery chance cycle must last at least 2.5 seconds.

5.7b Implementation Guidance

A lottery chance cycle starts when a player using a gaming machine once[3] has paid for a lottery ticket and depresses the 'start button' or takes equivalent action to determine if his ticket is a winning ticket and ends when the result of the lottery chance represented by that ticket has been displayed to the player and any prize has been paid to, or made available for collection by the player and the start button or equivalent becomes available to determine the fate of the next lottery chance.

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[2] See Regulations 2 and 10, Gaming Machine (Circumstances of Use) Regulations 2007

[3] Within the meaning of the Category of Gaming Machine Regulations 2007

Where auto play or auto start is permitted then a lottery chance cycle is measured from the point at which the lottery chance purchase is initiated by the system (equivalent to the player depressing the start button) to the point at which it is able to automatically start the next lottery chance.

5.7c Requirement
(Applicable to machines / games of Category C)

When played at the statutory maximum stake, each game cycle must take no less than 1.5 seconds to complete and the average duration of games, taken over one hour, should not be less than 2.5 seconds.

5.7c Implementation Guidance

For the purpose of this requirement, a game played at less than the statutory maximum stake should be considered as a proportion of one played at the maximum permissible stake (for example, 2 x 50p games would be considered to be equivalent to 1 x £1 game) with regard to both average and minimum duration.

Regardless of stake, the minimum duration of any game should not be less than 1.0 second and the average duration of games, taken over one hour, should not be less than 1.25 seconds.

A game cycle starts when a player using a gaming machine once[4] has paid for each gamble selected and depresses the 'start button' or takes equivalent action to initiate the game and ends when all money or money's worth staked or won during the game has either been lost or delivered to, or made available for collection by the player and the start button or equivalent becomes available to initiate the next game.

Where auto play or auto start is permitted then a game cycle is measured from the point at which the game is initiated by the system (equivalent to the player depressing the start button) to the point at which it is able to automatically start the next game.

5.7d Requirement
(Applicable to machines / games of Category D (complex))

Where the stake is 60p or less, each game cycle must take no less than 1.5 seconds to complete, and the average duration of a game taken over one hour should not be less than 2.5 seconds.

Where the stake is greater than 60p, each game cycle must either:

a) Take no less than 1.5 seconds to complete and the average duration of a game taken over one hour should not be less than 3 seconds; or
b) Take no less than 2.5 seconds to complete

5.7d Implementation Guidance

A game cycle starts when a player using a gaming machine once[4] has paid for each gamble selected and depresses the 'start button' or takes equivalent action to initiate the game and ends when all money or money's worth staked or won during the game has either been lost or delivered to, or made available for collection by the player and the start button or equivalent becomes available to initiate the next game.

[4] Within the meaning of the Category of Gaming Machine Regulations 2007

Where auto play or auto start is permitted then a game cycle is measured from the point at which the game is initiated by the system (equivalent to the player depressing the start button) to the point at which it is able to automatically start the next game.

5.8 Use of compensators and/or regulators

5.8 Aim

To ensure fairness and that players understand the type of game they are playing.

5.8 Requirement
(Applicable to machines / games of Category B2, B3, B4, C, D (complex))

A compensated game must clearly display to the player either at all times when it is in operation, or at the point a game is selected for play, the following statement:

THIS GAME IS COMPENSATED AND MAY BE INFLUENCED BY PREVIOUS PLAY

Where a machine operates in such a way that a particular feature (such as High/Low or gamble) may invite a player to make a choice in circumstances in which they have little chance of success (defined by the probability of a win being reduced to less than 20 percent of that required to achieve the target percentage payout) then the following statement must be substituted for the above:

THIS GAME IS COMPENSATED AND MAY BE INFLUENCED BY PREVIOUS PLAY AND OFFER THE PLAYER A CHOICE WHERE THERE IS LITTLE CHANCE OF SUCCESS

5.8 Implementation Guidance

The use of compensators or regulators to determine any stage of the game outcome is permitted, except in the case of ‘pre-gambles’, provided that the following rules are complied with;

a) each possible permutation or combination of game elements that produces winning or losing game outcomes must be available for selection at the initiation of each play.
b) the outcome of any gamble must not be predictable to the player;
c) cyclic periods of play must not be deliberately introduced, and due care must be exercised to prevent their inadvertent occurrence;
d) the chance of winning a prize must not be so altered as to deliberately create a series of losing (raking periods) or winning games (enriched periods);
e) any sequence of wins must not exceed that to be expected from a random machine of a similar payout profile and running at the same payout percentage.

A gaming machine or device must not present a losing game result which indicates a ‘Near Miss’, for example, where the odds of the top award symbol landing on the pay line are limited it must not frequently appear above or below the pay line.

5.9 Live jackpots

5.9 Aim

To ensure live jackpots do not compromise linked game rules.

5.9 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

Except for a live jackpot, no gaming machine shall offer prizes which increase or appear to increase from one game to the next. Other than the linking permitted on jackpot prizes for category B1 machines in a single casino premises, a live jackpot shall not be linked to any other gaming machine.

Live jackpots must comply with the following rules:

a) for an electronically displayed live jackpot the true value (the prize value which may be won within the game) must be displayed to the player at all times and must be available in every game. It may only be won as a result of either:
    i. a random outcome within the game; or
    ii. the proportion of total money contributed to the jackpot reaching a randomly pre-determined trigger limit;
b) it is permissible to use physical coins in place of an electronically displayed equivalent provided that the value of prize which may be won by the player is transparent (the player must be able to reasonably assess the total prize value on offer);
c) the live jackpot must be incremented in proportion to the money staked and by no more than the statutory maximum stake in any single game. For category A machines it shall not be increased by more than the value of the stake used to play the game in which it is incremented. It is not a requirement for the live jackpot and reserve (where used) to be incremented in unison or at the same rate;
d) the prize awarded may be comprised of a fixed value (which must be transparent to the player at all times) together with the live jackpot provided that the total (including any other prize won in the game) does not exceed the statutory maximum;
e) when the live jackpot is awarded, its value must be reduced to zero or its seeded value. It is permissible for a live jackpot to be gambled (in full or part) by the player. Where such functionality is within the game design, the player must not be required to gamble, rather they may choose to gamble or collect their live jackpot win in full at their own discretion; and
f) the value of the live jackpot or its reserve shall not influence the chance of achieving a win within the game or be used to imply that a win is more likely.

In this requirement, a ‘reserve meter’ is a second meter or display which is used to hold any value which may be raised at the same time as the live jackpot, or which holds any overspill once the live jackpot has reached the maximum level for that category of machine.

5.9 Implementation Guidance - None

5.10 Double-up (random games only)

5.10 Aim

To ensure gambles do not compromise return to player percentages.

5.10 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

Any double-up or gamble options must have a theoretical return to the player of that displayed or suggested by the game graphic.

5.10 Implementation Guidance - None

5.11 Bonus games

5.11 Aim

To ensure game fairness in the area of bonuses.

5.11 Requirement
(Applicable to machines / games of Category A, B1)

If a game cycle contains a 'bonus feature' including a game within a game, the following rules must be met:

a) it must be transparent to the player which game rules apply to the current game state;
b) if the bonus game does not occur randomly, the machine must display to the player sufficient information to indicate the current status towards the triggering of the next bonus game (for example, if the game requires the player to obtain several events and/or symbols to enter a bonus game, the number of events and/or symbols needed to enter the bonus game shall be indicated along with the number of events and/or symbols collected at that point);
c) the game must not adjust the likelihood of a bonus occurring, based on the history of prizes obtained in previous games;
d) if a game's bonus is triggered after accruing a certain number of events and/or symbols or combination of events and/or symbols of a different kind, the probability of obtaining like events and/or symbols must not deteriorate as the game progresses (for example, for identical events and/or symbols it is not permissible that the last few events and/or symbols needed should be more difficult to obtain than the previous events and/or symbols of that kind); and
e) it must be transparent to the player that the game is in a bonus mode.

5.11 Implementation Guidance - None

5.12 Additional credits staked during the game

5.12 Aim

To ensure games that permit additional credits to be staked only do so within stated parameters.

5.12 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

A machine must not permit players to stake any additional credits during a game cycle unless the game complies with the following requirements:

a) that the outcome of the game is not decided prior to any additional credits being staked;
b) that the outcome of the game following any additional credits being staked is random and that all possible combinations associated with an equivalent real game under the same circumstances are available to the player;
c) that the game does not modify the chance of achieving a win or the combinations available to the player associated with an equivalent real game as a result of their decision not to stake, or to stake additional credits within that game; and
d) the player must not be deliberately misled or given a false impression that they have an enhanced chance of winning as a result of staking additional credits within the game.
e) That the total stake wagered within the game does not exceed the relevant statutory maximum.

For Category A only – requirement ‘e’ above does not apply and is replaced by:

e) That the total stake wagered within the game does not exceed 3 times the original stake wagered to start the game.

5.12 Implementation Guidance

This section does not preclude the use of multi stake, multi-line and multi reel game configurations provided that the player sets their total stake prior to the start of the game cycle.

5.13 Pre-gamble

5.13 Aim

To ensure game fairness in the area of pre-gambles.

5.13 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

Where the player is given the opportunity at the start of the game to enter into a ‘pre-gamble’, and the prizes available or the odds of achieving those prizes in the game are linked to the odds of a successful outcome of the pre-gamble, the following rules shall apply:

a) the player must always be given the option at the start of the game whether or not to use the pre-gamble;
b) there must not be a difference of more than 10 percent between the lowest percentage return to player (percent RTP) offered to the player opting to use the pre-gamble and a player who does not opt to do so;
c) the prize awards related to each pre-gamble option must be transparent to the player in that they must be fully aware of what they are playing for (or pre-gambling for);
d) pre-gambles must be transparent in that they must be at natural odds, the player must get what they see, and there must be no form of compensation or payment or retention of winnings in the event that a short or long series of game outcomes falls outside that which might be normally expected; and
e) following a 20 second period in which there is no game played, and there is insufficient credit to play a game, any set gamble level is to be reset to ‘no gamble’.

5.13 Implementation Guidance - None

5.14 Game links

5.14 Aim

To ensure game linkages (where permitted) follow stipulated rules.

5.14a Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4)

A ‘game link’ is where an element, feature or outcome from one game is either held over or made reference to (recreated) in the next game (for example, reel band holds). Game links, with the exception of the live jackpot, are not permissible unless they comply with the following rules:

a) any reference or link made to any previous game must occur randomly;
b) linkages to a game are only permissible from the immediately preceding completed game;
c) the player must not be aware as to whether a link will be given or have the opportunity to use it before there is sufficient credit available on the credit or play meter to play the game at least once by means of the machine;
d) no subsequent game link is permissible to the current game where a prize has been awarded and delivered to the player. It is not permissible to force or create a series of wins (enriched periods) using any link features.

5.14a Implementation Guidance - None

5.14b Requirement
(Applicable to machines / games of Category C)

This requirement has two options, 'game link following a losing game' and 'game link following a game which awards a prize'.

Option 1: Game link following a losing game

A 'game link' is where an element, feature or outcome from one game is either held over or made reference to (recreated) in the next game (for example, reel band holds). Game links, with the exception of the live jackpot are not permissible unless they comply with the following rules:

a) linkages to a game are only permissible from the immediately preceding completed game;
b) it is not permissible to create a situation whereby the machine's control deliberately restores a link to any previous game by any means other than the immediately preceding completed game;
c) it is not permissible deliberately to force or create a series of wins (enriched periods) using a link feature(s);
d) it is not permissible to carry over a win unless requirement 5.14b (option 2) is complied with;
e) it is not permissible to link to the previous game if a prize had been awarded in that game unless requirement 5.14b (option 2) is complied with.

