Final Version

Australian/New Zealand Gaming Machine National Standard

Revision 11.0

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Table of Contents

List of Tables

1. INTRODUCTION

General

1.1 The Australian/New Zealand Gaming Machine National Standard, Revision 11 (the 'Standard') has been developed to provide guidance to manufacturers for the design of gaming machines, game software and related equipment, and to provide a testable standard to ensure that common regulatory requirements will be met.

1.2 In addition to the Standard, a jurisdiction may provide a local Appendix – setting out any additional or differing requirements for their specific jurisdiction.

1.3 Any word in square parentheses, (e.g. [VALUE]), refers to a value that may be subject to change due to a change in policy. These terms are defined and their values listed in Appendix B Limits and Parameters.

1.4 The Standard supports the gaming machine regulatory framework in each jurisdiction which includes regulatory obligations to prevent or minimise the potential harm from gambling and/or ensure industry provides gambling services in a responsible manner.

1.5 In addition to common gaming legislative consumer protection provisions that require the integrity and fairness of games, businesses that supplies goods or services must also ensure that they comply with applicable consumer guarantees under a jurisdictions relevant consumer law.

1.6 The Standard reminds manufacturers of their obligatory requirements to ensure that the gaming machine hardware and associated equipment within the gaming machine complies with prevailing statutory and applicable EMI, EMC, Electrostatic Interference and Safety Standards administered by relevant regulatory bodies through International and/or ANZ or local standards.

1.7 Except where specifically identified in the Standard, testing is not directed at health or safety matters or at ensuring legislative requirements administered by other regulatory bodies such as for electrical safety and of radio frequency emission, etc. These matters are the domain and responsibility of the manufacturer, purchaser and operator of the equipment. Each of these parties is required to assure themselves of such matters.

Intent

1.8 The fundamental goal of the Standard is to ensure that gaming machines, games and related equipment are designed to:
(a) be fair;
(b) be secure;
(c) be auditable; and
(d) minimise any potential for harm to players.

1.9 The Standard is drafted so as not to limit or encourage the use of any particular technology or implementation.

1.10 Regardless of whether gaming machines, games and related equipment satisfy the Standard, they must operate as intended.

Maintenance

1.11 The Standard will be maintained by a lead jurisdiction on behalf of other jurisdictions.

1.12 Maintenance and revision of the Standard will be undertaken by a working party comprising of representatives of the regulators and gaming machine manufacturers.

1.13 The working party will consult with gaming machine testers and other relevant stakeholders.

1.14 Any changes to the Standard will be communicated to manufacturers. When new requirements are adopted:

(a) a grace period of 6 months will be granted before new requirements come into force. However, where practical a manufacturer may adopt the new requirements before they come into effect;
(b) previously approved equipment remains unaffected and revisions to that equipment will be conducted under the requirements in force when the item was originally tested;
(c) equipment under test at the time the new requirements come into force will be tested against the requirements in force when the item was submitted for testing.

1.15 Changes to the Standard will take effect from a date determined by the regulators. From that date forward, submissions must satisfy the new revision of the Standard.

1.16 Where non-proprietary enhancements are made to a previously approved gaming machine, as a general rule, the test will be that the modification results in a gaming machine that is fair, secure and effectively auditable with functionality above that required at the time the gaming machine was originally approved but without the need to meet newer requirements.

1.17 Games submitted for evaluation against a new revision of the Standard must meet all requirements. Where software is modularised (e.g. 'shell' and 'game' software), the combination of the modules will be the subject of the evaluation and certification and not individual modules. For example, new 'game' software will not be certified for use on an existing 'shell' unless the existing 'shell' also complies with all the requirements of the new Standard.

1.18 The Standard is drafted with the understanding that the interpretation of the statements can vary. In order to maintain a consistent approach across Australia and New Zealand, manufacturers and gaming machine testers are encouraged to seek clarity on the Standard from the working party at the earliest opportunity.

Testing

1.19 Testing of gaming equipment by gaming machine testers in a laboratory environment must be aimed at determining compliance with all requirements of the Standard. Non-compliance with the requirements must be reported in the certification report.

1.20 Where, in the opinion of the gaming machine tester, the requirements of the Standard are insufficient, inappropriate or not pertinent to the design of the

subject gaming equipment (e.g. new technology or innovative game design is submitted), the gaming machine tester must seek direction from the regulator before proceeding to certification.

Approvals

1.21 Each item of gaming equipment supplied by a manufacturer must be functionally identical to the specimen tested and approved by the regulator.

Documentation

1.22 All gaming machines and related equipment must have associated manuals at the time of approval. These manuals must adequately describe the operation and maintenance requirements of those units (typically an operator manual and a service manual). To facilitate timely equipment approvals manuals may be in draft form during the evaluation phase of the approval process however they must be finalised prior to approval being granted.

1.23 The following information must be presented in a comprehensive and professional format in order to assist gaming staff and service personnel in the performance of their duties:

(a) The machine specifications (service manuals);
(b) Installation instructions:
- mechanical installation instructions (e.g. removal of transportation hardware, mounting methods for stability and safety, surrounding clearances) (Service manual);
- commissioning instructions, entering of various parameters as part of the commissioning process (Service manual);

(c) Diagrams showing details of all major components of the gaming machine (Operator and Service manuals);
(d) Information detailing the replacement of major components, including parts lists (Service manual);
(e) A comprehensive description of the machine's operation in audit mode and any test modes (Operator and Service manuals);
(f) Instructions detailing the functions of all buttons, switches and other controls on the gaming machine (e.g. explain how to cancel credits, empty the hopper, etc.) (Operator manual – operator related functions only and Service manual – all);
(g) Details of any routine maintenance required such as how to replace a light globe or fuse, or clean the monitor (Operator manual if appropriate);
(h) A fault finding chart and repair instructions. Also detail which personnel can clear which faults (Operator manual if appropriate, and Service manual);
(i) Instructions regarding the execution of game and denomination conversions (Service manual); and
(j) RAM clear (Service manual).

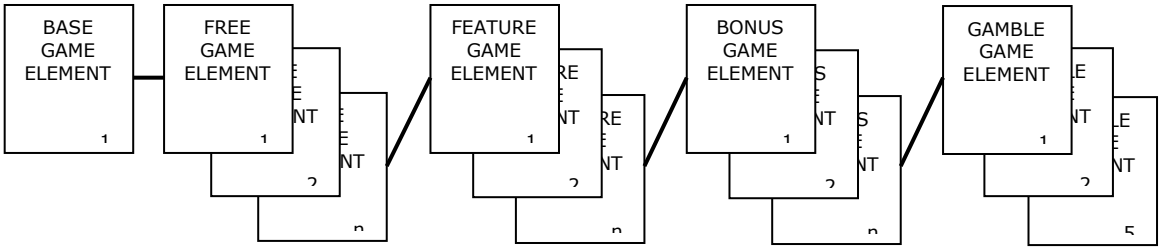
2. DEFINITIONS

General

2.1 This Section lists the terms and abbreviations used within the National Standard.

TERM OR ABBREVIATION	DESCRIPTION
Any	A pattern of symbols in reel positions and not dependent on the order or sequence of the reels.
Audit Mode	The mode where it is possible to view gaming machine meters, statistics, etc. and perform non-player related functions.
Auto Gamble	A feature whereby a win will automatically trigger entry to a Gamble feature.
Base Game	The fundamental part of a game which provides the majority of game play and winnings. The Base Game may also offer access to other game features such as Gamble, free game features, metamorphic features etc.
Bonus/Feature Game	An additional function not part of the base game which allows extra credits to be won. They may take the form of free games and/or second screen features.
Coins	Standard Australian or New Zealand (as appropriate to the particular jurisdiction) Coins or approved tokens.
Clone	A game which is identical to another in every respect except name and graphics.
Closed-source Software	Software provided by a 3rd-party, and where source code is not accessible under the terms of the software licence.
CMCS	Central Monitoring and Control System.
Coinciding Wins	Coinciding wins occur when two or more winning patterns of a distinct kind are displayed.
Configuration Mode	The mode accessible after a full RAM reset which upon completion transitions the gaming machine into active gaming. This occurs either host controlled or manually via a RAM Reset, and is used to input the configuration data and default values (such as machine address, serial number, denomination, SAP base amounts etc.).
Critical Memory	Memory locations storing information that is considered vital for the continued proper operation of the gaming machine.
Critical Processor	CPUs dedicated to game control, progressives, communications, audit, etc. Does not include CPUs dedicated to video or sound.
Feature	Any additional free game, free spin of certain reels, metamorphosis of the basic game rules or secondary choice necessary to complete a game (except gamble) is considered a feature.
Firmware	The embedded program memory of a computer.

Gamble	A game option, such as Double-Up, that may be selected following a win. This refers to player options where some or all of the winnings may be wagered at a 100% player return - includes multipliers other than evens, e.g. "pick a suit" where four outcomes are offered at 0.25 probability.
Game Cycle	The total number of possible outcomes of a game.
Game Element	Game Element - A separately identifiable component of a play where a player may be awarded one or more coinciding prizes, e.g. base game element, free game element, feature game element, gamble game element etc.



Idle Mode	The state between a play finishing and the next play commencing, or another mode being entered.
Last Play	The Last play is the most recently completed play.
Left to Right	A pattern of symbols on adjacent reels beginning at the leftmost side.
Master Meter	A meter whose value is reset only when a memory reset is performed. This meter represents the total of all updates since the last memory reset.
Metamorphic Game	A game where free games, feature games or prizes (other than jackpots) are triggered by the cumulative result of a series of plays. (i.e. tokens are awarded during plays and are accumulated by players).
Meter	A non-volatile variable, storing gaming machine audit and other information.
Mixed	A combination of two or more different symbols that can form a winning pattern.
Multi-Game	Gaming software which offers more than one game on a single gaming device.
NAATI	National Accreditation Authority for Translators and Interpreters.
NVRAM	Non-volatile RAM.
Payline	A selected lit line in a spinning reel game on which a winning pattern has occurred.
Paytable	A set of rules, descriptions or graphical instructions relating to the prize(s) payable for winning combinations.