Option 2: Game link following a game which awards a prize

A 'game link' is where an element, feature or outcome from one game is either held over or made reference to (recreated) in the next game (for example, reel band holds). Game links, with the exception of the live jackpot are not permissible unless they comply with the following rules:

a) subject to (g) any reference or link made to any previous game must occur randomly;
b) linkages to a game are only permissible from the immediately preceding completed game;
c) the chance of being awarded a link to the next game must be no better than even;
d) it is not permissible to create a situation whereby the machine's control deliberately restores a link to any previous game by any means where it is broken as a result of an unfavourable outcome in a subsequent game;
e) the player must not be aware as to whether a link will be given or have the opportunity to use it before there is sufficient credit available on the credit or play meter to play the game at least once by means of the machine;
f) it is not permissible deliberately to force or create a series of wins (enriched periods) using a link feature(s);
g) table 1 sets out the permissible number of consecutive winning games that may be linked together by reference to the maximum prize awarded and delivered to a player in any single game of this linked series of winning games. For example, where no prize in any single game of a linked series exceeds £15 then it is permissible to offer the player a maximum of six successful consecutive links.

(Note - the figures within bullet g) may need updating to reflect the consultation outcome).

Table 1 - Number of successful consecutive links permissible by maximum prize value for Category C machines / games

(Note - the consultation outcome will determine the final table content).

Current requirement		**Industry Proposal**		**Our Proposal**	
Maximum prize value awarded in any single game of a linked series	Maximum number of successful consecutive links permissible	Maximum prize value awarded in any single game of a linked series	Maximum number of successful consecutive links permissible	Maximum prize value awarded in any single game of a linked series	Maximum number of successful consecutive links permissible
£10 or less	Unrestricted	£15 or Less	Unrestricted	£15 or Less	Unrestricted
£15 or less, greater than £10	6				
£20 or less, greater than £15	5	£20 or less, greater than £15	6	£50 or less, greater than £15	5
£25 or less, greater than £20	4	£25 or less, greater than £20	5		
£50 or less, greater than £25	3	£50 or less, greater than £25	5		
£70 or less, greater than £50	2	£70 or less, greater than £50	3	£75 or less, greater than £50	3
£100 or less, greater than £70	1	£100 or less, greater than £70	2	£100 or less, greater than £75	2
		In excess of £100	1	In excess of £100	1

All games in a linked series will be otherwise separate and required to be purchased by an appropriate stake.

5.14b Implementation Guidance - None

5.14c Requirement
(Applicable to machines / games of Category D (complex))

A ‘game link’ is where an element, feature or outcome from one game is either held over or made reference to (recreated) in the next game (for example, reel band holds). Game links, with the exception of the live jackpot are not permissible unless they comply with the following rules:

a) subject to (g) any reference or link made to any previous game must occur randomly;
b) linkages to a game are only permissible from the immediately preceding completed game;
c) the chance of being awarded a link to the next game must be no better than even;
d) it is not permissible to create a situation whereby the machine’s control deliberately restores a link to any previous game by any means where it is broken as a result of an unfavourable outcome in a subsequent game;
e) the player must not be aware as to whether a link will be given or have the opportunity to use it before there is sufficient credit available on the credit or play meter to play the game at least once by means of the machine;

f) it is not permissible deliberately to force or create a series of wins (enriched periods) using a link feature(s);
g) table 2 sets out the permissible number of successful consecutive links that may be offered to the player by reference to the maximum prize awarded and delivered to a player in any single game of a linked series. For example, where no prize in any single game of a linked series exceeds £2 then it is permissible to offer the player a maximum of six successful consecutive links.

Table 2 - Number of successful consecutive links permissible by maximum prize value for Category D (complex) machines / games

Maximum prize value awarded in any single game of a linked series	**Maximum number of successful consecutive links permissible**
£1 or less	Unrestricted
£2 or less, greater than £1	6
£3 or less, greater than £2	5
£4 or less, greater than £3	4
£5 or less, greater than £4	3

All games in a linked series will be otherwise separate and required to be purchased by an appropriate stake.

5.14c Implementation Guidance - None

5.15 Multiple games on a gaming machine

5.15 Aim

To ensure game fairness and transparency for players.

5.15 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Machines offering multiple games shall provide players with all necessary information to enable the player to fully understand the game rules, pay-table and any game-specific information which will permit players to make an informed decision about which game to play before committing themselves to a specific game.

The security and audit controls shall be such that players are not disadvantaged by game updates or changes.

5.15 Implementation Guidance

Reference to ‘game’ in Requirement 5.15 or this implementation guidance shall be taken to mean ‘lottery’ for category B3A machines / games.

The following would meet the requirements in full:
a) the methodology used to select and discard a particular game for play and all applicable rules and/or pay tables on a multi-game machine shall be transparent to the player and available to view for each game prior to any commitment to play. It must at all times be made transparent to the player which game has been selected for play or is being played.
b) committing to play a game must involve the player in at least two actions. Having selected a game, the player must be able to return to the main menu without playing.

c) it must not be possible to start a new game before the current play is completed and all relevant meters have been updated (including features, gambles and other game options).
d) the set of games offered to the player for selection, or the pay table, must be capable of being changed only by a secure method. This includes turning on and off games available for play through a suitable interface. The rules at requirement 1.5 of these standards shall govern the critical memory clear control requirements for these types of selections. However, for games that keep the previous pay tables (the pay table just turned off) data in memory, a critical memory clear is not required. As an alternative to a critical memory clear, a gaming system may record the data that is stored in critical memory on separately allocated memory exclusive to the game, provided there are adequate safeguards to ensure critical memory integrity.
e) no changes to the set of games offered to the player for selection (or to the pay table) are permitted while there are credits on the player's credit or bank meter or while a game is in progress unless there is evidence of game manipulation or fraud as a result of a security weakness. (For category B3A only - This requirement does not prohibit the loading of a new class of lottery chances should an existing lottery class be completed).
f) where changes to the set of games offered to the player for selection (or to the pay table) are performed outside of the site operator's opening hours it is permissible to do so while credits remain on the player's credit meter provided that there are adequate measures to ensure the machine is not accessible to players and that any credits are retained for the benefit of the next player following such a procedure.

Plus, for category B3A machines only:
g) Where allowed by this requirement, the set of lotteries offered to the player may be modified as long as any changes made do not in any way affect any lottery class (or classes) provided on the machine until all tickets within that class (or classes) have been purchased. This is to ensure that any changes made, affect the whole class and not simply a part of a class. This requirement does not apply if changes to the set of lottery games are being made because there is evidence of lottery manipulation or fraud as a result of a security weakness.

GMTS 6 Specific error conditions and alert requirements

6.1 General alert conditions

6.1 Aim

To alert staff and players to machine / game faults.

6.1 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Gaming machines and devices must be capable of detecting, displaying and alerting the operator to most common error conditions. These must be cleared either by an attendant or upon initiation of a new play sequence and where any on-line monitoring and control system is networked to the machine, details of the error should be communicated to it.

6.1 Implementation Guidance

As a minimum, the following error conditions should be detected:

a) coin-in jam (where the coin acceptor disables itself under such circumstances it is not a requirement that it display an error message);
b) coin-out jam;
c) hopper empty or timed out;
d) hopper runaway or extra coin paid out;
e) critical memory error (including an indication of battery failure or low battery power);
f) note acceptor-in jam;
g) program error or authentication mismatch;
h) main door open;
i) reverse coin-in (coin travelling the wrong way through acceptor);
j) reel spin errors, including a miss-index condition for rotating reels, which affect the outcome of the game:
    i. the specific reel number must be identified in the error code;
    ii. in the final positioning of the reel, if the position error exceeds one-half of the width of the smallest symbol excluding blanks on the reel strip; and
    iii. microprocessor controlled reels must be monitored to detect malfunctions such as a reel which is jammed, or is not spinning freely, or any attempt to manipulate their final resting position.
k) power reset; and
l) logic cage open (where applicable).

For machines or devices or individual games that use error codes, a description of such codes and their meanings shall be affixed inside the machine or device. This does not apply to video-based games; however, video-based games shall display meaningful text to describe the relevant error condition.

6.2 Printer error conditions

6.2 Aim

To alert staff and players to printer faults.

6.2 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C)

A printer shall have mechanisms to allow software to interpret and act upon the most common error conditions.

6.2 Implementation Guidance

As a minimum, the following error conditions should be detected:

a) out of paper or paper low;
b) presentation error (TITO only);
c) printer jam and/or failure; and
d) printer disconnected which may only be detected when the software tries to print.

These conditions shall trigger an error condition to indicate the error has occurred.

6.3 Note acceptor error conditions

6.3 Aim

To alert staff and players to note acceptor faults.

6.3a Requirement
(Applicable to machines / games of Category A, B1)

Each gaming machine or device (including note acceptors) must have the capability of detecting and displaying (for note acceptors, it is acceptable to disable or flash a light or lights) the most common error conditions.

6.3a Implementation Guidance

As a minimum, the following error conditions should be detected:

a) Stacker Full (where installed) – a note acceptor should disable itself to accept no more notes. The game should not generate an error message when the stacker is full;
b) Note Jams – it is acceptable for the note acceptor to indicate there is a note jam by disabling itself and accepting no more notes or by some other method;
c) Note Acceptor Door Open – where a note acceptor door is the main cabinet door, a door open signal is sufficient; and
d) Stacker Door Open (where installed) or Stacker Removed.

A note acceptor must perform a self-test at each power up. In the event of a self-test failure, the note acceptor must automatically disable itself (that is enter note reject state) until the error state has been cleared.

For machines or devices or individual games that use error codes, a description of such codes and their meanings shall be affixed inside the machine or device. This does not apply to video-based games; however, video-based games shall display meaningful text to describe the relevant error condition.

6.3b Requirement
(Applicable to machines / games of Category B2, B3, B3A, B4, C)

Each gaming machine or device (including note acceptors) must have the capability of detecting and displaying (for note acceptors, it is acceptable to disable or flash a light or lights) the most common error conditions.

6.3b Implementation Guidance

As a minimum, the following error conditions should be detected:

a) Note Jams – it is acceptable for the note acceptor to indicate there is a note jam by disabling itself from accepting any more notes or by some other method.
b) Stacker or Main Door Open (where stacker installed) or Stacker Removed.

A note acceptor must perform a self-test at each power up. In the event of a self-test failure, the note acceptor must automatically disable itself (that is enter note reject state) until the error state has been cleared.

For machines or devices or individual games that use error codes, a description of such codes and their meanings shall be affixed inside the machine or device. This does not apply to video-based games; however, video-based games shall display meaningful text to describe the relevant error condition.

GMTS 7 Meter requirements

7.1 Credit / play meter

7.1 Aim

To ensure transparency for players.

7.1 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

Credits used to initiate a new game (see requirement 5.6) must come from a single meter which may be described as a credit or play meter. The player shall have the option to view any funds held in such a meter as a monetary value.

7.1 Implementation Guidance

Reference to ‘game’ in Requirement 7.1 shall be taken to mean ‘lottery’ for category B3A machines / games.