Play	A sequence of actions and states in the gaming machine initiated by a player through a wagering of credits and terminated when all credits wagered have been lost or all winnings have been transferred to the gaming machine's total wins meter and the player's credit meter. A game that triggers a feature (e.g. free games) and any subsequent features (including Gamble) are considered to be part of one play.
Possible Lines	A term used to describe a line of symbols in a reel game that it is possible to bet on. See Payline and Selected Lit Lines as well.
Power Save Mode	The mode in which the gaming machine software turns off all non- essential components (e.g. monitors, cabinet lighting, button lamps, indicator lights, etc.) to conserve power.
Primary PCB	PCBs performing sensitive functions such as CPU Boards, Main I/O Boards etc.
Primary Peripheral Device	Devices that facilitate transactions – Banknote Acceptors, Printers, Hoppers, Coin Validators etc.
Prize Amount	The prize amount is defined as the grand total of all winnings for all game elements. Thus multiple part games such as those with standalone-progressives, free game sequences, bonus sequences, gamble (or other such features) are to have their total winnings added, regardless of whether partial transfer to the credit meter has occurred or not.
PSD Image File	This is a copy of a gaming machine's software which may be resident on a monitoring system.
Progressive Jackpot	A progressive jackpot is an incremental prize that increases by the accumulation of contributions from the turnover of the specified game, from a preset base value. It is reset to a different value (generally a base value plus possible secondary or overflow amounts) when the progressive prize is won.
PSD	Program Storage Device.
RAM Clear	The process to reset the memory of a gaming machine, which configures the gaming machine into the 'as new' state.
Reel Position	The location of a symbol on a reel, in its resting position, which participates in a possible line or is included in the evaluation of winning patterns.
Re-trigger	To trigger a feature during a feature of the same type.
Return to Player (RTP)	The ratio of total wins (including progressives and other features) to the total turnover in a game cycle (note gamble bets do not affect turnover and total wins is only affected by the final gamble outcome).
Right to Left	A pattern of symbols on adjacent reels beginning at the rightmost side.
RNG	Random Number Generator.
SAP	Standalone Progressive Jackpot.
Scatter	A symbol which pays when occurring 'scattered'.
Scattered	A pattern of symbols which are located in reel positions but may or may not be on a selected lit line.

Secondary PCB	Communications Interfaces, Backplanes, Display Controllers, Light Controllers, LED Boards etc.
Secondary Peripheral Device	Power Supplies, Displays, Toppers, Light Panels etc.
Selected Lit Lines	A term used to indicate that a player has put a bet on a line of symbols in a spinning reel game. See Possible Lines and Payline as well.
Setup Mode	The initial stage of configuration mode where a technician can enter gaming machine related data.
Short Pay	An administrative procedure to make up any short fall between the player's entitlement and actual amount paid or credited to the player.
Skill (Games with Components of Skill)	A game with skill contains one or more elements in its design which can be leveraged by a player to impact the return percentage. Skill means the human attributes of a player such as knowledge, dexterity, visual recognition, logic, memory, reaction, strength, agility, athleticism, hand-to-eye coordination, numerical and/or lexical ability, or any other ability or expertise relevant to game play.
Software Shell	The base software of which the majority is common to a number of games.
Static Artwork	That artwork which is physically printed on glass, plastic, etc., and displayed on the gaming machine.
Substantial Win	A prize amount greater than or equal to [LARGEWIN].
Substitute	A symbol which can be taken to also represent one or more other symbols as specified in the game rules. (see also Vertical Substitute)
Symbol	Any pictorial representation of an object, letter or number.
Test/Diagnostics Mode	Whilst in this mode, various tests may be performed on the hardware and software of the gaming machine, such as switch and light tests.
Tokenisation	Acceptance by a gaming machine of coins or banknotes which cannot be directly counted as credits; e.g. they must be converted into credits to match the value of the game denomination(s).
Trigger	1. *verb,* To initiate a feature; 2. *noun,* The pattern of symbols or event required to initiate a feature.
Vertical Substitute	A symbol which can be taken to also represent one or more other symbols in all reel positions on the same reel as specified in the game rules.
Virtual Artwork	The variable artwork which is displayed on the gaming machine's screen.
Win	The amount of credits (or money if applicable) that is awarded for a winning pattern, according to the game rules.
Winning Combination	A result in which one or more - a) winning patterns; and/or b) prize-winning events occurs.

Winning Pattern	A pattern of symbols which results in the award of a prize, feature trigger or other object or opportunity of value.

3. CONSUMER PROTECTION

General

3.1 All gaming machines and games are to be designed to ensure fairness, security, integrity and auditability.

3.2 Games should not present to players features that may be considered harmful in that a feature or features could expose players to potential harmful gambling behaviours.

Specific measures to minimise harm

3.3 Games must:

- Not give the player a false expectation of odds;
- Accurately display the result of a game outcome;
- Provide clear game rules and instructions;
- Not provide false information;
- Not be misleading, illusory or deceptive – such as a near miss design;
- Provide sufficient information to facilitate informed choice;
- Provide outcomes which are not dependent upon previous outcomes or favour one player over another (except where excluded elsewhere in the Standard);
- Not encourage the player to continue playing or increase the amount bet per play;
- Not offer automatic play; and
- Not alter or modify the presentation of mapped symbols or artwork, except in cases of animation during a play or as a part of the game rules, otherwise this constitutes a different game.

3.4 Gamble features:

(a) There must only be a maximum of five gamble attempts per single play following a win;
(b) The player must be able to exit a gamble feature without committing any winnings;
(c) Must not be permitted after progressive wins;
(d) Must have a theoretical RTP of 100%;
(e) If gamble is offered on the result of bonus/feature games, only money not transferred from the win meter to the credit meter may be wagered on the gamble feature;
(f) Amounts bet on the gamble feature are not to be added to the turnover meter;
(g) Can incorporate a variety of symbols, player choices or win chances;
(h) Partial transfer of winnings to the gamble feature is acceptable (amounts not transferred cannot be used in the Gamble feature); and
(i) Amounts that are to be wagered on the feature are to be shown in both dollars and cents and credits.

3.5 Where the division of winnings for partial transfer to the Gamble feature results in a remainder, the remainder must be included in the amount transferred to the Credit meter.

Example: Win on base element = 101 credits
Transfer to half stake Gamble = 50 credits
Transfer to Credit meter = 51 credits

Gamble Configuration

3.6 A Gamble option must be enabled or disabled in Setup Mode prior to being enrolled on the CMCS. If the gaming machine's artwork (without changes) supports the game with the Gamble option both enabled and disabled, the Gamble option may be enabled or disabled by the CMCS alone.

Features within the Gamble Bet Mode such as the style or type of game may be selected in Audit Mode.

3.7 Gamble may offer other multipliers other than two (2) e.g. "pick a suit" where four outcomes may be offered provided that the other requirements of this section are met (e.g. a 100% RTP).

3.8 The maximum win that can be obtained from each single gamble attempt is not to exceed [GAMBWIN].

3.9 If Auto Gamble is provided, automatic entry to a Gamble feature should only be activated upon a win from a primary game or completion of a feature game(s). It must be possible for the player to disable the Auto Gamble feature at any time. If Auto Gamble is used, the player should be given the option to exit the Gamble feature without playing.

3.10 The current time must be clearly and accurately displayed on the game screen in
- Local time;
- In 12 hour format (hh:mm AM/PM)

4. PLAYER INFORMATION

Game Information, Instructions and Artwork

Game Information

4.1 A gaming machine must clearly display to the player at all times the gaming device is available for game play:

(a) The current credit balance (in dollars and cents, as well as credits);

(b) The current bet amount. This is only required to be displayed during the base game or if the player can wage additional amounts. (in dollars and cents, as well as credits);

(c) Win amounts for each possible winning outcome, or be available as a menu or help screen item;

(d) Amount won for the last completed play (until the next play begins, or a new game selection in the case of multi-games is made) (in dollars and cents, as well as credits);

(e) The play options selected (e.g., bet amount, lines played) from the last completed game (until the next play begins, or a new game selection in the case of multi-games is made);

(f) All previous game play information (sections (a) to (e)) must be updated or cleared immediately at the commencement of a new game play;

(g) The denomination being played.

(h) Player Information Display

- Common PID requirements to be specified.

(i) If the above meters alternate between credits and dollars/cents, the font size of both must be the same size.

(j) A "new game selection is made" in parts (d) and (e) can also be an automated machine function when the credit meter is zero (0) subject to onscreen messages being available for a minimum of 30 seconds.

4.2 Meters on a gaming machine must accurately display a player's credit balance by the appropriate amount during play (ie. decremented as credits are bet).

4.3 The outcome of each game element must be displayed for a reasonable length of time.

4.4 For multi-line games, it must be clearly indicated by the gaming machine as to which lines are being bet on.

4.5 For multi-line games, the payline(s) won must be clearly highlighted to the player.

4.6 Games with different rules from one manufacturer/supplier must not have the same name as another game from that manufacturer/supplier.

4.7 A game must not automatically exit a feature before the feature has been completed.

4.8 Symbols of virtual reel games (video) must be displayed in the same arrangement as per the reel strips. No manipulation and rearrangement of the reel's symbols when displayed to the player is permitted.

4.9 The credit, bet and win meters may be shown only in dollars/cents if the prizes shown on the paytable and in the rules pages are also in dollars/cents.

Information displays

4.10 The gaming machine shall reflect any change in prize value, which may occur during the course of play. This may be accomplished with a display in a conspicuous location on the gaming machine, and the game must clearly specify the change.

4.11 All paytables, rules of play, unique game features and general game information should be accessible by a player, prior to them committing a bet or to a game option.

4.12 Wins must be clearly and unambiguously displayed to the player as per the paytable.

Game Play

4.13 A machine must not have any faults present, or be in any test, metering, door open or lockup mode, etc., for a game play to commence.

4.14 The gaming machine must not automatically initiate play after credits have been added the credit meter.

Game Minimum RTP

4.15 A game must have a theoretical/estimated statistical expectation that the minimum RTP of the game will be greater than or equal to [MINRTP].

Game Maximum RTP

4.16 A game must have a theoretical/estimated statistical expectation that the maximum RTP of the game will be less than or equal to [MAXRTP].

RTP Tolerance

4.17 Within a single game variation or configuration, a change to the betting options selected must not cause a change to the resultant theoretical RTP of more than 0.20%. Where one version of game software contains identifiably different games (such as an ante-bet game), the requirement on RTP tolerance will apply to each game separately.

Non-linear Paytables

4.18 The [MINRTP] must be met when playing at the lowest end of a non-linear paytable (e.g. if a game is continuously played at a minimum bet level for its total game cycle and the theoretical RTP is lower than [MINRTP], then the game is unacceptable). This example also extends to games such as Keno where the continuous playing of any spot combination results in a theoretical RTP lower than [MINRTP].

Carded Percentage

4.19 A manufacturer may for venue information purposes provide a "carded percentage" which, for games of skill or games with non-linear paytables, represents the RTP expected in operation when historical knowledge of player preference or skill is applied. This percentage may appear on the gaming machine program provided it

is clearly marked as "carded percentage" or another term not likely to be confused with [MINRTP].

Win Truncation

4.20 The value of prizes awarded in any individual game element or sequence of game elements must not be truncated (i.e. individual prizes, coinciding wins or wins accumulated over a feature sequence must not be truncated).