7.2 Accounting and occurrence meters

7.2 Aim

To ensure transparency and accuracy of accounting.

7.2a Requirement
(Applicable to machines / games of Category A, B1)

The machine must have at least one primary metering system which is independent of the main control system. All reasonable efforts should be made to ensure that data held by the primary metering system is true and accurate and impervious to tampering or unauthorised modification.

Accounting meters shall be at least eight (8) digits in length. If the meter is being used in Pounds (£) and Pence, at least seven (7) digits must be used for the Pound (£) amount. The meter must roll over to zero upon the next occurrence, any time the meter is eight (8) digits or higher and after 99,999,999 has been reached or any other value that is logical. Occurrence meters shall be at least three (3) digits in length and roll over to zero upon the next occurrence, any time the meter is higher than the maximum number of digits for that meter.

In all cases the data held on the metering system must be such that the percentage return to player can be accurately calculated and available for inspection. In instances where a gaming machine or device is able to offer multiple games such information must be available for each game and game variant.

7.2a Implementation Guidance

In order to meet this requirement, the primary metering system as a minimum requirement shall be capable of recording the following data (accounting meters are designated with an asterisk ‘*’):

a) the coins-in* (OR cash in) meter shall cumulatively count the total amounts staked during game play, except credits that are won during a game that are subsequently risked in a double up gamble;
b) the coins-out* (OR credit out) meter must cumulatively count all amounts won by the player at the end of the game, that were not paid out by an attendant, including amounts

paid by a ticket printer. This meter must not increment for notes inserted and cashed out (that is when the device is used as a change machine);

c) the drop* meter must maintain a cumulative count of the number of coins that have been diverted into a drop bucket and credit value of all notes and tickets and/or coupons inserted into the note acceptor for play. It is acceptable to have separate 'drop' meters for coins, notes, tickets and coupons;
d) the hand pays* meter shall reflect the cumulative amounts paid by an attendant for progressive and non-progressive hand pays;
e) the games-played meter must display the cumulative number of games played since the last critical memory clear.
f) a cabinet door meter must display the number of times the front cabinet door was opened since the last critical memory clear;
g) the drop door meter must display the number of times the drop door or the note acceptor door was opened since the last critical memory clear; and
h) the progressive occurrence meter must count the number of times each progressive meter is activated. Note: there is a separate requirement applicable to progressives.

7.2b Requirement
(Applicable to machines / games of Category B2, B3, B3A, B4, C, D (complex))

The machine must have at least one primary metering system which is independent of the main control system. All reasonable efforts should be made to ensure that data held by the primary metering system is true and accurate and impervious to tampering or unauthorised modification.

In all cases the data held on the metering system must be such that the percentage return to player can be accurately calculated and available for inspection. In instances where a gaming machine or device is able to offer multiple games such information must be available for each game and game variant.

Any meter used to record the above information must have a minimum capacity of seven digits.

It must not be possible for values on meters to increase or decrease while the machine cabinet doors are open.

7.2b Implementation Guidance

Reference to 'game' in Requirement 7.2b and this Implementation Guidance shall be taken to mean 'lottery' for category B3A machines / games.

The primary metering system must, as a minimum requirement, be capable of accurately recording the following data:

a) cash in;
b) cash and/or ticket value out;
c) change (if available);
d) value of total play. (For B3A machines, the value of 'winnings' is acceptable here)

Plus, for machines other than B3A:
In addition, for machines or devices which offer the player a choice of more than one game the following minimum data must be accurately recorded for each game choice:

e) value of total play; and
f) winnings.

7.3 Metering of note acceptor events

7.3 Aim

To ensure transparency and accuracy of accounting.

7.3 Requirement
(Applicable to machines / games of Category A, B1)

A gaming machine or device's primary metering system must also maintain and be able to report the following:

a) total monetary value of all items accepted;
b) total number of all items accepted; and
c) a breakdown of the notes accepted:
    i. for banknotes, the device must report the number accepted for each denomination;
    ii. for all other notes (non-legal tender), the device must have a separate meter that reports the number accepted; and
    iii. denomination of the last five banknotes inserted.

7.3 Implementation Guidance - None

7.4 Multi-game, game specific meters

7.4 Aim

To ensure transparency and accuracy of accounting.

7.4 Requirement
(Applicable to machines / games of Category A, B1)

In addition to the Accounting Meters required above, each individual game available for play shall have at least a separate 'Credits Bet' and 'Credits Won' meter designated in either credits or pounds (£).

7.4 Implementation Guidance

Even if a 'Double up or Gamble' game is lost, the initial win amount/credits bet amount shall be recorded in the game specific meters. Alternatively, there may be separate meters that account for the Double-up or Gamble information. In either event the method of metering must be transparent.

7.5 Door open and/or close metering

7.5 Aim

To record access events for security purposes.

7.5 Requirement
(Applicable to machines / games of Category A, B1)

The gambling machine or device shall be able to detect and meter access to the following doors or secure areas:

a) all external doors;

b) drop box door; and
c) note acceptor door.

7.5 Implementation Guidance - None

GMTS 8 Artwork and game display requirements

8.1 Information to be displayed

8.1 Aim

To ensure transparency and fairness for players.

8.1 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

A gaming machine or relevant device shall display, on the machine itself or on screen, information to enable players to keep track of their gambling.

8.1 Implementation Guidance

Reference to 'game' in Requirement 8.1 and this Implementation Guidance shall be taken to mean 'lottery' for category B3A machines / games.

As a minimum, the following information must be available to the player at all times the machine is available for play:

a) the player's current bank balance (where relevant);
b) number of plays available or current credit balance (monetary value);
c) all possible winning outcomes, or a link to where this information may be viewed for (for example, on a help menu)
d) win amounts or odds given for each possible winning outcome, or a link to where this information may be viewed (for example, on a help menu). The win amount may be displayed as a multiple of the bet or may be shown indirectly by describing the method by which wins are awarded;
e) the player options selected (for example, total stake, lines played) for the last completed game (until the next game starts or a new selection is made).
f) For B3A only: the cost to enter the lottery or each lottery if more than one is provided;

Plus, for machines / games other than B3A:

g) the current stake;
h) the amount won for the last completed game.

Other than for B3A, mystery wins are permissible provided it is transparent to the player as to how such a prize may be achieved.

It is not permissible to state or imply that a prize greater than the statutory maximum for a single game may be won by means of the machine nor to indicate that the machine is in a state which could be beneficial to the player (such as by way of a Cash Full Lamp).

8.2 Multi-line games (or 'pseudo' games in the case of category B3A)

8.2 Aim

To ensure transparency and fairness for players.

8.2 Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B3A, B4, C, D (complex))

a) Each individual line to be played shall be clearly indicated by the gaming machine or device so that the player is in no doubt as to which lines are being staked upon.

b) The winning play lines shall be clearly discernible to the player.

8.2 Implementation Guidance

Reference to ‘game’ in Requirement 8.2 and this Implementation Guidance shall be taken to mean ‘pseudo’ game for category B3A machines / games.

On a video game winning lines may be identified by drawing a line over the symbols on the play lines and/or the flashing of winning symbols and line selection box. Where there are wins on multiple lines, each winning play line may be indicated in turn. This would not apply to reel-based games.

8.3 Display notice requirements

Note: Additional display notice information is given in requirements 5.1 and 5.8.

8.3 Aim

To ensure fairness and that players understand the type of game they are playing.

8.3a Requirement
(Applicable to machines / games of Category A, B1, B2, B3, B4, C, D (complex))

a) If any display in respect of a game offered by a gaming machine (including reels) is capable of being taken to indicate odds which do not reflect the true odds in the game the following statement must be included on the face of the machine or at the time the game is selected where more than one game is offered to the player:

   THE OUTCOME OF ANY GAME OR FEATURE IS NOT NECESSARILY THAT SHOWN BY THE ODDS DISPLAYED

b) The following statement must be displayed on the face of the machine or at the time the game is selected where more than one game is offered to the player:

   NO PRIZE GREATER IN VALUE THAN (jackpot) POUNDS CAN BE WON FROM THIS MACHINE IN ANY ONE GAME

c) The theoretical target percentage return to player (for betting products this equates to 1 minus the calculated hold) must be displayed on the machine in the appropriate alternative format below:

   i) in cases in which the percentage return to player does not depend upon the strategy used by the player:

   THIS MACHINE HAS AN AVERAGE PERCENTAGE PAYOUT OF AT LEAST (value)%

   Where there is a range (a lower and upper percentage return to player available within the same game) it must be the lower value that is displayed.

   ii) in cases in which the percentage return to player can vary depending upon the strategy used by the player:

   THE RETURN TO PLAYER BASED ON BEST STRATEGY IS (value)%

In either case the percentage return to player should be calculated in the following manner:

Percentage return to player equals the value of total wins awarded divided by total value of play shown as a percentage.

d) Either of the following statements must be displayed on the machine:

MACHINE MALFUNCTION VOIDS GAME
or
MALFUNCTION VOIDS PAYS AND PLAYS

For the purposes of this requirement both statements mean that that a machine malfunction voids the game within which the malfunction occurs and does not affect the position of the player prior to that specific game including win and credit meters.

e) Where the machine is designed such that the deposited sum cannot be delivered by the machine for any reason then the following statement must be displayed on the machine:

THIS MACHINE PAYS (£ minimum value payable) ONLY ANY LESSER AMOUNTS WILL BE RETAINED FOR FUTURE USE

f) Where certain winning combinations may be excluded as a result of the way in which reel spin-distances are determined at the start of each game, the following statement must be displayed clearly to the player on the machine:

DUE TO THE SEQUENCING OF THE REELS CERTAIN WINNING COMBINATIONS ARE NOT AVAILABLE IN EVERY GAME

8.3a Implementation Guidance

The statements above should only be displayed if required by the design of the game, for example, is it compensated or random?

All statements above (which need to be displayed) must be displayed such that they are clearly visible to the player. This may be on a help or information screen if the information is not fixed to the machine itself.

If equivalent wording to that stated above is used, it must convey the same meaning in a clear and concise manner.

8.3b Requirement
(Applicable to machines / games of Category B3A)

a) The following statement must be displayed on the face of the machine or at the time the lottery is selected where more than one lottery is offered to the player:

NO PRIZE GREATER IN VALUE THAN (jackpot) POUNDS CAN BE WON FROM THIS MACHINE AS A RESULT OF PLAYING THE MACHINE ONCE

b) The actual percentage return to player for each lottery class must be clearly displayed to the player on the machine in the format below.:

ON COMPLETION THE LOTTERY SELECTED HAS A PERCENTAGE PAYOUT OF (value)%

Percentage return to player equals the total value of all wins within an entire lottery class divided by the total cost of all ‘tickets’ in an entire lottery class, shown as a percentage.

This figure must be calculated prior to the sale of any ‘tickets’ within the class and must not be updated as ‘tickets’ are sold.

c) Either of the following statement must be displayed on the machine:

MACHINE MALFUNCTION VOIDS GAME
or
MALFUNCTION VOIDS PAYS AND PLAYS

For the purposes of this requirement both statements mean that a machine malfunction voids the chance in the lottery within which the malfunction occurs and does not affect the position of the player prior to that specific lottery chance, including win and credit meters.

d) Where the machine is designed such that the deposited sum cannot be delivered by the machine for any reason then the following statement must be displayed on the machine:

THIS MACHINE PAYS (£ minimum value payable) ONLY ANY LESSER AMOUNTS WILL BE RETAINED FOR FUTURE USE

8.3b Implementation Guidance

All statements above must be displayed such that they are clearly visible to the player. This may be on a help or information screen if the information is not fixed to the machine itself.

If equivalent wording to that stated above is used, it must convey the same meaning in a clear and concise manner.

GMTS 9 Category D (non-complex) requirements

The Commission will not require category D gaming machines which meet its definition of a 'non-complex' machine to comply with the full technical standard for that category. However, the Commission will keep matters under review and reserves the right to require that any specified type of gaming machine comply with the applicable technical standard where it considers that the licensing objectives might otherwise be compromised.

Definition of 'non-complex' gaming machines

The Commission uses the term 'non-complex' to refer to machines where the game outcome is achieved by mechanical means such as a coin drop and moving decks, or electro-mechanical or electronic selected game outcomes which are not automated or capable of alteration through electronic or other circuitry, other than, in the case of Cranes only, a feedback control via a microprocessor (or equivalent) to maintain a winner percentage output.

These contrast to complex gaming machines where the outcome of a game is determined by a random number generator (or equivalent) and/or where there is invariably some form of closed loop feedback control (a measurement of game outcome used to determine or alter the chance of winning) to control the percentage return to the player.

The exemption from compliance with the Commission's full standard for category D machines applies to machines of the three descriptions below (Crane, Pusher and Multi-slot) provided they meet all parts of requirement 9.1.

Generic name – Crane

A Crane is a gaming machine in which, a player attempts to select or retrieve an item by means of manipulating a mechanical device, the positioning of which, they control through the use of a joystick or direction control buttons. On reaching its intended position the mechanical device selects or dislodges a prize. The player wins when a prize is successfully selected by the mechanism and delivered to the payout position.

Whether the player wins is not dependant entirely upon their skill but is determined, in whole or in part, by timing or other compensating factors which determine whether the mechanism successfully selects a prize and delivers it to the payout position.

Generic name – Pusher

A Pusher is a gaming machine in which a player inserts coins which, together with coins previously inserted into the machine, come to rest on a fixed deck and are then pushed forward by the action of a second moving deck. The coins drop off the edge of the fixed deck to the win position if the player is successful, or to a lose position if the player is unsuccessful.

A Pusher may be fitted with further refinements including:

a) a pin board where the coin movement is scrambled before landing on the deck;
b) replacement of the moving deck by individual paddle arms or eccentric cams;
c) a feature which routes the coin through a specific path which in turn activates a bonus, the outcome of which results in further coins being dropped onto the deck; and
d) the placing of small toys, low value banknotes or gifts on top of the coins on the fixed deck which are then conveyed by the action of the coins to the edge of the deck where they are delivered as an additional prize with the coins which are dropped.

Generic name – Multi-slot

A Multi-slot is a gaming machine, whether designed for a single player or to accommodate use by a number of players at the same time, which features a player panel with a multiple choice of coin entry slots allowing stakes to be placed on each of a number of game elements.

For example, the machine might present a five-horse race and have five slots each designated for betting on one of the horses. If a player selected the winning horse, then a prize (in cash or tokens) would be delivered by the machine. The game 'outcome' is determined by an extremely simple pseudo-random selector (either electro-mechanical, or electronic).

This format can be used for a number of types of machines, always with some form of physical display, where each slot corresponds to a given horse, vehicle, item or, in the case of a coloured wheel, a colour segment.

In the case of some Multi-slots the charge to play the game must be a single coin; in other formats the charge may be paid by way of a number of coins.

9.1 Aim

To ensure players understand the type of game they are playing.

9.1 Requirement
(Applicable to machines / games of Category D (non-complex))

a) A gaming machine must have an identification plate or marking using a resilient material permanently affixed to the exterior of the cabinet by the manufacturer which must not be easily removable, without leaving evidence of tampering.

b) In the case of Cranes and Multi-slots it must not be possible to place or pay additional credits into the machine once a game has been initiated and until that game has concluded.

c) The machine must display clearly on its face the following notice:

THIS MACHINE PROVIDES FACILITIES FOR GAMBLING

9.1 Implementation Guidance

As a minimum, the following information must be displayed on the identification plate:

a) the manufacturer (machine manufacturer or brand name under which it is to be sold);
b) a unique serial number;
c) the gaming machine model number (which may refer to the cabinet type and not the game); and
d) the date of manufacture.

When considering multi-player devices, such as for example 6 position pushers, it is acceptable to affix only one machine identification plate as specified in requirement 9.1a. However, each player position is a separate gaming machine and thus each player position must display the information as given in the display notice requirement 9.1c as well as the applicable requirements of the Circumstances of Use Regulations.

GMTS 10 Legacy gaming machine requirements

(All are applicable to legacy gaming machines, see main introduction for definition of 'legacy')

(Note - Legacy machines of categories B3 and B4 could become obsolete subject to the consultation outcomes with regards to GMTS proposals 15.1 to 15.3. Subject to the consultation outcomes, references to legacy machines of categories of B3 and B4 and their applicable standards may be removed.)

10.1 Live jackpots

10.1 Aim

To ensure live jackpots do not compromise linked game rules.

10.1 Requirement

Except for a single live jackpot feature, legacy machines shall not offer prizes which increase or appear to increase from one game to the next. Live jackpots must not be linked to any other gaming machine.

10.1 Implementation Guidance

Live jackpots must comply with the following rules:

a) The true value of the live jackpot, and any reserve if used, must be displayed to the player at all times.

b) The live jackpot and its reserve must start off from zero (except after a win when the live jackpot has been immediately replenished by the value in the reserve), and be increased only at random in proportion to the number of games played, and in no other way whatsoever, whether the live jackpot contains coins of a single denomination or a range of different denominations.

   This restricts live jackpot prizes to a specific and pre-determined value, independent of the outcome of some other part of the game.

   Note that this places no restriction on the rate of increase of the live jackpot and its reserve.

c) The reserve must contain the same range of coin values as the live jackpot and its rate of increase must also be the same.

d) The live jackpot must be available in every game and its contents, in whatever form, may not be used to enhance the chances of winning.

e) The live jackpot, when won, must be paid in full, without the addition of any further value other than as may be necessary to round up the value so as to be payable by the machine, and must be delivered in the game in which it is won.

f) Category B3 and B4 legacy machines may offer awards which comprise a fixed value together with the live jackpot, as long as the sum of these two components cannot exceed the statutory prize limit for the particular category of machine and that no reserve is used.

   If an alternative prize option is selected, the live jackpot prize must remain unaffected. Once, however, the live jackpot option is selected, the live jackpot prize must be delivered and the live jackpot reduced to zero, regardless of whether the live jackpot is delivered directly or is subject to some intervening gamble or skill features.

g) If a repeat chance is offered when a live jackpot has been won, it must be available for every value of a live jackpot. The value of the repeat award must be the same as the original award.

10.2 Display of information

10.2 Aim

To ensure fairness and that players understand the type of game they are playing.

10.2 Requirement

a) No single display, other than any Bank, Credit, or Residue display, may show, or be presented in such a way that it could be taken to show, a value which exceeds the statutory prize limit for the machine. A plurality of such display elements is acceptable.

b) If any display (including reels) does not reflect the actual odds of the game presented the following statement must be included on the face of the machine:

THE OUTCOME OF ANY GAME OR FEATURE IS NOT NECESSARILY THAT SHOWN BY THE ODDS DISPLAYED.

c) Machines must display a sign in the form:

NO PRIZE GREATER IN VALUE THAN (x) POUNDS CAN BE WON FROM THIS MACHINE IN ANY ONE GAME.

Where (x) is the maximum win achievable on the machine (which must be no greater than the statutory prize limit for the category of machine).

d) Where a Bank uses a pictorial representation for display it is acceptable to use a single symbol or facsimile representing £10 or more up to £20 even where this exceeds the maximum permitted prize for a machine of the relevant category.

Where a symbol (for example, a note) with a value equal to £20 is used, then no symbols in the Bank display must exceed the physical size of a current note of that value.

e) Where regulation 3(2) of the Circumstances of Use Regulations applies, any percentage payout labels displayed on the face of machines shall be in the following form:

THIS MACHINE HAS AN AVERAGE PAYOUT OF 70% OR GREATER.

f) Each category B3 and B4 legacy machine must bear a statement of the monetary value of each prize, how it may or may not be won and of any special circumstances under which a prize may not be paid or may be modified. It is not necessary for these statements to be continuously displayed if the player can access the statements at any time, and the means to do so is clearly visible at all times when the machine is available for play.

Where there are insufficient coins to pay any prize in full then an illuminated warning sign on the machine must appear bearing the words:

WARNING - INSUFFICIENT COINS TO PAY MAJOR PRIZES.

g) Any indicator which implies that the machine is in a state which could be beneficial to the player is unacceptable.

h) The circumstances in which any prize is not available on a category B3 or B4 legacy machine must be on the face of the machine before a player commits himself to play.

i) Where, on category B3 and B4 legacy machines, certain winning combinations may be excluded as a result of the way in which reel spin-distances are determined at the start of each game, the following statement must be placed on the face of the machine:

DUE TO THE SEQUENCING OF THE REELS CERTAIN WINNING COMBINATIONS ARE NOT AVAILABLE IN EVERY GAME.

j) On category B3 and B4 legacy machines in which whole pound devices only are provided the following notice must be incorporated on the face of the machine:

THIS MACHINE PAYS OUT £1 COINS ONLY.
ALL PRIZES WILL BE ROUNDED UP TO THE NEAREST POUND.

10.2 Implementation Guidance

The statements referenced above should be displayed such that they are clearly visible to the player.

If equivalent wording to that stated above is used, it must convey the same meaning in a clear and concise manner.

10.3 Bank

10.3 Aim

To ensure transparency and fairness for players.

10.3 Requirement

A machine may utilise a single Bank to accumulate winnings from a number of games. The display must be in monetary value. A secondary display on a feature shared with other machines may replicate the machine's Bank display whilst the machine is actively using this feature (otherwise this secondary display must read zero).

Accumulated winnings from a category C or D legacy machine's Bank may not be used to pay a charge for use of the machine (other than by payout of the Bank and re-insertion into the machine).

The value of the Bank displayed on a category C or D legacy machine must not exceed five times the maximum permitted prize for machines of these categories. In the event that a win plus the current value of the Bank should exceed that limit, then:

a) the machine must increment the Bank to momentarily display the true accumulated total; and
b) the machine must immediately and automatically pay out the Bank down to a value of four times the maximum permitted prize.

10.3 Implementation Guidance

A display that incorporates a Bank can be used for other purposes providing that:

a) the only time that the display shows an amount greater than the statutory maximum prize is when it is used in the Bank mode;
b) it must be clearly stated on the machine when the display is in the Bank mode; and
c) all uses of the display must fully comply with this requirement.

There must be no statement made on the machine which suggests that for any reason a payment to the Bank can exceed the permitted maximum prize for a machine of the relevant category.

Pictorial Bank displays must not be used to register the accumulated winnings awarded by a feature which repeats over successive games when such wins may total a sum greater than the permitted maximum for using the machine once.

10.4 Game features

10.4 Aim

To ensure game play and features are within the rules laid down.