Game Design

Games with Components of Skill

4.21 The rules of play for a game of skill must describe or display information adequate for the player to understand the game prior to placing a wager; the game must also have sufficient information to ensure that the player understands the specific skills required.

4.22 The artwork must contain a statement "This gaming machine includes a skill-based feature. Even with a high level of skill, the machine on average will return a similar amount to players as other gaming machines that do not have components of skill".

4.23 A game tutorial or demonstration must be made available in the gaming device.

4.24 The game must display at all times that the outcome is affected by player skill in a prominent location within the gaming machine.

4.25 Players must be informed/indicated that they are entering or are in the skill part of the game.

4.26 During a game cycle and pursuant to the game's design, the skill-based game may become progressively more challenging for the player. Accordingly, if available pay tables or rules of play are changed between games, notice of the change must be prominently displayed to the player on the game screen.

4.27 The skill level required must not be permitted to alter during game play, based on the skill of the patron, to make an event more or less likely.

4.28 The skill component must be only offered during a feature.

4.29 The minimum theoretical return to player [MINRTP] for a skill-based game must be met without any skill component.

4.30 If unique peripherals are employed by the gaming device to support skill, then the game must provide adequate and clear instructions on their purpose, usage, and effect.

4.31 Players must be able to verify that devices required for participating in a game's skill component are correctly calibrated prior to the start of a skill feature.

4.32 A gaming device that incorporates skill and makes use of player interaction technology must:

(a) Monitor the player interaction technology for proper operation before the initiation of each game; the gaming device must enter into a lock up condition if improper operation is detected;

(b) Monitor available resource levels during operation to ensure continued proper game play;
(c) Provide a mechanism to calibrate the technology;
(d) Prevent unintended disturbances, such as physical, radio frequency, or optical from impacting the proper operation of the game;
(e) Upon initialisation, automatically verify that minimum hardware requirements necessary to properly conduct the game are met and must not continue if the hardware is found to be insufficient;
(f) Ensure that variances in hardware, such as processing power, amount of memory, or data bandwidth available do not impact the proper operation of the game or provide an advantage or disadvantage to a player.

Note: This technical standard is not intended to classify a game as a "skill game" or to serve as a legal basis for game classification within the context of skill. Such classifications will be subject to interpretation by the regulatory body.

Player Selection or Interaction in Bonus Games

4.33 In cases where player input is required within a finite period of time, and the choice made will have a direct impact on the outcome of the game (e.g. selection of bonus prize symbols), an appropriate statement and a suitably labelled dynamic display of the time remaining (in seconds) must be provided by the on-screen artwork. An audible warning must also be provided for the period of five seconds immediately before this time elapses.

For example, a player is required to select three bonus symbols from a field of twenty within 30 seconds or the game will make a random selection of three symbols. In this case the on-screen artwork must include an appropriate statement regarding the possibility of an automatic selection of symbols, a count-down timer from 30 seconds and an audible warning from 5 seconds.

Choices that do not impact the game outcome (e.g. choose your screen background scene for the feature) are not required to implement the warning.

Multiple Games on the Gaming Machine

Selection of Game for Display

4.34 When multiple game themes are offered for play, the player shall not be forced to play a game by just selecting a game title, unless the game screen clearly indicates the game selection is unchangeable. If not disclosed, the player shall be able to return to the main menu.

4.35 It should not be possible to select or start a new game before the current play is completed and all relevant meters have been updated, including features, gamble and other options of the game, unless the action to start a new game terminates the current play in an orderly manner.

Metamorphic Games

Extra Credits Wagered During Metamorphic Games

4.36 If a feature of a metamorphic game requires extra credits to be wagered the game rules must be designed so that further credit input is not required to play the game to completion.

Metamorphic Game's Return

4.37 Any accumulated metamorphic game tokens are not to be lost during a full re-configuration if the game that includes the tokens is still available after the full reconfiguration.

4.38 Following a RAM reset, the number of accumulated points or tokens required to trigger a feature or prize in a metamorphic game must be set to the mean, rounded up to the nearest integer.

Card Games

4.39 For games depicting cards being drawn from a pack the following will apply:
(a) card selection must be from a deck of cards that correctly reflects the status of previously drawn cards;
(b) cards once removed from the pack must not be returned to the pack except as provided by the rules of the game depicted;
(c) the pack must not be reshuffled except as provided by the rules of the game depicted; and
(d) as cards are removed from the pack they must be immediately used as directed by the Rules of the game (i.e. are not to be discarded due to adaptive behaviour by the gaming machine).

Roulette Wheel, Spinning Reels, Dice Rolling, Coin Tossing Games

4.40 For games that simulate or involve:
(a) spinning reels,
(b) spinning wheels (such as roulette),
(c) rolling of dice,
(d) tossing of coins, or
(e) other similar activities

the following will apply:
- for each spinning reel, the probability of any one position appearing must be as for the actual physical device (e.g. 1/20 for a 20 position reel), unless the game rules clearly indicate otherwise (refer Artwork requirements).
- for each spinning wheel, die, or coin etc the probability of any one face appearing must be as for the actual physical device (e.g. 1/10 for a 10 segment wheel; 1/6 for a 6 faced die; ½ for a coin),
- the behaviour of each reel, wheel, die or coin etc must be independent of all others, and
- the behaviour of each reel, wheel, die or coin etc must be independent of its previous behaviour.

4.41 This clause applies only to games involving physical reels and reel strips, and where the symbols of a virtual reel are mapped to and presented by a physical reel.
(a) Each position of the virtual reel must have the same probability of occurring (i.e. if the virtual reel consists of n positions, the probability of occurrence of each position must be 1/n).
(b) Symbols of the physical reel must appear to the player in the same arrangement as for the virtual reel (i.e. it must not be possible to determine by observing the symbols displayed on the machine that the physical reels are used instead of virtual reels). This observation extends to all symbols visible to the player.

(c) Accordingly, mapped symbols must have identical sequences of preceding and following symbols (if these symbols are visible to the player) on both the physical and virtual reels.

5. ARTWORK

Introduction

5.1 For the purposes of this chapter, artwork is defined as any of the following, represented by any image, text or sound that is provided by the gaming machine (except in audit and test modes) including:

(a) game instructions;
(b) paytable;
(c) game name;
(d) reels and symbols
(e) any other text or images;
(f) any other visual components of the game (eg. themes, multigame panels, linked progressive panels etc).

This includes, but is not limited to, anything that appears on the top panel, belly panel, buttons, video display surround, and the video display itself.

This definition of artwork includes any messages, images or sounds presented to the player which do not provide instructions, rules or paytable information or do not provide part of the display of the game. Such messages, images or sounds will be subject to the requirements of this section.

5.2 This section refers to all forms of artwork as defined in 5.1. The combination of all relevant messages appearing anywhere on the artwork must comply with the clauses in this section. Conflicting or ambiguous statements must not be provided.

5.3 This section is structured in the following way:

(a) The General section refers to general requirements for artwork for all games.
(b) Sections 5.34 to 5.110 address requirements for specific game types. These sections primarily include a definition of the information that must be available to the player by way of the artwork. In some cases, specific requirements are given.
(c) Section 5.111 to 5.116 addresses requirements for Gamble which may apply to all game types. Again this section primarily includes a definition of the information that must be available to the player by way of the artwork for Gamble (or similar features). In some cases, specific requirements are given.

5.4 Wording in bold font appears in clauses throughout this section. If the mathematical treatise of the game indicates behaviour as described by the relevant clauses, the wording in bold font must be included in the artwork.

All bold statements are to be implemented verbatim as written, and all other required artwork wording / messaging that is not represented in bold, can be in a form at the manufacturer's discretion provided it is clear, true, unambiguous and the intent of the standard is met.

Where there is more than one option, a list is provided.

Two or more statements of the wording in bold font may be presented in combination by the use of "**,**" and/or "**and**" provided that the meaning of the resulting statement remains clear.

5.5 If the term "**[X]**" is used in this section, then either a depiction of the symbol, or a phrase or word that represents the symbol may be used. The term "**[X] [Y] and [Z]**" refers to more than one symbol in the same way.

General

5.6 By making a submission to a jurisdiction for evaluation, the manufacturer, supplier and operator of gaming equipment indemnifies the relevant jurisdiction, its duly appointed testing agents, the government of the jurisdiction and the Crown of any claim by any party for breach of copyright, trademark, or registered name or design which may arise from the distribution of literature (such as rules of play) or operation of approved gaming equipment.

5.7 All static artwork supplied must be clearly identified by a part number and the name or logo of the manufacturer. The part number on static artwork providing a pay table or game rules must be legible without requiring the use of any tools or dismantling of the machine. Physical reel strips shall also have a reel number. Successive versions of artwork of the same type (eg. belly, casino top etc.) must have different part numbers. All artwork from the same manufacturer must have a unique part number.

5.8 Artwork which makes use of stickers (e.g. gamble instructions) must use stickers that will not shrink or peel with time or heat. If applied on an artwork panel, all stickers should be applied on the back of the artwork to avoid intentional removal. Stickers applied to other parts of the gaming machine must not be easily removed. Stickers must meet the part number requirement, however where size limitations occur, the part number may be printed on or affixed to the sticker backing or surroundings.

5.9 The functions of all physical or touch screen buttons must be clearly indicated, preferably on the button.

5.10 Artwork must not be indecent or offensive to the general population, e.g. depictions of nudity, pornography and excessive alcohol consumption.

Game Instructions

5.11 All game instructions on the artwork must be easily interpreted, not ambiguous, and sufficient to explain all game rules.

5.12 There must be sufficient game instructions to allow a player to determine the correctness of prizes awarded.

5.13 Game play and device usage instructions must be stated unambiguously and must not be misleading to the player.

5.14 Information displays shall clearly indicate whether prizes are designated in credits or currency.

5.15 All statements on the artwork must be true.

5.16 The game instructions must be clearly visible, or the means of displaying such instructions must be readily available to a player at any time a game is available to be played.

5.17 If game instructions are on the video screen only, they must be accessible and visible without the need for credits to be inserted or bet. This requirement does not apply during game play except where specific instructions may be required to proceed to the next stage of the game.

5.18 Game instructions that are presented aurally must also be provided by visual instructions.

5.19 Game instructions that refer to the entire game (ie. Global Instructions) must be indicated with "**ALL**" Global Instructions that have exceptions (eg. All wins left to right only except scatters) must indicate the exceptions with wording such as "**EXCEPT**". General game rules that do not apply to progressive prizes should be suitably grouped and titled "Game Rules (Excluding Progressives, if Available)" or similar.

5.20 Game instructions must be printed in a colour that contrasts with the background colour to ensure that all instructions are clearly readable.

5.21 Game instructions that visually belong to a symbol, group of symbols or feature through the use of boxing, framing or similar, are only applicable to the symbol, group of symbols or feature. For example, global game rules cannot be placed inside an area of grouped instructions dealing specifically with a free spin feature.