10.4a Requirement (Random events)

a) A benefit bestowed at random may consist of the opportunity to use a 'hold and draw' feature, to use a 'nudger', to play an enriched game, or to play a separate game. All these are acceptable, provided they are only available to a player whilst using the machine once.

b) Where a number of events occur at random, the probability of any one of those events occurring must be the same as the probability of any other event occurring.

c) A random hold complies with this requirement provided that:
   i. the operation of the hold device is completely random;
   ii. the combined availability of reel hold and all other feature holds is no greater than 50 percent;
   iii. the player is not offered the opportunity to hold before committing to the game; and
   iv. the descriptive flash on the machine fascia does not imply that a succession of holds will enable a player to win a sum greater than the maximum permitted prize.

d) Other than the Live Jackpot, machines must not be designed to create a real or perceived chance of a link between games which is greater than 50 percent. Any favourable combination remaining at the end of a game must be the result of the random action of the machine or a selection by the player (or a combination of the two) and must not derive from a characteristic inherent in the design of the machine.

e) Captions which, when illuminated, suggest that the next game in a series may result in a maximum win are not acceptable.

10.4a Implementation Guidance

Examples of random events would be:

a) In a gamble feature consisting of a reel containing numbers to determine the outcome of a Hi-Lo selection made by the player and in which, when the reel is spun, a higher or lower number appears on the win line, it is unacceptable for that reel to remain in position over games more than 50 percent of the time.
b) A Spin to Last Win feature would generally be unacceptable because the probability of the immediately preceding win value remaining unchanged will invariably be greater than 50 percent.
c) Where a machine is designed to offer a random chance of a repeat win, the probability of the repeat occurring must be the same whatever the value of the win. In particular, the

probability must not be increased to a higher value after a major win and reduced to a lower percentage for other wins.

d) Regarding game links, it is unacceptable for the last game in the series to drive the reels (or other feature) into a favourable combination as that may encourage the player to pay a further charge for use or make a further committed payment in a hope that the favourable situation can be improved to a winning combination in a subsequent game.

10.4b Requirement (Linked or progressive features)

Any feature which builds up an enhanced payout as the result of the out-turn of a preceding game is unacceptable unless the probability of this occurring is no greater than 50 percent.

A repeat win, when achieved, must be displayed on the same set of symbols as the original win.

10.4b Implementation Guidance

For example, the following features are unacceptable:

a) machines which contain such features which operate on (say) every fifth game regardless of wins or losses in those games;
b) machines which award a prize at the end of a losing sequence of a certain number of games;
c) a feature which enables a player to modify the combination standing over from a previous game.

10.4c Requirement (‘Buying' a benefit or advantage)

A machine must not offer a 'token trade' or 'trade exchange' feature in which a part or all of a cash or token prize may be exchanged for a benefit or advantage (for example a nudge) carried forward into the next game.

10.4c Implementation Guidance

It is permissible for a feature in a game to be used in that game or left unused with the possibility of its being held over into the next game at odds of no greater than 50 percent (for example, nudges which become available during the normal course of a game may be used during that game or ‘banked’ with the possibility that they may be carried forward into the next game).

10.4d Requirement (Dual stake category C and D legacy machines)

Where category C and D legacy machines offer dual stakes:

a) no reel or feature hold may be offered in any game in which the stake has been increased;
b) on insertion of more than one charge for use (‘credits’) the player must either:
    i. be ‘locked in’ to games at whatever fixed stake was initially selected until all credits are exhausted and, once all credits have been used, no reel or feature hold may be offered for the next game if an increase in stake is selected; or
    ii. be allowed to change stake from game to game but without repeat reel or feature hold being offered in any game in which the stake has been increased;
c) the fact that no reel or feature hold is available in a game in which the stake has been increased must be made clear to the player at all times;
d) in any game in which the stake is reduced, only one random 50/50 decision is permitted (for example, if a reel or feature hold is available at one stake it should also be available if a lower stake game is selected); and

e) reel or feature hold availability must not be shown to the player until after the desired stake has been selected.

10.4d Implementation Guidance - None

10.5 Player protection requirements

10.5 Aim

To ensure fairness and transparency for players.

10.5a Requirement (General)

Controls for Legacy Machines of the 'Fruit Machine' Type:

a) any sequence of wins must not exceed that to be expected from a random machine of a similar payout profile and running at the same payout percentage;
b) prior to the commencement of any game the outcome of that game must not be shown to or predictable by the player;
c) any features that can be used to modify the outcome of a game by reference to the immediately preceding game must not be available at a greater than 50 percent probability (except for a live jackpot);
d) if a feature is described as 'skill', it must be true skill; and
e) the stated target percentage payout must be achieved within any 10,000 games in the case of category C and D legacy machines or 100,000 games in the case of category B3 and B4 legacy machines.

There must be no feature which offers, or appears to offer, a series of enriched games.

10.5a Implementation Guidance

Examples of enriched games (which are not permitted):

a) some live jackpots appear in the form of a multi-lamp display where the number of lamps illuminated increases as games are played, but where the number of lamps illuminated is not directly related to the true value of the live jackpot cash award that it represents. This type of display can make it appear that the live jackpot value increases only slowly at first, but at a faster rate as more games are played, thus giving the impression of a period of enriched play during the latter stages of a series of games. This is not permitted.
b) some machines include win captions which, when illuminated, suggest that the next game or subsequent games may result in an improved win. If such captions are not permanently lit but illuminate at some stage during play, the effect is to imply that during the illuminated period the player will enjoy a series of enriched games. This arrangement is not permitted.
c) the value of a prize, other than a live jackpot prize, may be increased in any one game by the random operation of a bonus feature. However, a bonus may not be offered over a series of games since this would create a period of enriched games. Equally, a pseudo-bonus feature which adds nothing to the value of the prize, but which gives the impression of a series of enriched games is not permitted.

10.5b Requirement (Percentage payout)

All category B3, B4, C and D legacy machines must have a payout of at least 70 percent.

For category C and D Legacy Machines which accept smart cards:

a) a facility must be available on the premises where such machines are sited which will show the player what credits their card holds without requiring credits to be spent or a game to be played;
b) the machine must allow the player to pay a single charge for use and the smart card must be partly ejected for re-insertion for every £2 value of stake committed;
c) smart card must be partly ejected by the machine and re-inserted by the player before any replayable token wins can be used to pay a charge for use or make a committed payment;
d) cash winnings recorded as credits on the card must not be used to play further games - they must be exchanged for cash only; and
e) the 'stake' purse must have a maximum value determined by the machine operator which reflects both the need for adequate security and the modes of operation required.

10.5b Implementation Guidance - None

10.5c Requirement (Pre-game gamble)

Where a pre-game gamble is offered to the players:

a) if a pre-game gamble is offered in all games, the player must be given an option at the start of the game to use the pre-gamble or not;
b) use of the pre-gamble must not cause the machine's percentage return to player to be enhanced by more than 10 percentage points;
c) if no pre-gamble is used in any game, the machine percentage return to player must not be less than that stated on the glass artwork;
d) the pre-gamble must be transparent: that is to say at natural odds, the player gets what they see, and no compensation;
e) the pay tables relating to each pre-gamble must be transparent to the player: they must know what they are playing for (or pre-gambling for);
f) such gambles are to be optional, transparent and not used as part of the machine's payout controls; and
g) after a 10 seconds period in which no game is played, and there is insufficient credit to play a game, any set gamble level must be reset to 'no gamble'.

10.5c Implementation Guidance

Machines may incorporate a change giving facility.

10.6 Payment methods

10.6 Aim

To ensure fairness and transparency for players.

10.6a Requirement (General)

The following general requirements will apply:

a) for category D machines the charge for playing a game once shall be by one or more coins or tokens inserted into the machine;
b) notwithstanding the provisions in requirement 10.5b above, category C legacy machines may be played only with coins or banknotes, and must pay out using coins or banknotes;
c) category B3 and B4 legacy machines may be played with coins, banknotes, smartcard credits and tokens, and may pay out using coins, banknotes, smartcard credits, tokens, cheques and credit notes. In addition, payments to be made to and pay outs from such

machines may be accepted or delivered by site staff (hand-pay) rather than by the machine itself;

d) category B3 and B4 legacy machines may use winnings to pay a charge for use or make a committed payment without these having first to be paid out;
e) The maximum value of a committed payment capable of being transferred to a credit meter to be held as a committed amount in any one tranche must not exceed £2.

10.6a Implementation Guidance

There is no requirement for category B3, B4 or C legacy machines to be capable of accepting money in any form which would allow the player to be able to pay a single charge for use only. But the maximum sum for any committed payment must be £2.

10.6b Requirement (Bank, credit and residue meters)

Category B3, B4 and C legacy machines must record any deposited sums not committed to Credit as Residue, otherwise up to a maximum of £2 may be committed directly to the Credit either from a smartcard in the case of category B3 and B4 legacy machines, or from a banknote in which case the uncommitted portion of the banknote value must be paid out to the player immediately.

The Bank and Residue values must be available for collection by the player, but the Credit balance need not except in the case of a category B3 and B4 legacy machine played using a smartcard when the value of any unplayable committed amount originating from the smartcard must be available for transfer back to the smartcard (subject to capacity).

Any Residue and Bank displays may contain monetary values which may exceed the statutory maximum prize for the category of machine.

A Credit display does not need to be shown as a monetary value and may exceed the statutory maximum prize for the category of machine.

10.6b Implementation Guidance

Credit includes all committed amounts derived from: coins and tokens inserted into category D legacy machines; coins and banknotes inserted into category C legacy machines; or coins, banknotes, smartcards and tokens inserted into category B3 and B4 legacy machines.

Residue includes all sums inserted into the machine, using banknotes or smartcards, which are not committed to Credit.

Bank includes all winnings and, for those category B3 and B4 legacy machines which display Bank and Credit only, it also includes the value of the Residue.

10.6c Requirement (Smartcards in category B3 and B4 legacy machines)

Those portions of a Bank or Residue, and any portion of the Credit which is too small to pay a charge for use, that either originated from a smartcard or (in the case of a Bank or Residue) represent winnings that resulted from staking credits which originated from a smartcard, must be paid back to the smartcard if capacity allows. No other portions of these meters may be paid to the smartcard.

A facility must be provided by the machine to show players what credits their smartcards hold without requiring credits to be used to pay a charge for use. The contents of the smartcard must be shown on a display until either the player transfers money from the smartcard or withdraws the

smartcard. This display may show values greater than the statutory maximum prize allowed for the category of machine when operating in this mode. When being used to display the contents of the smartcard only, the machine must not offer any inducement for the player to make a committed payment.

A smartcard must have a maximum monetary capacity determined by the machine operator which reflects both the need for adequate security and the modes of operation required.

Upon completion of any game in respect of which the charge for use was paid for by use of a smartcard, the machine must display the value remaining on the smartcard on a suitable display. The player must then be able to:

a) withdraw the card without transferring any money from the card;
b) transfer the appropriate portion of the Bank and/or Residue to the smartcard (subject to capacity), if this option is offered, without transferring any money from the smartcard;
c) press either the Transfer or Start button to transfer up to a maximum of £20 from the smartcard to the Bank or Residue of which up to £2 may be a committed payment automatically transferred to the Credit. Alternatively, up to a maximum of £2 may be transferred directly from the smartcard to the Credit without transferring any value to the Bank or Residue from the smartcard.

The player may at any time make a committed payment of up to £2 to Credit by pressing a transfer button provided for that purpose.

The maximum sum which may be transferred from a smartcard before it is withdrawn from the machine and re-inserted is £20. But unless the Bank, Residue or Credit limit would otherwise be reached, there is no restriction on the number of times a smartcard may be withdrawn and re-inserted.