Paytable

5.22 The paytable displayed on the artwork must correspond to the paytable used in the mathematical treatise of the game.

5.23 All prizes that are used in the mathematical treatise must be contained on the artwork. Where a range of prizes exists, a statement defining the range must be included on the artwork. If a mystery prize of between 5 and 500 credits can be randomly awarded, the statement "A Mystery prize of between 5 and 500 credits multiplied by credits bet per line can be awarded" or similar, must be included on the artwork.

5.24 There must be no prizes contained on the artwork that are not used in the mathematical treatise.

5.25 For games that provide a standalone progressive jackpot prize, the artwork must explain the treatment of contributions once the jackpot ceiling has been reached.

Messages

5.26 Written messages must be in English, or other official language. Other language(s) can be made available via a player selectable option. However, the gaming machine must default to English following a cashout or if a player does not play a game and a period of 60 seconds has elapsed since the end of the last completed game. All available language(s), including words/characters/game symbols, must be grammatically and syntactically correct. In addition, languages other than English requires NAATI translation or equivalent.

5.27 Artwork that specifies a maximum win may only be included as part of a paytable or as per section 5.112 Limits.

5.28 The message *"**Malfunction Voids All Pays and Plays**"* must be clearly and permanently displayed on each gaming machine at all times, except during audit and test modes.

5.29 Minimum and maximum bets must be able to be deduced, or stated on the artwork.

5.30 The name of the game being played must be visible to the player.

5.31 If random prizes are offered, the minimum and maximum values obtainable from the random prize must be indicated. If the value of the random prize depends on credits bet this must be stated.

Tokenisation

5.32 The coin input denomination and tokenisation of the game must be stated using the message *"**$Y = Z Credits**"* or *"**Y¢ = Z Credits**"* (where Y is the token value and Z is the number of credits for each token) regardless of whether or not the game is tokenised.

For example a 5c, $1 tokenised game must have the message "$1 = 20 Credits" displayed. A 20c non-tokenised game must have the message "20¢ = 1 Credit".

5.33 All games must have all prize references in credits and display the statement "**All wins shown in credits**" or where the game provides a progressive prize "**All wins shown in credits, except progressives**".

Spinning Reel Games

Introduction

5.34 This section applies to spinning reel games. The layout of the reels display window is not specified.

Virtual Reel Mapping

5.35 Where the symbols of a virtual reel are mapped to and displayed by a physical reel, the artwork must contain the statement ***"The symbols and reels are used only to display the result of each game, and do not represent the chances of winning"***.

Note: This statement is not required where the virtual reels and corresponding physical reels are identical in size, structure, content and behaviour.

Prizes Layout

Symbol-prize relationship

5.36 The prizes for the winning patterns of each symbol must be placed in an area that visually belongs to the symbol. This can be achieved with appropriate boxing or framing. The symbol or group of symbols must be associated with its prize, and must not invade the area that visually belongs to a different symbol or a different group of symbols if this could cause ambiguity.

Number of Symbols Required for a Prize

5.37 The number of symbols required to appear in the reels display window in order for a prize to be awarded must be indicated. These numbers must line up with the prizes in order to avoid any ambiguity as to which prize corresponds to which number of symbols.

Shared Paytables

5.38 If more than one symbol shares the same paytable, those symbols must be placed in an area that visually belongs to the paytable. This can be achieved with appropriate framing or boxing. The words "**Of a kind**" must be placed near the number of symbols required to form a winning pattern and within an area that visually belongs to the paytable for those symbols.

Mixed or Grouped Symbols

5.39 If prizes can be awarded for mixed or grouped symbols, the artwork must clearly specify the mixture or grouping of the symbols either by placing the symbols in an area that clearly belongs to the paytable and labelled "**Mixed**" or "**[X] or [Y] or [Z]... mixed**" where [X], [Y] and [Z]… are all the symbols that can participate in a grouped or mixed win. Care must be taken with such phrases as "Mixed Bars" or "Mixed Fruit" to ensure that there can be no misinterpretation or ambiguity.

Prize Tabulation

5.40 In games that permit multiple credits to be bet, the artwork must include one of the following:

(a) a full tabulation of the prizes for multiple credits bet. The number of credits bet required for each prize must be placed in a location that clearly indicates which prizes apply to which multipliers. Such numbers must have associated with them the wording "**Credits bet per line**" or "**Total credits bet**" which ever case applies.

(b) a tabulation of the prizes for a single credit bet and either the statement "**Line wins multiplied by credits bet per line**" or "**Line wins multiplied by total credits bet** ", whichever is applicable.

(c) a tabulation of the prizes for the minimum bet, if the game does not have a single credit bet available (eg. minimum bet is 20 credits). Statements that address how line wins are multiplied must be included on the artwork.

For point (b) above, the term "**Line wins**" may be replaced by "**All wins**", "**All wins except scatters**" or "**All wins except scatters [X]**" if those are the rules of the game.

Scattered Wins and Prize Tabulation

5.41 The artwork must clearly indicate how scattered wins are multiplied. If statements in 5.40 do not address this, the artwork must:

(a) include the statement "**Scatter wins are multiplied by the total credits bet, as indicated**" if the prizes for the scatter symbol are fully tabulated.

(b) include the statement "**Scatter wins are multiplied by the total credits bet**" if the prizes for the scatter symbol are tabulated for a single credit bet.

(c) If scatter wins are not multiplied by total credits bet, include a statement which indicates how scatter wins are multiplied.

Scatters

5.42 Every scatter symbol must be clearly labelled with the word "Scatter" at least once. Other occurrences of the scattered symbols in the game instructions do not require labelling.

Positioning, Size, Colour and Shape

One Symbol/Prize Instructions

5.43 Game instructions that belong to only one symbol/prize or a group of symbols/prizes must be clearly associated with the symbol/prize or group of symbols/prizes. This may be achieved with appropriate framing or boxing. Additional wording such as "these symbols" could also be used

Symbol Appearance

5.44 A symbols appearance must remain the same throughout all artwork, except while animation is in progress. Any symbol that changes appearance during an animation process must not appear in a way that might misrepresent another symbol in the game.

Symbol Reference

5.45 If game instructions refer to a particular symbol via the name of that symbol, and the name of the symbol may be mistaken for another symbol or may imply other characteristics (e.g. "Pair of Sunglasses" may be interpreted as two Sunglasses symbols), the visual display of the instructions must clearly indicate to which symbol the instruction is referring. This may be via the display of the actual symbol or a clear description or both.

Change of Symbol Function or Appearance

5.46 If the function of a symbol changes (e.g. a non-substitute symbol becomes a substitute symbol during a feature), or the symbol's appearance changes, (e.g. a red ball changes to a blue ball in a feature) the artwork must clearly describe this change of function or appearance and any special conditions that may apply.

Miscellaneous Symbols

5.47 If a symbol does not appear on all reels, the artwork must clearly state which reels the symbol appears on "**[X] appears on reel [reels] only**", where the term [reels] defines the reel number identifier.

Substitute Symbols

5.48 Substitution can be implemented in various ways depending upon the design of the game and its associated rules. Regardless of the implementation selected, specific substitution rules, in isolation or in combination with other game rules, must clearly explain the operation of a substitute symbol.

5.49 The artwork must state which symbols are substitute symbols. If a symbol is a substitute symbol, the artwork must state for which winning patterns and for which symbols the symbol substitutes, and any conditions that may apply. This must be done in the following manner:

(a) If the substitute symbol substitutes for all symbols, the statement "**[X] substitutes for all symbols**" must be used.
(b) If there is more than one substitute symbol, and each substitutes for all symbols, then the statement "**[X] [Y] and [Z] substitute for all symbols**" must be used.
(c) If the substitute symbol does not substitute for all symbols then either the statement "**[X] substitutes for all symbols except [A], [B] and [C]**" where [A], [B] and [C] are the exceptions, or the statement "**[X] substitutes for [A], [B] and [C]**" must be used.
(d) If there is more than one substitute symbol, where each substitute symbol has the same exceptions, the statement "**[X] [Y] and [Z] substitute for all symbols except [A], [B] and [C]**" must be used, where [A], [B] and [C] are the exceptions.
(e) If the substitute symbol substitutes for line wins and for only the highest paying scattered symbol appearing, the statement "**[X] substitutes for the highest scatter win only and for all other symbols**" is required.
(f) If the substitute symbol(s) does(do) not behave according to a) through e), then statements that completely identify which symbols are substituted for and which symbols are not substituted for, are required.

Prizeless Substitutes

5.50 Where substitute symbols do not have a pay scale, the prize(s) applicable to an 'all substitute' combination must be clear from the standard game rules, otherwise specific rules regarding prize(s) for an 'all substitute' combination must be provided.

Vertical Substitutions

5.51 A "vertical substitute" substitutes for one or more symbols in all positions on the same reel (i.e. the symbol substitutes vertically). If the game contains such a symbol, the following applies:
(a) If the vertical substitute symbol substitutes for all symbols, then the statement "**[X] substitutes for all symbols in all positions on that reel**" is required.
(b) If the vertical substitute symbol substitutes for one or more (but not all) symbols, then the statement "**[X] substitutes for [A] [B] and [C] in all positions on that reel**" is required.
(c) If the vertical substitute symbol substitutes for all symbols except scatters, which are substituted in one position only, the statements "**[X] substitutes for all symbols in all positions on that reel except [A] [B] and [C]**" and "**[A] [B] and [C] are substituted in one position only**".
(d) It is acceptable to replace [A] [B] and [C] with the word "scatters" or a phrase that represents the scatter symbol, provided 5.47 is satisfied.
(e) If the vertical substitute symbol does not behave according to a), b) or c), then statements that clearly explain the operation of the substitute symbol are required.

Substitutes and Extra Pays

5.52 If extra pays or multipliers are awarded when substitutes participate in winning patterns then a tabulation of all prizes associated with the substitution(s) with all possible multipliers must be displayed or one of (a) through (d) below:
(a) If the game provides for multipliers to apply when one or more occurrences of a substitute participate in a winning pattern, the statement "**If one or more [X] substitutes in a win the pay for that win is doubled**" must be

used, where the word "doubled" may be replaced with the appropriate game rule (such as "tripled", "multiplied by 5" etc.);

(b) If the game provides for multipliers to apply for each substitute appearing in a winning pattern, the statement "**Every [X] that substitutes in a win doubles the pay for that win**" where the words "doubles the win for that combination" may be replaced with the appropriate game rule (such as "triples the win for that combination" or "multiplies the win for that combination by 5" etc.);

(c) If the win for the substitute symbol itself is multiplied, the artwork must contain the statements required at a) or b) and an additional statement regarding the treatment of wins for the substitute symbol alone;

(d) If the game rules defined at a), b) or c) do not apply, the artwork must contain statements to clearly explain the application of extra pays or multipliers awarded for substitute symbols participating in winning patterns;

Winning Patterns

Patterns – Order of Reels

5.53 The order of reels (or "pattern") on which symbols must appear in order for a prize to be awarded or a feature to be triggered (according to the game rules) must be displayed or accessible on some form of artwork. The following applies:

(a) If all winning patterns, including scatters, occur in a common pattern, the statement "**All wins [common pattern] only**" must be included on the artwork.