10.6c Implementation Guidance - None

10.6d Requirement (Metering and transfer details for category B3, B4 and C legacy machines)

The largest banknote which may be inserted is a £20 note.

The value of banknotes inserted may either be credited wholly to the Residue (or Bank meter in the case of a category B3 or B4 legacy machine) from which up to £2 may be automatically transferred as a committed payment to the Credit meter; or credit up to £2 to the Credit meter with immediate payout of the remainder.

Players may choose to commit up to £2 from the Bank meter to the Credit meter for further play by pressing a Transfer button provided for that purpose at any time.

Where the Transfer button is also used to start a game, but there are insufficient credits to do so, then the change of the function of the button must be made clear to the player.

10.6d Implementation Guidance

Provided the Bank, Residue or Credit meter limits are not reached, there is no restriction on the number of banknotes which may be inserted at any one time.

Provided the Credit limit is not reached, there is no restriction on the number of times the Transfer button may be pressed at any time.

10.6e Requirement (Collecting the Bank, Residue and Credit)

The player may collect whole pound values of either all or part of the Bank and the Residue at any reasonable time by pressing a button provided for this purpose.

In the case of category B3 and B4 legacy machines, if a smartcard is present with sufficient capacity, or hand-pay has been used then the entire value of the appropriate portion of the Bank and Residue together with any committed amount which is too small to pay a charge for use originating from the smartcard must be available for transfer back to the smartcard or payment to the player as the case may be.

A category C legacy machine may pay out in coins and banknotes.

For amounts other than those derived from using a smartcard, which must be paid to the smartcard, a category B3 or B4 legacy machine may payout in any suitable combination of coins, banknotes, tokens, cheques, and credit notes. In addition, machine payments may be made by site staff (hand-pay) on behalf of the machine provided the machine records that this process has been completed.

In the case of a category B3 or B4 legacy machine, if the smartcard does not have sufficient capacity to accept the whole of the amount to be paid, then either all or part of the payment must be made using coins, banknotes or a cheque. This may be limited to whole pound portions unless hand-pay is used.

In the event of the Bank or Residue containing cash which cannot be delivered by the machine for any reason, then the un-payable amount (which must be less than £1) may be retained by the machine for further play or for the benefit of the next player, and the machine must incorporate on its face, clearly visible to the player, a statement in the following form:

THIS MACHINE PAYS £1 COINS ONLY, ANY UNPAYABLE AMOUNTS WILL BE RETAINED FOR FUTURE USE

10.6e Implementation Guidance - None

GMTS 11 Wireless network requirements

(These requirements are applicable to all categories of gaming machine.)

If a gaming machine (including a portable machine) employs a wireless connection to communicate with any other device used in the provision of facilities for gambling it must comply with these requirements in full.

The term wireless network as used in these requirements does not include any wireless communication link with an external device located off the licensed premises where the player is using a gaming machine.

The Commission does not intend to set any rules pertaining to voided games as a result of communication loss or other device malfunctions as it is expected that the operator will do so in their terms and conditions. Any such conditions must, however, be clearly expressed and made available to players prior to their use of a relevant gaming machine.

11.1 Network coverage

11.1 Aim

To ensure fairness is not compromised by technical issues.

11.1 Requirement

If a gaming machine is designed to allow players to participate in gambling using a wireless network the following shall apply:

a) unless denoted by clear signage there must be no areas where players may participate in any gambling using such a device where the communication signal is:
    i. not available;
    ii. of poor quality such that interruptions in play would be likely; and
b) there must be adequate wireless coverage so that the failure of a single transmitter does not significantly reduce the players' ability to participate in gambling.

11.1 Implementation Guidance - None

11.2 Network failure

11.2 Aim

To ensure fairness is not compromised by technical issues.

11.2 Requirement

Where a network failure occurs:

a) the device must alert the player within 10 seconds of it occurring. It is permissible for the device to continue with any gambling if the network connection is restored provided that the player is not disadvantaged in any way; and
b) a manual alternative method of play (for example, keying in game outcome or other element as opposed to an automatic download via wireless network) is permissible where there is no disadvantage to the player and that there is adequate time to do so. Catch up

facilities (for example, button pressed to bring device up to current position within game) may only be used where the game in which the credit was taken has not been completed.

11.2 Implementation Guidance - None

11.3 Communication requirements

11.3 Aim

To ensure fairness is not compromised by technical issues.

11.3 Requirement

All protocols must use communication techniques that have proper error detection and/or recovery mechanisms which are designed to prevent unauthorized access or tampering, employing at a minimum Data Encryption Standards (DES) or equivalent encryption with secure seeds or algorithms.

11.3 Implementation Guidance - None

11.4 Power level display requirements

11.4 Aim

To ensure fairness is not compromised by technical issues.

11.4 Requirement

Portable devices must ensure that players have adequate information as to the likely battery life (preferably in hours/minutes) and give additional warnings when this reaches a low level (for example, 10 minutes charge remaining).

11.4 Implementation Guidance - None

11.5 Audit requirements

11.5 Aim

To ensure fairness is maintained in the event of a complaint or dispute.

11.5 Requirement

An audit log with sufficient time stamping of significant events so as to be able to resolve any player disputes arising as a result of timing issues must be retained for a minimum of one month. It must be possible to display the audit log on the site operator’s premises.

11.5 Implementation Guidance

The Commission does not intend to set out exact requirements for time stamping of significant events as it is considered better that the manufacturers do so on the basis of the overall system design.

GMTS 12 Linked progressive requirements

(These requirements are applicable to all categories of gaming machine.)

These requirements apply to any gaming machine designed or adapted for use as a linked gaming machine as defined in section 244 of the Gambling Act 2005. It is a requirement that all gaming machines using a linked progressive comply with these requirements in full.

A 'linked progressive' is any configuration whereby the same jackpot prize ('a progressive jackpot'), which may be of a fixed amount or increased in proportion to credits staked, is offered on more than one gaming machine

12.1 Program storage medium identification

12.1 Aim

To ensure game program media can be readily identified.

12.1 Requirement

Any program medium (for example, ROMs, EPROMs, FLASH ROMs, DVD and CD-ROM) used in a gaming machine incorporating a linked progressive (referred to in this standard as a progressive device) must be uniquely identified.

12.1 Implementation Guidance

As a minimum, the following should be recorded:

a) program ID number;
b) manufacturer (machine manufacturer or brand name under which it is to be sold);
c) version number;
d) type and size of medium (unless located on the medium as purchased unused from the supplier); and
e) a unique signature. For medium other than EPROM, a hashing algorithm shall be used.

The information a) to e) above must be available for inspection on the site operator's premises either on the label of the storage media, or via video or matrix display.

12.2 Progressive displays

12.2 Aim

To ensure fairness and transparency for players.

12.2 Requirement

A linked progressive display meter ('the progressive meter') must be visible to all players who are playing a gaming machine which may, deliver a progressive jackpot, if the appropriate combination or trigger event is achieved. It must be clear to the player that they are playing a progressive device.

12.2 Implementation Guidance

Progressive meters must display the current total of the progressive jackpot in monetary value. It is appreciated that the polling cycle may cause some delay so that a meter does not reflect precisely the actual monies in the progressive pool at each instance, but meters should be designed to maximise the frequency at which they can be updated.

Where multiple items of information are displayed on a progressive meter, it is sufficient to have the information displayed in an alternating fashion provided that the monetary value that is available to win is clear to the player.

Where any gaming machine has a feature that performs a multiplication of a win (doubles, triples etc.) it must be made clear to the player if that does not apply to the progressive jackpot won during the feature.

12.3 Types of updating displays

12.3 Aim

To ensure fairness and transparency for players.

12.3 Requirement

The use of odometer and other ‘paced’ updating displays is allowed. The progressive meter must display the winning value within 30 seconds of the jackpot being recognised by the central system. In the case of the use of paced updating displays, the system jackpot meter must display the winning value after the jackpot broadcast is received from the central system.

12.3 Implementation Guidance - None

12.4 Progressive display digital limitations

12.4 Aim

To ensure fairness and transparency for players.

12.4 Requirement

Once a progressive meter has reached its maximum display amount, the meter must freeze and remain at the maximum value until awarded to a player. Where a progressive jackpot is awarded by a trigger amount then this must always be less than the maximum displayable value.

12.4 Implementation Guidance - None

12.5 Progressive controller definition

12.5 Aim

To clarify what is a progressive controller.

12.5 Requirement

A progressive controller is all of the hardware and software that:

a) controls all communications between progressive jackpots;
b) that calculates the value of the progressive prizes;
c) that displays the value of those prizes appropriately;
d) together with associated progressive meters.

12.5 Implementation Guidance - None

12.6 Setting the jackpot amount

12.6 Aim

To ensure fairness and transparency for players.

12.6 Requirement

The method by which system jackpot parameter values are entered or modified must be secure and the system must provide adequate audit information.

12.6 Implementation Guidance

The progressive system must be capable of displaying, as a minimum, the following information for each progressive jackpot offered:

a) current value: current prize amount;
b) overflow: amount exceeding limit;
c) hits: number of times this prize was won;
d) wins: total value of wins for this prize or a history of the last hits;
e) base: starting value;
f) limit: progressive jackpot limit value (if the jackpot is capped at a maximum limit, it is not necessary to add the overflow amounts to the next starting value);
g) increment: percentage increment rate;
h) secondary increment: percentage increment rate after limit is reached;
i) hidden increment: percentage increment rate for the reserve pool (the next base amount must be computed or posted to advise the player of this contribution);
j) reset value: the amount the progressive jackpot meter resets to after the progressive jackpot is won; and
k) the participating gaming machines.

12.7 Progressive controller program interruption

12.7 Aim

To ensure fairness and transparency for players.

12.7 Requirement

After a program interruption (for example, a power down), the software must be able to recover to the state it was in immediately prior to the interruption occurring.

12.7 Implementation Guidance - None

12.8 Progressive resumption following an interruption

12.8 Aim

To ensure fairness and transparency for players.

12.8 Requirement

On program resumption, following an interruption, appropriate diagnostic and security checks shall be carried out.

12.8 Implementation Guidance

The following procedures must be performed as a minimum requirement:

a) any communications to an external device must not begin until the program resumption routine, including self-tests, is completed successfully;
b) progressive system control programs must test themselves for possible corruption due to failure of the program storage media. The authentication may use the checksum; however, it is preferred that the Cyclic Redundancy Check (CRC) calculations are used as a minimum (at least 16 bit). Other test methodologies are acceptable if they deliver a comparable level of integrity; and
c) the integrity of all critical memory must be checked.

12.9 Communication requirements for signalling a jackpot

12.9 Aim

To ensure systems are technically robust.

12.9 Requirement

There must be a secure, two-way communication protocol between the progressive controller and any gaming machine that is able to participate in the link. This must be used for signalling a jackpot hit between the machine and controller and for transferring a progressive win from the controller to the gaming machine.

12.9 Implementation Guidance - None

12.10 Monitoring credits staked

12.10 Aim

To ensure fairness and transparency for players.

12.10 Requirement

During 'Normal Mode' the progressive controller must continuously monitor each machine on the link for credits staked and multiply the same by the rate of progression and denomination in order to determine the correct amounts to apply to the progressive jackpot.

12.10 Implementation Guidance - None

12.11 Access to the progressive controller

12.11 Aim

To ensure game fairness and security.

12.11 Requirement

Every progressive controller must be housed in a secure environment allowing only authorised access.

12.11 Implementation Guidance - None

12.12 Progressive controller required meters

12.12 Aim

To ensure fairness and transparency for players.

12.12 Requirement

Every progressive controller or other progressive system component must keep an adequate audit trail of progressive activity in non-volatile memory.

12.12 Implementation Guidance

The following information, as a minimum, must be capable of being displayed:

a) the number of progressive jackpots won on each progressive level if the progressive display has more than one winning amount;
b) the cumulative amounts paid on each progressive level if the progressive display has more than one winning amount;
c) the maximum amount of the progressive payout for each level displayed;
d) the minimum amount of the progressive payout for each level displayed; and
e) the rate of progression for each level displayed.

12.13 Controller and display functions during progressive jackpot win

12.13 Aim

To ensure fairness and transparency for players.

12.13 Requirement

When a progressive jackpot win is recorded on a gaming machine which is linked to the progressive controller, the progressive controller must allow for the following to occur on the progressive display and/or each gaming machine in the link:

a) display of the winning amount;
b) display of the electronic gaming machine identification that caused the progressive meter to activate;
c) the progressive controller may automatically reset to the reset amount and continue normal play; and
d) display the new progressive values.

12.13 Implementation Guidance - None

12.14 Progressive controller error conditions

12.14 Aim

To ensure fairness and transparency for players.

12.14 Requirement

When a progressive controller error occurs, the system must display an appropriate error message that is visible to all players. The site system must also alert the casino to the error condition. All games in progress must be disabled, and an error message clearly displayed to all players who might participate in a game linked to the progressive prize.

12.14 Implementation Guidance

As a minimum, any of the following events should trigger an error condition:

a) a communication failure;
b) when there have been multiple communication errors;
c) a controller checksum or signature has failed;
d) a controller's RAM or PSD (program storage device) mismatch or failure;
e) the current amount is larger than the limit, (see also 'Jackpot Limits');
f) the jackpot configuration is lost or is not set;
g) an unfeasible number or value of credits appears to have been staked (as defined by the parameters of the progressive set-up based on the ratio of number of machines to the amount staked ratio); or
h) a gaming machines and the progressive controller's meters do not reconcile.

12.15 Transferring the progressive jackpot

12.15 Aim

To ensure fairness and security during data transfer.

12.15 Requirement

The progressive controller must have a secure means of transferring a progressive jackpot win to the appropriate gaming machine and the process must be clear to the player.

12.15 Implementation Guidance - None

12.16 Jackpot limits

12.16 Aim

To ensure fairness and transparency for players.

12.16 Requirement

Where there are any upper or lower limits imposed on the progressive jackpot via configuration settings this must be made clear to the players prior to play.

12.16 Implementation Guidance - None

12.17 Time limits

12.17 Aim

To ensure fairness and transparency for players.

12.17 Requirement

A progressive controller may have the ability to limit the time during which a progressive jackpot is available. Where this is the case, the rules applying to such time limits must be made clear to the players prior to play.

12.17 Implementation Guidance - None

12.18 Swapping progressive levels

12.18 Aim

To ensure players are not disadvantaged.

12.18 Requirement

When a winning combination may be evaluated as more than one of the available pay table combinations, the players must be paid the highest possible progressive value.

12.18 Implementation Guidance - None

12.19 Gaming device requirements when any progressive is awarded

12.19 Aim

To ensure fairness and transparency for players.

12.19 Requirement

When a progressive jackpot prize has been awarded, a linked gaming machine must perform the following:

a) an appropriate message must be displayed;
b) the prize must be transferred to the gaming machine and the game shall lock up until the award has been paid; and
c) all linked progressive related meters must be updated.

12.19 Implementation Guidance - None

GMTS 13 Server networked and downloadable game requirements

(These requirements are applicable to all categories of gaming machine.)

These requirements apply if a gaming machine is dependent upon some external device for the purpose of gambling (including software downloads, server-based systems or external random number generators).

The requirements of this part of the GMTS apply in any of the following circumstances:

a) where a gaming machine is designed or adapted such that games are operated partly on a player terminal and partly on another device (for example, server-based systems);
b) where the control software can be modified, removed or added to the player terminal via a network;
c) where the control software can be modified, removed or added to the player terminal using a portable device without physical access to the gaming machine (for example, a laptop temporarily networked to the gaming machine to update flash RAM); or
d) where the RNG (Random number generator) is external to the player's terminal.

Examples of such systems are where the terminal control program, randomly generated game determinants or other game content is generated by a central server and downloaded to the player terminal for the operation of the game. This section does not apply to system triggered jackpots or game features which may be external to the player's terminal.

13.1 Communication requirements

13.1 Aim

To ensure technical robustness and security.

13.1 Requirement

All communication protocols must have error detection and/or recovery mechanisms which are designed to prevent unauthorised access or tampering.

13.1 Implementation Guidance - None

13.2 Software verification

13.2 Aim

To ensure appropriate security measures are in place.

13.2 Requirement

Where any control software is modified or downloaded onto the player's terminal the following requirements must be met:

a) the system responsible for the software upload must be capable of verifying that all control programs installed are true and exact replications of those communicated to the device in order to ensure game integrity. Where any error is detected, an appropriate action must be taken to either remedy the fault or disable the game; and

b) there are sufficient security measures to ensure that any control software residing on the player's terminal remains true and is an exact replication of that communicated to the device.

13.2 Implementation Guidance - None

13.3 Remote access and audit requirements

13.3 Aim

To ensure audit and security systems are appropriate.

13.3 Requirement

Where a player terminal has the facility for remote access for the purpose of control software modification, deletions, additions or product support, the following must be met:

a) there must be sufficient security measures to prohibit non-authorised access; and
b) an audit log must be retained for a minimum of twelve months.

13.3 Implementation Guidance

The audit log should consist of the following as a minimum:

a) time and date of the access and/or event;
b) log in name;
c) download data files added, modified or deleted;
d) the player terminal(s) which the file or program was downloaded to and, if applicable, the file or program it replaced; and
e) modifications to the player terminal configuration settings and what the changes were.

It is preferred that such data as log on duration, the file size and easily identified program IDs are also included in the log.

The audit logs and any applicable records must be available for inspection.

13.4 Pay table and/or denomination configuration changes

13.4 Aim

To ensure fairness and transparency for players.

13.4 Requirement

Player terminal control programs that offer multiple pay tables and/or denominations that can be configured via an external communication must comply with the following:

a) information relating to the player's likely return (percent RTP) must be transparent to the player for the pay table in operation and in particular where any changes occur at times when the system is available for play;
b) the game is in an idle state when any update occurs; and
c) any change to the pay table will not cause inaccurate crediting or payment.

13.4 Implementation Guidance – None

13.5 External random number generator

13.5 Aim

To ensure fairness for players and in the event of disputes.

13.5 Requirement

Where a random value or other element used to determine the game outcome is uploaded to the player terminal from a device external to its cabinet by means of electronic communication then the arrangement must comply with the following:

a) the method of transmission must be secure, with error detection and/or recovery mechanisms;
b) there must be a means of authentication which would alert the operator to any external tampering, modification or interception and replacement of the transmitted random variable that may be used to determine a game outcome;
c) where an error occurs, the terminal must display an error message with the appropriate audio and visual indicator, and record the details, including time and date of the error in a log. Correcting such an error must require operator intervention unless there is a secure automated process to do so; and
d) an audit log of sufficient time stamping of significant events so as to be able to resolve any player disputes arising as a result of timing issues must be retained for a minimum of one month. The Commission does not intend to set out exact requirements for time stamping of significant events as it is considered better that the manufacturer do so on the basis of the overall game and system design.

13.5 Implementation Guidance

The system must be capable of displaying the audit log on the site operator's premises.

GMTS 14 Cashless payment requirements

Account based payment

(These requirements are applicable to all categories of gaming machine.)

Where a gaming machine has the facility to accept a credit or charge for use from, and make payment of a prize to, the same medium of cashless payment, for example a smartcard, loyalty card or app-based digital payment system (‘the medium’), then the requirements of this section must be complied with.

For the avoidance of doubt, non-account based cashless payments such as, for example, ticket in - ticket out (TITO) systems, tokens or loading funds via venue staff are not required to comply with this section. For the purposes of this section a ‘token’ is an object with a fixed monetary value (whether or not exchangeable for cash) that may be used for the purpose of paying a charge for use or crediting a gaming machine.

14.1 Cashing out

14.1 Aim

To ensure fairness for players.

14.1 Requirement

A machine may allow players to pay only a portion of the funds held to their credit on a machine to the medium if they so choose, but they must always be given the option to pay the whole of their credit to the medium.

14.1 Implementation Guidance - None

14.2 Viewing funds held

14.2 Aim

To ensure fairness and transparency for players.

14.2 Requirement

A facility must be available on the premises which will show the player their current monetary balance held on the medium without the requirement to transfer funds or use a gaming machine to play a game. Such a facility must not offer any inducements to the player to commit money for play or further play.

14.2 Implementation Guidance - None

14.3 Self exclusion

14.3 Aim

To protect potentially vulnerable players.

14.3 Requirement

A gaming machine must have the facility to enable it to be rendered incapable of accepting funds from the medium at any time when the account holder has entered a self-exclusion agreement in respect of the premises where the machine is sited. Activation and de-activation of such facility must require action by the site operator.

14.3 Implementation Guidance - None

GMTS 15 Gambling management tools, information provision and responsible design

For the purposes of Gaming Machine Technical Standards 15.1 and 15.3, a 'session' is defined as the following:

- If a session is not already in progress, a session begins when credit is inserted by any method, or when a game is played
- if the machine credit is below 20p for 60 seconds from the end of the last game cycle then the session ends
- irrespective of the machine credit, if there is no customer input for 240 seconds, then the session ends
- if a customer presses 'Collect' at any time during a session, and all possible uncommitted credit is cashed out, the session ends
- any interruption to normal machine operation, for example a power cut, power off, malfunction or door open, will end the current session
- where a gaming machine provides access to more than one game, sessional data should be collected at the machine level. This means that sessional data could cover participation across multiple games subject to the conditions previously listed.

15.1 Limit setting

15.1 Aim

To provide a customer led tool designed to support safer gambling.

15.1a Requirement
(Applicability to be confirmed)

A machine and/or game must require customers to make an active choice whether to:

I. set their own time and monetary limits for customer and staff alerts; or
II. utilise default time and monetary limits for customer and staff alerts.

When making the active choice, customers must be presented, at the same time, with the options of using a 'free text' box to set their own limits or selecting the default time and monetary limits.

Customer set time limits must not exceed 60 minutes. Customer set monetary limits must not exceed £450 of deposited sums.

Customer set time and monetary limits cannot permit the customer to choose no limits (or equivalent).

15.1a Implementation Guidance

Customer set monetary limits should apply to deposited sums. Deposited sums are defined as payment made, in money or money's worth, in respect of the use of the machine since the start of the session. It would not include winnings received during a session that are subsequently staked during the session.

15.1b Requirement
(Applicability to be confirmed)

Under Gaming Machine Technical Standard 15.1a, where a customer chooses to utilise the machine and/or game default time and monetary limits for customer and staff alerts, the:

I. default time limit must be no longer than (every) 20 minutes
II. default monetary limit must be no more than (every) £150 of deposited sums.

15.1b Implementation Guidance – None

15.1c Requirement
(Applicability to be confirmed)

Reaching either a customer set or default limit must result in the provision of a customer alert that is communicated in real time.