(b) If all winning patterns, excluding certain symbols, occur in a common pattern the statement "**All wins [common pattern] only except [X] [Y] and [Z] which pay [common pattern]**" must be used.

In (a) and (b) above, the term "[common pattern]" must be replaced with one of the following defined common patterns according to the game rules:

1. "left to right"
2. "right to left"
3. "left to right or right to left"
4. "left to right and right to left"
5. "adjacent"
6. "any" (or "pay any" if used in a) or b) above).

Complicated patterns which do not satisfy (a) or (b) above must be clearly explained (e.g. by pictorial representations).

5.54 If either "**All wins left to right and right to left**" or "**All wins left to right and right to left except [X] [Y] and [Z]**" is stated on the artwork, coinciding wins from both directions are presumed to be added without the need for an additional statement to describe this. If a 5-of-a-kind combination is paid only once, a statement which clarifies this must be included in the artwork.

Graphical Representations of Winning Patterns

5.55 If winning patterns are only represented graphically (without the aid of a written explanation) then they must be supplemented with numbers to indicate how many correct symbols each pattern corresponds to; except for unusual winning patterns (e.g. X_X_x_X_X) where numbers must not be displayed and the pattern must be positioned in proximity to the prize. When unusual winning patterns are implemented then a consistent approach to numbering for usual patterns of the

same symbol must be implemented. For example (X_X_x_X_X) is displayed without number then (X_X_x_x_x) of the same symbol can be displayed without number.

Difficult Patterns

5.56 Winning patterns other than common patterns as defined in 5.53 must be clearly explained. Graphical representations may be useful.

Lit Lines

5.57 Where winning patterns are paid on lit lines only, the artwork must include the statement "**All wins on lit lines only except [X] [Y] and [Z]**" where [X] [Y] and [Z] are the exceptions to this rule (eg. scatters, feature wins etc.)

Extra Lines

5.58 If it is possible to bet on one or more lines, the lines must be schematised, appropriately labelled and displayed on the artwork. This schematic or the means of displaying it must be available at any time a game is available for play.

5.59 All games with 5 reels and 3 rows, consisting of more than 5 lines, must contain at least the lines and all other lines numbered in any order.

Displaying Paylines

5.60 Upon a win, all paylines must be indicated in a manner such that the player can identify each line on which a win has occurred (e.g. paylines are sequentially highlighted).

Coinciding Wins

5.61 The artwork must clearly state the rules for payments of prizes where multiple wins for the same pay line are possible. The following applies:

(a) If only the highest prize is paid on a lit line, the statement "**Highest win only on each line**" must be included on the artwork.
(b) If multiple wins are paid on the same lit line, the statement "**Coinciding wins on each line are added**" must be included. If the statements "All wins left to right and right to left only" or "All wins left to right and right to left only except [X] [Y] and [Z]" appears on the artwork, this requirement does not apply.
(c) If the game contains mixed symbols (refer 5.39), where prizes for combinations of mixed symbols are paid, the treatment of prizes that may be interpreted to be both mixed and straight must be described.
(d) If the game provides for coinciding wins that differ from (a) through (c) above, then statements that completely describe the treatment of coinciding wins are required.

Sub-Sets

5.62 If sub-sets of winning patterns are awarded additional pays (for example, 5 Aces pays for 1, 2, 3 and 4 Aces as well), this must be stated on the artwork.

Scattered Prizes added to Payline Wins

5.63 If the game contains a scatter symbol that has a paytable associated with it, the statement "**Scatter wins are added to line wins**" must be included on the artwork.

If the game contains a bonus prize and scatter symbol that has a paytable associated with it, the statement **"Scatter wins and Bonus Prizes are added to line wins"** must be included on the artwork where the wording **"Bonus Prizes"** may be replaced by the name of the Bonus Prize (eg. Red ball bonus).

Wins on Different Paylines

5.64 If it is possible to bet on more than one line, and wins on different lit lines are added, the artwork must state "**Wins on different lines are added**". If wins on different pay lines are not added, the artwork must indicate this.

Features

It is not possible to define a standard for all kinds of game features that may be developed over time. The following requirements apply to feature games that are commonly in use in Australia and New Zealand. If framing or boxing is used to group the rules associated with the feature, the rules inside the framing are defined as "feature rules".

Feature Trigger Patterns

5.65 The trigger pattern(s) and all other conditions that must occur in order to trigger the feature must be stated on the artwork.

Feature Re-trigger

5.66 With respect to re-triggering features, the following applies:

(a) If the combination that initially triggered the feature, re-triggers the feature, the statement "**Feature can be triggered again during the feature**" must be included on the artwork where the word 'feature' may be replaced by the name of the feature (e.g. free games feature, or red ball feature).

(b) If the combination that initially triggered the feature can occur during the feature, and the feature can only be triggered once, the statement "**Feature cannot be triggered again during the feature**" must be included on the artwork where the word 'feature' may be replaced by the name of the feature (eg. free games feature, or red ball feature).

(c) If the feature re-trigger does not behave according to a) or b), then the action of the game when feature trigger patterns occur during the feature (e.g. free games) is to be stated on the artwork (e.g. further triggers, bonus payout and/or no further trigger).

Feature Tokens Accumulation

5.67 For games with rules which allow accumulation of feature tokens to qualify for a feature or game metamorphosis, the artwork must clearly show:

(a) the definition of the event that leads to the accumulation of feature tokens;

(b) a description of how many feature tokens are accumulated with each occurrence of the event;

(c) a description of how many feature tokens are required to trigger the feature;

(d) an indication of how many feature tokens are currently accumulated;

(e) if sub-feature tokens accumulate to feature tokens, a description of the number of subfeature tokens needed to accumulate a feature token and the number of sub-feature tokens and feature tokens currently accumulated;
(f) if the accumulation of feature tokens may lead to free games, the number of possible lines and credits per line that are to be bet during the free games; and
(g) game rules when further feature tokens are not accumulated during the feature sequence for events which normally would qualify to earn feature tokens.

If credits bet affect the accumulation of feature tokens, this must be clearly explained.

Free Games

5.68 The artwork must explain all rules relevant to free games. Areas relevant to free games that must be addressed in addition to the general requirements above are:
(a) additional prizes for non-winning games during the free game sequences, if any, are to be displayed on the artwork. A clear indication is to be given if these prizes are to be multiplied by credits bet per line or total credits bet, or are effected by any other game instructions;
(b) any multipliers for prizes, special prizes, substitutes and other special rules during free games, are to be displayed on the artwork;
(c) a clear display of an accumulated win amount is required at all times during the free games if the gaming machine does not directly add wins to the credit meter;
(d) where possible, either "Free game X of Y" or "X Free games remaining" must be used to indicate the number of free games remaining.
(e) appropriate game instructions defining the number of lines played and the credits bet during the free games must be included on the artwork. If the number of lines played and the credits bet during the free games are the same as the game that triggered the feature, then the statement "Credits bet and lines played are the same as the game that triggered the feature" must be included on the artwork. Alternatively, the statement "Credits bet and lines played during the feature are the same as the game that triggered the feature" must be included on the artwork if the preceding statement is not included in the feature rules. In the above statements, the word 'feature' may be replaced by an appropriate term (e.g. free games or 'red ball feature').

Re-spins/Held Reels

5.69 The following requirements apply to artwork for games where one or more reels are automatically held for one or more "re-spins" of the remaining reels:

The criteria for the re-spin and which reel positions are held must be stated without ambiguity or possible misinterpretation. If applicable for a game, the following must be addressed:
(a) which reels are to be held (e.g. first two reels);
(b) whether reels are held on winning or non-winning patterns;
(c) the requirements of the trigger combination, if any (e.g. "ON THE CENTRE LINE", or scattered if that is the actual requirement of the game);
(d) if a partial number of reels (e.g. 2, 3 or 4 reels) are held for some criteria, it must be clearly stated what happens when the criteria forms part of a larger pattern (e.g. what happens when all 5 reels meet said requirement);
(e) if the trigger is a winning pattern which is not awarded during re-spins, this must be clearly stated on the artwork; and

(f) the rules for extensions or termination of the re-spin sequences including additional held reels, (e.g. when there are improvements to the original held combination), are to be clearly explained on the artwork.
(g) if more than one re-spin is offered, the number of re-spins that have occurred or the number of re-spins remaining must be displayed.

Bonus Features

5.70 The following requirements apply to games in which one or more bonus prizes may be paid to the player during a feature. Generally, bonus prizes are awarded as a result of some second (or subsequent) game feature:
(a) criteria for entry to further bonus features as well as the initial entry are to be clearly stated;
(b) all instructions and player choices for the bonus feature are to be clearly stated;
(c) a display of total amounts won must be available at the end of each stage of the game including on second screen animations. This is to include display of bonus prizes won to date in multiple sequence bonus features; and
(d) if bonus prizes are multiplied the artwork must clearly state whether they are multiplied by credits bet per line or total credits bet where appropriate.

Metamorphic Sequences

5.71 The following requirements apply to games which incorporate a metamorphic feature where the player "pays" for the metamorphic sequence game(s):
(a) all instructions for the game including the differences between the main game and the metamorphic game are to be stated (e.g. [X] appearing anywhere in window pays the original prize which started the feature);
(b) where applicable, the artwork must state that the number of lines and/or number of credits bet during the metamorphic sequence may not exceed the wager of the game or games which triggered the feature;
(c) any special prizes, substitutes, multipliers or similar rules during the metamorphic sequence must be clearly stated on the artwork; and
(d) if the metamorphic sequence consists of more than one feature game, the number of games in the metamorphic sequence that have been completed or the number remaining (or the total number) must be displayed.

Held Reel Games

5.72 This section refers to spinning reel variations with Draw Poker characteristics where the player may hold one or more reels for a second chance to improve the hand. The artwork must address the following:
(a) held and non-held reels, including recommended reels, must be clearly marked on the screen at all times;
(b) the method for changing holds must be clearly displayed to the player;
(c) if the player must wager additional credits to participate in the held reels phase of the game, this is to be stated; and
(d) display that the player is able to hold or release reels.

Keno/Bingo Games

5.73 This section refers to games, such as Keno and Bingo, where numbered balls are selected from a simulated cage or the equivalent and a player attempts to predict which of these balls will be selected.

(a) The player must be able to view or access, while no game is in progress, a tabulated display of the scorecard which displays the prizes for all winning results.
(b) Any special rules which are outside the standard game of Keno must be clearly explained.
(c) All of the player's selections must be clearly identified on the screen.
(d) The balls drawn must be clearly identified on the screen.
(e) The game must highlight balls drawn which match the player's selections (i.e. "Hits").
(f) Special hits, if any, are to be clearly identified.
(g) The screen must provide clear indication of how many selections were made by the player and how many hits have occurred.
(h) Rules for the purchase of additional features of the game, if any, are to be explained.
(i) The artwork must clearly state how the player makes or changes selections. Areas to be addressed are:
- how individual selections are made;
- how individual selections are cleared; and
- how all selections are cleared.

Card Games

5.74 This section refers to games which involve the simulated dealing of cards from a deck or deck(s).

General

5.75 Card faces are to clearly display the card value (e.g. it must be obvious which is a Jack and which is Queen).

5.76 Card faces are to clearly indicate the suit. The faces of all cards from each suit are to be the same colour.

5.77 Jokers are to be distinguishable from all other cards.

5.78 It must be clearly stated if more than one deck of cards is used in the game.

5.79 The artwork must clearly state if the rules of the game do not shuffle the deck after every game. In this instance, the artwork must indicate when shuffles actually occur.

5.80 The artwork must clearly indicate the cards available in the deck, in particular the type and number of non-standard cards.

5.81 As a minimum, the player must be able to view, when no game is in progress, a tabulated display of the scorecard which shows all winning hands and the associated prizes.

Poker

5.82 The artwork must provide clear indication if Stud Poker rules apply. Common Draw Poker is assumed if nothing is stated.

5.83 The artwork must provide a definition of winning patterns outside the scope of standard Poker, e.g. Royal Flush without Wild Cards, Four of a kind, "Jacks or better", 4 Deuces (when Deuces are wild), etc.

5.84 Wild card rules must be clearly explained, e.g. Jokers Wild or Deuces Wild.

5.85 Held and non-held cards, including recommended holds (if implemented), in Draw Poker or the equivalents must be clearly marked on the Screen, and the method for changing Holds clearly displayed to the player.

5.86 Winning hands must be clearly labelled with the win category, e.g. "Full House".

5.87 All special rules outside the scope of common Poker must be clearly explained.

5.88 When player options outside the scope of common Poker are currently available, they must be clearly explained on the artwork.

Blackjack

5.89 Insurance rules are to be clearly explained if Insurance is available.

5.90 Pair Split rules must be explained. Where applicable, the following areas must be addressed:
(a) split aces have only one card dealt to each ace;
(b) further splits; and
(c) double-down after splits.

5.91 Double-down rules are to be clearly explained including limitations of which totals may allow a double down to be selected.

5.92 The current total of all hands, including the Dealer's total, must be displayed during and at the end of the game. The term "Bust" or the equivalent may be used to indicate a hand whose total has exceeded 21.

5.93 Dealer play rules must be clearly explained including, where applicable, special treatment of a soft 17 count.

5.94 Any limits on the number of cards that may be drawn by Player and/or Dealer are to be explained including winners declared (if any) when the limit is reached (e.g. Five Under wins).

5.95 Surrender Rules are to be explained, if any exist.

5.96 If the player loses on "Dealer Push" this is to be clearly explained.

5.97 "London Deal" rules are to be clearly explained, if they exist.

5.98 Winning hands must be clearly labelled as to the win category, e.g. "Blackjack", "Six Under" or "Push".

5.99 If Pair Splits have occurred, the results for each hand are to be shown (total points, resultant win or loss category, amount won, amount bet).

5.100 Special rules, if any, must be clearly explained.

5.101 All player options which are available at any point in time are to be shown on the artwork.

Other Games

5.102 This section is to address games that do not fall into any of the above categories. It is not possible to address all such games but the following specifications apply to those which have been in use in Australia and New Zealand. Other games will be considered on a case by case basis.

General

5.103 Initial player selection options are to be described (e.g. selection of a runner in a horse race should identify name, number and expected payout).

5.104 Player selection options once the game has commenced must be displayed.

5.105 The winning amount for each separate wager and total winning amount must be displayed.

Roulette

5.106 If standard Roulette is simulated, the following rules apply:

(a) Each "Zero" used must be uniquely labelled (e.g. "0", "00", "000").
(b) The simulated Roulette wheel must be in the identical format as a standard casino wheel (including colours of landing locations and position of numbers) with the exception that the position of "Zeroes" if more than one exist, in which case the "Zeroes" may be placed arbitrarily.
(c) A scorecard or description of all available wagers and their payouts must be accessible by the player while not in game play.
(d) The method of selecting individual wagers is to be explained by the artwork.
(e) The wager(s) already selected by the Player are to be displayed on the screen.
(f) The simulated ball spin must result in a location that unambiguously determines the winning number.

5.107 Variations from standard Roulette will be considered on a case by case basis.

Dice Games

5.108 This section refers to standard Dice games. Variations will be considered on a case by case basis.

(a) Each face must clearly show the number of spots.
(b) Simulated die must be of the same layout as standard die (e.g. the 1 and 6, 2 and 5, and 3 and 4 respectively must be on opposite faces).
(c) It must be clear which is the up face on each die after the dice are thrown.
(d) The result of each die must be clearly visible or displayed.
(e) There must be a description of each bet option available on the artwork. For example, the Craps wagers "Field" and "Hardway" must be clearly explained.
(f) All possible bet options available and obtainable at any point in time must be displayed on the artwork.

Simulated Races

5.109 This section refers to games with simulated races with animals (e.g. horses), vehicles (e.g. motor bikes), humans (e.g. 100 metre dash), etc.:

(a) All participants in the race must have characteristics that make it unique in appearance (e.g. number, jockey colours).
(b) The result of the race must be clear and not open to misinterpretation.

(c) If prizes are to be paid for combinations involving runners other than just the first place finisher, the order of the place getters that can be involved with these prizes must be clearly shown on the screen (e.g. Result 8-4-7).
(d) Each meaningful result position must be available for display in all last game replays.
(e) The rules for alternative bet options, e.g. quinella, and the expected payouts are to be clearly explained on the artwork.

Scratch Ticket

5.110 This section refers to games which simulate a lottery scratch ticket or similar:
(a) An explanation of which player options must be selected to complete the game must be shown on the artwork.
(b) Details of how prizes are won and prize amounts must be shown on the artwork, e.g. three matching scratched symbols win that prize.
(c) All rules for symbols that may substitute in winning patterns must be displayed on the artwork.

Gamble

5.111 The following clauses apply to all games which provide a gamble option. The most common use is "Double-up" where a multiplier of two (2) is sought, but also may apply to other multipliers (e.g. Triple-up) or a selection of multipliers.

Limits

5.112 The gamble prize limit (if applicable) for a particular game and the maximum number of gambles available must be stated on the artwork. If wording indicating the maximum prize that can be won exists, then it must be possible to win this prize.

Automatic Exit

5.113 When the gamble option is exited automatically before reaching the maximum number of gambles available, the reason must be displayed.

References

5.114 All references to gamble must use words (e.g. "gamble" or "double up") which cannot be misinterpreted to indicate some other feature.

Conditions

5.115 Unusual conditions in which the gamble option will not be available must be specified.

Choices of Multiplier

5.116 If a gamble game offers a choice of multipliers, the range of multiplier choices and the associated payout with each of the multiplier choices, must be stated on the artwork. This is usually accomplished on screen. Once the player has selected a multiplier, it must be clearly stated on the screen which multiplier was selected.

6. SECURITY AND INTEGRITY

Physical Security

6.1 Gaming machines shall be manufactured of materials that are suitable for allowing only legitimate access to the inside of the cabinet, (e.g. doors and their associated hinges shall be capable of withstanding determined illegal efforts to gain access to the inside of the gaming machine and leave evidence of tampering if an illegal entry is made) accessible areas of a cabinet do not have the potential to cause injury and the door of a locked area must be designed to resist the entry of objects.

6.2 The entirety of a gaming machine's equipment which does not form part of the player's input interface (e.g. buttons) must be stored within one or more locked areas of the gaming machine. These locked areas must be equipped with door access detection devices (with the exception of areas which have access to lighting only).

6.3 Access to a locked area 'A', must not be possible from another locked area 'B' without the use of a key for locked area 'A' or without causing undue damage to the gaming machine.

6.4 Door access sensors must detect all door openings and closings, and provide applicable feedback to the gaming machine software.

6.5 It must not be possible to insert a device into the gaming machine that will permit external manipulation of any aspect of the gaming machine when the machine's door is shut without leaving evidence of tampering.

6.6 Liquid spills applied to the outside of a gaming machine must not affect player interface or the integrity of the machine or information stored inside the cabinet or affect the safety of the patrons or staff operating the equipment.

6.7 If a door access detection system is disconnected (including the cashbox), the gaming machine must interpret this action as the door being opened.

6.8 It must not be possible to access the CPU data bus, address bus or CPU control lines without gaining access to the logic area.

6.9 Electronic components / items that are required to be housed in one or more logic areas are:

(a) CPUs and other electronic components involved in the operation and calculation of game play (e.g. 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 media (passive display equipment exempted);
(d) communication controller electronics, and components housing the communication program storage media;
(e) interfaces and drivers for metering systems; and
(f) all devices that affect the game play function of the gaming machine.

6.10 Logic areas shall be fitted with door access detection systems that shall enable software to detect whether the logic door is open or closed regardless of whether mains power is switched on or off (and it shall detect and store information of a logic door open event with the mains power off for at least 14 days). See *Table 2: Gaming Machine Door Open/Close Definitions*.

Note: If the logic door is opened more than once while off-line or powered off, it is only necessary for the gaming machine to treat this as a single entry.

6.11 Provision must be made for a seal on the logic area as required.

Banknote acceptance security

6.12 The banknote input system must be constructed in a manner that protects against vandalism, abuse or fraudulent activity. As a guide the following should be addressed:

(a) ability to prevent manipulation by the insertion of foreign objects into the banknote input system;
(b) ability to deliver a banknote to the banknote storage area (e.g. receptacle), and
(c) it must not be possible to disable any validation feature

6.13 Gaming machines are not to have banknote dispensers.

6.14 The banknote storage area (e.g. receptacle) is to be attached to the gaming machine in such a manner so that it cannot be easily removed by physical force. It must be internally located within the gaming machine (i.e. not attached to the outside). The relevant Jurisdiction may grant dispensation to this requirement if it can be demonstrated that an externally attached banknote acceptor demonstrates at least the same degree of security as one located inside the gaming machine. Areas of security that will be examined when considering such a dispensation are:

(a) physical strength of the attached banknote acceptor device;
(b) position of screws, nuts and bolts; and
(c) ability to withstand exposure to burning materials such as lighters, matches, ash etc.