Customer alerts must result in breaks in play. These must be at least 30 seconds long.

Modification of a customer set or default limit prior to it being reached must result in a break in play. This must be at least 30 seconds long.

15.1c Implementation Guidance – None

15.1d Requirement
(Applicability to be confirmed)

Reaching either a customer set or default limit must result in the provision of a staff alert that is communicated in real time.

Staff alerts must explain what type of limit has been reached and detail sessional information in relation to elapsed time, value of deposited sums and net position.

15.1d Implementation Guidance – None

15.2 Safer gambling messaging

15.2 Aim

To provide consumers with information about safer gambling during breaks in play.

15.2 Requirement
(Applicability to be confirmed)

Safer gambling messaging must be provided throughout breaks in play when a customer set limit or default limit is reached or modified prior to being reached (Gaming Machine Technical Standard 15.1c).

Provision of information other than safer gambling messaging, such as the marketing of new or existing games or promotional offers, cannot be provided during breaks in play when a customer set limit or default limit is reached or modified prior to being reached (Gaming Machine Technical Standard 15.1c).

The safer gambling messaging must include information that:

I. for breaks in play when a customer set limit or default limit is reached, explains what type of limit has been reached and details sessional information in relation to elapsed time, value of deposited sums and net position
II. for breaks in play when a customer set limit or default limit is modified prior to being reached, details sessional information in relation to elapsed time, value of deposited sums and net position.
III. directs consumers to potential sources of support
IV. allows consumers to end their session (and therefore collect any available sums) or set limits

15.2 Implementation Guidance - None

15.3 Display of net position and elapsed time

15.3 Aim

To provide consumers with information that is designed to maintain awareness of time and money spent gambling.

15.3 Requirement
(Applicability to be confirmed)

All machine sessions must be able to clearly display a customer's net position and elapsed time since the session started.

The display of the information for the duration, or parts of, the session must be at the discretion of the customer and no further than one action (such as a screen tap or button press) away.

15.3 Implementation Guidance

Net position is defined as the total of all winnings minus the sum of all losses since the start of the session.

Elapsed time should be displayed in hours, minutes and seconds.

15.4 Awards below the stake size

15.4 Aim

To ensure game outcomes are communicated to consumers fairly and safely.

15.4 Requirement

(Applicability to be confirmed)

A gaming machine and/or game must not celebrate a return which is less than or equal to the last total stake gambled.

15.4 Implementation guidance

By ‘celebrate’ we mean the use of auditory or visual effects that are associated with a win are not permitted for returns which are less than or equal to last total stake gambled.

The following items provide guidelines for reasonable steps to inform the customer of the result of their game cycle:

I. Display of total amount awarded
II. Winning lines displayed for a short period of time that will be considered sufficient to inform the customer of the result
III. Brief sound to indicate the result of the game and transfer to player balance.

15.5 Prohibiting features that permit a customer to reduce the time until the result is known

15.5 Aim

To reduce the potential intensity of gameplay and remove the artificial illusion of control.

15.5 Requirement
(Applicability to be confirmed)

The gaming machine and/or game must not permit a customer to reduce the time until the result is presented.

15.5 Implementation guidance

Features such as turbo, quick spin and slam stop are not permitted. This is not intended to be an exhaustive list but to illustrate the types of features the requirement is referring to.

It does not apply to bonus and/or feature games where an additional stake is not wagered.

Definitions

Term	Definition
Address Space	A range of discrete addresses, each of which may correspond to a physical or virtual memory register, a network host, peripheral device, disk sector or other logical or physical entity.
Chance (within a class)	A single result (win or lose) from the full set of possible results available within a lottery class. One chance is represented by one ticket.
Chance Cycle	Has the meaning ascribed to it in requirement 5.7.
Change	Money paid out which was inserted by the player that has neither been played nor committed to play.
Class	A finite set of lottery results made up from winning and losing chances.
Critical Game Files	All files that may affect the outcome of a game, including executables, data, and operating system files.
Critical Lottery Files	All files that may affect the outcome of a lottery, including executables, data, and operating system files.
Critical Memory	Has the meaning ascribed to it in requirement 3.1.
Critical Memory Clear	The process to reset the critical memory of a gaming machine, which configures the gaming machine into the ‘as new’ state.
Device	Any component of a gaming machine and, where the context requires, includes computer software used in a gaming machine.
Double-Up	Feature whereby the player is offered a gamble in which some or all of the winnings may be wagered at a 100 percent player return.
Enriched Periods	Where the machine deliberately forces winning outcomes over a series of games by use of any compensation or other controller mechanism.
EPROM	Erasable programmable read-only memory
Error Condition	A detectable event outside of the gaming machine’s normal operating parameters.
Firmware	The embedded program memory of the gaming machine.
Gamble	A single act of staking on an outcome within a game.
Game	Any gambling opportunity offered to the user of a gaming machine whether it amounts to gaming, betting or participating in a lottery as those terms are defined in the Act.
Game Cycle	Has the meaning ascribed to it in requirement 5.7b.
Game Update	Any change to game configuration, pay table or any other software that may affect the gambling.
Gaming Machine	Has the meaning ascribed to it by section 235 of the Act.
Hashing Algorithm	Reproducible method of turning some kind of data into a (relatively) small number that may serve as a digital ‘fingerprint’ of the data.
Idle state	Where there are insufficient credits on a machine to enable a game to be played.
Live Jackpot Feature	A feature played on a single gaming machine which has a prize that may be increased from a pre-set or seeded value from game to game as contributions are made to it from monies staked.
Lottery	Has the meaning ascribed to it by section 14 of the Act.
Machine Malfunction	Any hardware and/or software fault that temporarily results in an unforeseen game outcome, or corruption and/or renders the machine unserviceable. Deliberate player actions to trigger a machine fault are not considered be a machine malfunction.
MD5 or SHA	Message-Digest Algorithm 5 and Secure Hash Algorithm respectively.

Multi-Station Game	A gaming machine which incorporates a number of player terminals which share a common device required for the game such as a random number generator.
Non-volatile computer memory	Memory that can retain the stored information even when not powered. For example, read-only memory, flash, hard disk, floppy disk, magnetic tape and optical disc drives.
Normal Mode	Where a gaming machine is in a configuration designed for play (not in test or other non-play mode) and in a serviceable condition with no errors detected.
'Off chip' Battery Source	Battery source independent of a data storage chip used for data refresh purposes (recharges state of data bytes when mains power is disconnected).
Passive Display Equipment	Devices only associated with viewing game outcome and not with player interaction such as touch screen displays.
Patch Wires and Track Cuts	Modifications to a circuit board, post manufacture, including soldering additional wires to bridge the electrical conductor paths or the addition of a component (patch wires) or to change the circuit path by cutting the copper conductor (track cut).
Percentage Return to Player (Lottery Style Games, B3A Machines)	Percentage return to player equals the total value of all wins within a lottery class divided by total cost of all 'tickets' in a lottery class, shown as a percentage
Program Storage Devices ('PSD')	Means any device used to store software code in read only or read write format as required by the gaming machine in its normal operation.
Pseudo 'Game'	A portrayal of a game which is used to display the outcome of a lottery chance. This is a display method only and nothing done within the game may affect the outcome of the lottery chance.
Raking Periods	Where a machine deliberately forces a series of losing games by use of any compensation or other controller mechanism.
ROM	Read only memory.
Seeding	Means an integer used to set the starting point for generating a series of random numbers.
Session	Has the meaning ascribed to it in requirement 15.
Theoretical Target Percentage Return to Player	In the case of games in which the chances of winning are distributed randomly, the calculated probable percentage return to player at a 95 percent confidence level. In other cases, the target percentage return to player as determined by any controlling mechanism.
TITO	Ticket in, ticket out system.
Updates	Any software modification that may affect the outcome of the game.
Value of Total Play (VTP)	The aggregate of all charges for use paid in respect of the machine.

GMTS Summary

Table 3 shows the applicability of each GMTS by machine category.

Table 3 – Applicability of each GMTS by machine category

GMTS Ref	Gaming Machine Category								
	ALL	A	B1	B2	B3	B3A	B4	C	D (Complex)
1.1	x								
1.2	x								
1.3	x								
1.4a		x	x						
1.4b				x	x	x	x	x	x
1.5a		x	x						
1.5b				x	x		x	x	x
1.5c						x			
1.6	x								
1.7	x								
1.8		x	x	x	x		x	x	x
1.9	x								
2.1a		x	x						
2.1b				x	x	x	x	x	x
2.2	x								
2.3	x								
2.4		x	x						
2.5a		x	x						
2.5b				x	x		x	x	x
2.5c						x			
2.6	x								
2.7a		x	x						
2.7b				x	x	x	x	x	x
3.1a		x	x						
3.1b				x	x	x	x	x	x
3.2	x								
3.3	x								
3.4	x								
3.5	x								
4.1a		x	x						
4.1b				x	x	x	x	x	x
4.2	x								
4.3a		x	x	x	x		x	x	
4.3b						x			
4.4		x	x	x	x	x	x	x	
5.1a		x	x	x	x		x	x	x
5.1b						x			
5.2a		x	x	x	x		x	x	x
5.2b						x			
5.3		x	x	x	x		x	x	x
5.4		x	x	x	x		x	x	x
5.5a		x	x	x	x		x	x	x
5.5b						x			
5.6	x								

GMTS Ref	Gaming Machine Category								
	ALL	**A**	**B1**	**B2**	**B3**	**B3A**	**B4**	**C**	**D (Complex)**
5.7a		x	x	x	x		x		
5.7b						x			
5.7c								x	
5.7d									x
5.8				x	x		x	x	x
5.9		x	x	x	x		x	x	x
5.10		x	x	x	x		x	x	x
5.11		x	x						
5.12		x	x	x	x		x	x	x
5.13		x	x	x	x		x	x	x
5.14a		x	x	x	x		x		
5.14b								x	
5.14c									x
5.15	x								
6.1	x								
6.2		x	x	x	x	x	x	x	
6.3a		x	x						
6.3b				x	x	x	x	x	
7.1	x								
7.2a		x	x						
7.2b				x	x	x	x	x	x
7.3		x	x						
7.4		x	x						
7.5		x	x						
8.1	x								
8.2	x								
8.3a		x	x	x	x		x	x	x
8.3b						x			
15.1		To	be	con	fir	med			
15.2		To	be	con	fir	med			
15.3		To	be	con	fir	med			
15.4		To	be	con	fir	med			
15.5		To	be	con	fir	med			

GMTS 9 applies only to Category D (non-complex) machines.
GMTS 10 applies only to Legacy gaming machines, of whatever category.
GMTS 11, GMTS 12, GMTS 13 and GMTS 14 (Account based play) applies to every category of machine but only if the machine uses that technology and/or feature.

List of revisions

The following revisions have been made to the GMTS.

Original documents published.	June 2007
Gaming Machine Standards Supplement 1 published.	July 2008
Gaming Machine Standards Supplement 2 published.	June 2009
Supplements 1 and 2 incorporated into original documents and the documents split so that it referred separately to category C and category D machines. Reference to Implementation Annex removed from Introduction. Changes incorporated from Category C and complex D technical standards consultation responses document (Nov 2011). June 2012	June 2012
[Placeholder re potential changes arising from this consultation]	[XX 20XX]

[Placeholder re World Trade Organisation notification]

Gambling Commission [xx 20xx]

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