6.15 A banknote acceptor device must be implemented with a means to enable or disable particular value banknotes. The procedure for setting acceptable banknote values must be via a command from the CMCS or access to a secure area of the gaming machine. If permanent artwork is used to display the acceptable denominations, the latter method which requires attending each gaming machine is preferred.

6.16 Banknote acceptors are to be factory set only; it must not be possible to access or conduct maintenance or adjustments in the field, other than:

(a) the selection of banknotes and limits as defined in 6.15; or
(b) changing of approved PSDs or downloading of approved software.

6.17 The adjustment of the tolerance level for accepting banknotes of varying quality, or the alteration of any of the possible checking procedures is prohibited in the field. If a reader has multiple tolerance levels then the ability to switch to lower levels is to be disabled.

Signature Requirements on Distributed Processing

6.18 There must be some means whereby software associated with the banknote acceptor is able to be verified by a secure signature checking method.

Banknote Acceptor Self Test

6.19 If the signature requirement is to be met by the self checking method, evidence is to be provided by the banknote acceptor supplier that the self check is performed and details of checks performed.

6.20 The banknote acceptor device must perform a self test at each power up. In the event of a self test failure, the banknote acceptor must automatically disable itself (i.e. enter banknote reject state) until the error state has been cleared.

Note Acceptor Disabled on High Credit Balance

6.21 Gaming machine software must incorporate a facility which will automatically disable the banknote acceptor once the credit balance of the gaming machine or account, if appropriate exceeds [BKNTLIM] expressed in dollars.

6.22 This level is to be displayed to the patron in the following form or similar:

"Notes not accepted if Credits over $x are registered".

Access

6.23 The software must be able to detect access to the following doors or secure areas:
(a) external door(s);
(b) cash box door(s);
(c) logic area door(s); and
(d) banknote acceptor doors.

6.24 Access to banknote acceptor components and banknote storage areas is to be secured via separate key locks. Both are to be fitted with 'door open/close' sensors.

6.25 The gaming machine shall be designed so that when installed according to the manufacturer's instructions, power and data cables are not accessible to the general public.

Physical Integrity

Simultaneous Inputs

6.26 The program must not be adversely affected by the simultaneous or sequential activation of various inputs.

External Mechanism Affecting Play

6.27 There shall be no external mechanism (DIP-switches, jumpers, etc.) that can affect the outcome of a play.

Interference

Power Supply

6.28 Gaming Machines and associated equipment within the Gaming Machine shall comply with relevant and applicable EMC standards.

Electromagnetic compatibility (EMC)

6.29 Gaming machines shall not be affected in any way by the application of RFI at a frequency range from 27MHz to 1000MHz with a field strength of 3 volts per metre as specified in AS/NZS 61000-4-3 or any other equivalent international standard.

Electrostatic interference

6.30 Protection against static discharges requires that the gaming machine's conductive cabinets be earthed in such a way that static discharge energy shall not damage, or inhibit the normal operation of the electronics or other components within the gaming machine.

6.31 Gaming machines must exhibit total immunity to human body electrostatic discharges on all areas exposed to player contact. Tests will be conducted on the gaming machine with a severity level of ± 15 kV for air discharge, and ± 7.5kV for contact discharge. The testing methodology to be used is defined at AS/NZS 61000-4-2 or any other equivalent international standard.

6.32 Gaming machines may exhibit temporary disruption when subjected to a significant electrostatic discharge greater than a human body discharge but they must exhibit a capacity to recover and complete any interrupted play without loss or corruption of any control or data information associated with the gaming machine. Tests will be conducted on the gaming machine with a severity level of ± 25kV for air discharge, and ± 10.0kV for contact discharge. The testing methodology to be used is defined at AS/NZS 61000-4-2 or any other equivalent international standard.

Information Display

Video Monitors

6.33 Where adjustment mechanisms for a video display unit are provided for use by gaming attendants (i.e. not service technicians), they shall:
(a) be clearly labelled;
(b) not require the use of a tool of any kind; and
(c) be accompanied by detailed instructions in the Operator's Manual.

Printers

6.34 If a gaming machine is equipped with a printer, it must be located in a locked area of the gaming machine (e.g. require opening of the main door) but not in the logic area or the cash box.

Game Screen Meters

6.35 Player entitlement meters (including Credit, Bet and Win meters) must be displayed on the game screen in a format which is clearly visible to the player and easily distinguishable.

Each player entitlement meter (Credit, Bet and Win) must be displayed in $-and-¢ and credits (unless 1 credit = $1)

A display which alternates between $-and-¢ and credits will be acceptable provided that both values are clearly visible and easily distinguished. Such a display is not to alternate during a play nor during the incrementation of meters following a win.

For a multi-game gaming machine providing games with different credit values (e.g. 1¢, 2¢), Multi-Game Select Mode is only required to display the Credit meter in $-and-¢."

Credit Meter Display

6.36 The player's credit meter must always be prominently displayed in all modes except audit, configuration and test modes. During game play in second screen bonus features the player's credit meter amount does not need to be displayed-provided the player is not required to bet additional credits during the feature.

Display

Display Requirements Following Collect (including Residual Credit Collect)

6.37 If a payment from the hopper is made after the completion of the last play, the gaming machine must display, until the start of the next play, the metered value of coins, in dollars and cents, which were paid from the hopper, using the format "COLLECT $#,###.##".

6.38 If more than one payment from the hopper is made after the completion of the last play or if a payment from the hopper is made after a Cancel Credit or Ticket pay, the gaming machine must display, until the start of the next play, the metered value of coins, in dollars and cents, which were paid in the last payment from the hopper and the total of all payments from the hopper and credits cancelled, in dollars and cents, since the last play, using the format "COLLECT $#,###.## (TOTAL PAID $#,###.##)"

Display Requirements Following Cancel Credit

6.39 If a Cancel Credit is made after the completion of the last play, the gaming machine must display, until the start of the next play, the metered value of the credits cancelled, in dollars and cents, using the format "CANCEL $#,###.##".

6.40 If more than one Cancel Credit is made after the completion of the last play or if a Cancel Credit is made after a payment from the hopper or Ticket pay, the gaming machine must display, until the start of the next play, the metered value of the last credits cancelled, in dollars and cents, and the total of all payments from the hopper and credits cancelled since the last play, in dollars and cents, using the format "CANCEL $#,###.## (TOTAL PAID $#,###.##)"

Display Requirements Following Ticket Pay

6.41 If a ticket out is made after the completion of the last play, the gaming machine must display, until the start of the next play, the metered value of the ticket pay, in dollars and cents, using similar format to "Ticket Pay $#,###.##".

6.42 If more than one ticket out is made after the completion of the last play or if a ticket pay is made after a cancel credit or payment form hopper, the gaming

machine must display, until the start of the next play, the metered value of the last ticket out, in dollars and cents, and the total of all payments from the hopper, credits cancelled and tickets since the last play, in dollars and cents, using similar format to "Ticket Pay $#,###.## (TOTAL PAID $#,###.##)".

Multi-game gaming machines

6.43 Multi-game gaming machines may have a Game Select Mode entered from Idle Mode. For the specification regarding display requirements for multi-game gaming machines and Game Select Mode, see requirement 7.19 Selection of Game for Play.

Video Displays

Paytable Display

6.44 If the display is overwritten by the paytable while game play is in progress (e.g. waiting to enter double up), any winning combination resulting from the current play must be suitably highlighted on restoration of the game display.

Hidden Touch Points

6.45 There must be no hidden buttons/touch points anywhere on the screen except as provided for by the game rules (e.g. spot the ball) or where the game outcome or game integrity cannot be impacted accidently or otherwise. All buttons or touchpoints, regardless of whether they are hidden, must be documented.

Mechanical Reels/Wheels

Minimum Reel Spin

6.46 Each microprocessor controlled reel must spin at least one revolution per play.

Credit Redemption

Credit Redemption Other Than Hopper Pay

6.47 If the "COLLECT" button has been pressed where greater than [CRECANLIM] credits for non-tokenised games or [MAXHOPPER] credits for tokenised games are registered on the credit meter, then the software shall automatically lock-up and go into a cancel credits or cashless transfer condition or print a ticket, depending on software configuration. The software shall remain in this state until the credits have been cancelled by external intervention or otherwise paid, or the player selects an option to exit from the credit redemption lock-up state.

6.48 The credit amount is to be displayed in dollars and cents.

Hopper Pay

Control of Hopper Pay

6.49 Once initiated, a hopper pay must not be able to be cancelled, paused or otherwise controlled by a player.

Hopper Pay Conditions for tokenised games

6.50 If less than or equal to [MAXHOPPER] credits exist on the credit meter and the COLLECT button is pressed, then these credits must be converted to the appropriate number of coins and dispensed from the hopper. See requirement 6.53 Residual Credit Removal for requirements covering the removal of residual credits.

Hopper Refill

Hopper Refill Procedure

6.51 When a 'hopper jam/empty' error message or equivalent is displayed, if the gaming machine does not issue clear instructions on the steps necessary to perform either a hopper refill or to reset the fault these must be clearly set out in the operator manual.

Hopper Refill Conditions

6.52 Entry to a hopper refill procedure may be via instruction by an attendant from a gaming machine Audit Mode or while in a hopper empty condition.

Residual Credit Removal

6.53 If less than or equal to [CRECANLIM] credits for non-tokenised games or [MAXHOPPER] credits for tokenised games exist on the credit meter and the COLLECT button is pressed, credits must be converted to either the appropriate number of coins and dispensed from the hopper, or if applicable an amount payable via a printed ticket or account transfer. If residual credits exist the manufacturer may provide a residual credit removal play or allow a cancel credit or ticket print to remove the residual credits or return the gaming machine to normal game play (i.e. leave the residual credits on the player's credit meter for betting).

6.54 If the cancel credit option is implemented the player must have the ability to terminate the cancel credit mode and return to normal game play.

6.55 The method of implementation of the residual credit removal play must be approved.

6.56 Residual credits bet on the residual credit removal play must be added to the TURNOVER meter.

6.57 The turnover from the residual credit removal play must not contribute to a standalone progressive jackpot feature.

6.58 If the residual credit removal play is won, the value of the win must:
(a) be added to the Total Wins meter;
(b) be automatically paid out to the player; and
(c) the value paid be added to the appropriate meters.

6.59 If a residual credit removal feature is offered, the meters specified in section 8.34 must be implemented.

6.60 All other appropriate gaming machine meters (e.g. Hopper Level) must be appropriately updated.

6.61 If the residual credit removal play is lost, all residual credits are to be removed from the credit meter.

6.62 If the residual credits are cancelled rather than wagered, the gaming machine must update the relevant meters (e.g. cancel credit) and the last play information.

6.63 The residual credit removal play must return at least [MINRTP] and not more than 100% to the player.

6.64 The player's current options and/or choices must be clearly indicated, either on static artwork, or electronically or by video display. These options must not be misleading.

6.65 If the residual credit removal play offers the player a choice to complete the game (e.g. select a hidden card) the player must be also given the option of exiting the residual credit removal mode and returning to the previous mode.

6.66 The result of the residual credit removal play must be displayed to the player for between 1.5 seconds and 5 seconds.

6.67 It must not be possible to confuse the residual credit removal play with any game feature, e.g. gamble.

6.68 If the residual credit removal play is offered on a multi-game gaming machine, the play must (for meter purposes of each individual game) either be considered to be a part of the game from which the play was invoked or be treated as a separate game.

Cash Input Systems

Programmable Coin Validators

6.69 In the case of coin validators which are electronically programmable to recognise a coin, the coin validator must be pre-programmed at the factory and it must not be capable of being reprogrammed in the field without access to the equipment used at the factory (or without detailed technical knowledge).

Program Resumption Procedures

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

(a) communications to an external device must not begin until the program resumption routine is completed successfully;

(b) all control programs and critical memory must be checked for corruption.

6.71 The software must be able to detect any change in the gaming machine program from when the gaming machine was last powered down or interrupted. If a change has been detected, the gaming machine must lock-up, displaying an appropriate message until the lock up is cleared.

Events and Conditions

Audible Alarm

6.72 A technique should be provided to enable authorised personnel to adjust the volume level (without the need to enter the logic area). However the adjustment of the volume shall not allow the alarm output to be below a threshold level whereby the alarm cannot be heard with the door shut in a typical gaming environment (volume controls secured in a logic area are exempted).

Action on Occurrence of a Condition or Fault Event

6.73 Events listed in *Table 1: Gaming Machine Faults and Remedial Actions (If Applicable)* and *Table 2: Gaming Machine Door Open/Close Definitions* must cause a clearly displayed message that an event has occurred and, unless otherwise indicated, must also result in the following:

(a) all player inputs must be disabled except for a Service Button and, optionally, any inputs required for Audit Mode. This includes disabling credit input;
(b) an identifiable alarm must be sounded for at least 1.5 seconds;
(c) game play must be saved in its current incomplete condition. The game must be paused immediately;
(d) cashout of any kind is to be disabled (if the gaming machine was in a hopper payout, the hopper must be turned off and the brake applied) However, cashout may occur on a banknote jam/full, ticket printer failure/paper error, External Peripheral Controller Fault; and
(e) credit input must be disabled (may be re-enabled for the duration of a credit input test or hopper test).

Action on Clearance of a Condition or Fault Event

6.74 The following actions must be performed upon clearing of a condition or fault event:

(a) the relevant condition or fault event messages must be removed;
(b) any relevant player inputs must be re-enabled;
(c) the alarm must be turned off;
(d) any game play when the fault event occurred must recommence from the beginning of the play or from the point at which the interruption occurred and conclude normally, using the data that was saved previously; and
(e) if the condition was a door open, a message is to be displayed stating that the door(s) has been closed until the next game play.

Faults to be Treated as Events

6.75 The following table defines faults that are to be treated as events, together with the remedial action to be taken to clear the event:

Table 1: Gaming Machine Faults and Remedial Actions (If Applicable)

Fault:	Definition:	Cleared by:
Coin Yo-Yo	Inserted coin detected moving in the incorrect direction: A single Coin Yo-Yo may be treated as an information only event Consecutive Coin Yo-Yos are to lead to a gaming machine fault condition	Cleared by an attendant intervention, e.g. key activation

Coin-in Jam	Coin detected not moving - e.g. sensors are continually blocked	Cleared by an attendant intervention, e.g. door open/closed
Coin to Cashbox or Diverter Fault	Coins (exceeding a manufacturer-defined amount or ratio) detected going to the cashbox instead of the hopper, or vice-versa. (count of misdirected coins may be reset on power-up)	Cleared by the fault being rectified.
Excessive Meter Increment	A master meter has increased by more than the increment threshold since the end of the previous play	Cleared by attendant intervention, e.g. key activation
Hopper Empty	Coins not passing a hopper output sensor within a specified time	Cleared by an attendant intervention, e.g. door open/closed
Hopper Jam	The hopper output sensor(s) are blocked	Cleared by an attendant intervention, e.g. door open/closed
Extra Coin Paid	Single coin passed hopper sensor after hopper payout completed	Cleared by an attendant intervention, e.g. door open/closed
Hopper Run-away	Multiple coins passing hopper sensor	Cleared by an attendant intervention, e.g. door open/closed
Hopper Failure	Disconnection or failure of the hopper (not covered by other fault definitions)	Cleared by an attendant intervention, e.g. door open/closed
Reel Not Spinning Freely	Software detecting a reel not spinning correctly	Cleared by an attendant intervention, e.g. door open/closed
Illegal Reel Movement	Software detects unauthorised reel movement	Cleared by an attendant intervention, e.g. door open/closed
External Peripheral Controller Fault /Disconnect	Any Peripheral controller fault or communications failure (e.g. a Progressive Display Controller)	Cleared by technician
Printer Paper Low (if applicable and possible)	The printer paper will soon be exhausted. This should lock up the gaming machine upon completion of a predetermined number of tickets calculated to ensure "Paper Out" is not possible. If a paper out sensor is also provided then "Paper Low" results only in a message. Note that if a gaming machine has a printer it must have a paper low or paper out sensor or both.	Paper low condition to be cleared by replacement of paper (paper low signal removed) or positive attendant intervention, e.g. key activation
Printer Paper Out	The printer paper has been exhausted. The gaming machine must lock-up until the paper out state is cleared	Paper out condition to be cleared by replacement of paper (paper out signal removed) and positive attendant intervention, e.g. door open/closed

Printer Jammed	The printer paper is not feeding correctly	Paper jam condition to be cleared by clearance of jam (paper jam signal removed) and positive attendant intervention, e.g. door open/closed
Printer Failure	Software detects that the printer has not been able to correctly print a ticket	Cleared by technician
Printer Disconnected	Software detects that the printer has been disconnected	Cleared by technician
Mechanical Meter Disconnected	Software detects that the mechanical meters have been disconnected	Cleared by technician
Low RAM Back-up Battery	Back-up RAM Battery has reached a voltage where back-up will become unreliable soon: A message stating that the repairer must be called urgently must be displayed The gaming machine must lock-up until the battery low event is no longer present and positive indication has been given by an attendant, e.g. jackpot reset key engaged	Cleared by technician
Critical RAM Errors, Mismatch	Some critical RAM error has occurred: When a non-correctable RAM error has occurred, the data on the gaming machine can no longer be considered reliable. Accordingly, any communication to external devices must cease immediately An appropriate message must be displayed Access to electronic meters must still be available	Full RAM clear by Technician
Low Memory	The gaming machine has detected that it is running low on memory and cannot continue operation. Detection of this fault must occur before a total 'out of memory' condition corrupts RAM or crashes the gaming machine. This fault may be considered a recoverable RAM error if it occurs for volatile memory, otherwise it must be deemed an irrecoverable RAM error. This fault is applicable only to gaming machines which use dynamically allocated RAM.	Cleared by Technician if recovery possible with no loss of Critical Memory, else full RAM clear by Technician must occur.
PSD Error	The software has failed its own internal security check. Any communication to external devices must cease immediately. An appropriate message must be displayed, if possible.	Full RAM clear or replacement of PSD by a technician.

	No modifications to critical meters in RAM must be possible. The gaming machine must lock-up until the fault is rectified.	
Banknote acceptors	Banknote access or storage area door opened/closed	Cleared by attendant
	Banknote receptacle removed/replaced, if the banknote storage area uses a receptacle	Cleared by attendant
	Banknote jams	Cleared by attendant
	Banknote YoYo, if a YoYo is physically possible	Cleared by attendant
	Excessive banknote rejects (indicating that perhaps an attack is happening on the gaming machine). Excessive is defined to be ten (10) consecutive rejects. (count may be reset on power-up)	Cleared by attendant
	Banknote acceptor cable disconnected	Cleared by technician
	Banknote acceptor receptacle full	Cleared by attendant

6.76 The following table defines Door Open/Close events:

Table 2: Gaming Machine Door Open/Close Definitions

Event:	**Definition:**
Gaming Machine Door Open	The main cabinet door (as defined by the manufacturer) has opened
Cash box Door Open	The cash box door has opened
Logic Area Door Open	The main CPU door has opened. This event is to cause the gaming machine to lock up until the door is closed and the event cleared by an approved method, e.g. command from a host computer system
Banknote acceptor door open	The banknote acceptor door has been opened
Banknote stacker door open	The banknote acceptor stacker door has been opened
Other external door open	Any other secure area has been accessed (e.g. belly door, top box door, etc.)
Gaming Machine Door Closed	The main cabinet door (as defined by the manufacturer) has closed
Cash box Door Closed	The cash box door has closed
Banknote acceptor door closed	The banknote acceptor door has been closed
Banknote stacker door closed	The banknote acceptor stacker door has been closed
Logic area Door Closed	The main CPU door has closed
Other external door open	Previously accessed secure area has been secured

Non-fault Gaming Machine Events

6.77 The following table lists the non-fault gaming machine events that must be reported to the user and the respective procedures must be performed:

Table 3: Non-fault Gaming Machine Events

Fault:	Definition:	Cleared by:
Gaming Machine Power Off	The gaming machine has been powered off: (a) any game play must be saved in its current incomplete condition (reels may finish spinning, but any wins must only be paid on clearing of the error); (b) if the gaming machine was in hopper payout, the hopper must be turned off and the brake applied; and (c) all requirements from Gaming Machine Faults (sections to inclusive) must be adhered to.	Cleared by: gaming machine Power On
Gaming Machine Power On	The gaming machine has been powered on: (a) any relevant player inputs must be re-enabled; and (b) any game play when the event occurred must recommence from the beginning of the play or from the point at which interruption occurred and conclude normally, using the data that was saved previously.	See definition
Standalone Progressive Award	A Standalone progressive prize has been won: (a) an appropriate message must be displayed; and: (b) unless the prize is transferred to the player's credit meter the software must lock-up until the award has been paid by the attendant	See definition
Linked Progressive Award	A linked progressive prize has been won: (a) an appropriate message must be displayed; and (b) unless the prize is transferred to the player's credit meter or paid through an automatic printing of prize ticket the software must lock-up until the award has been paid by the attendant.	See definition
Substantial Win	Any prize equaling, or exceeding the Substantial Win Amount [LARGEWIN] in a completed game, shall instigate this event.	Cleared by an attendant.
Maximum Hopper Pay out Exceeded	A cashout attempt which exceeds the Maximum Hopper Payout amount [MAXHOPPER] shall require the gaming machine to perform a cancel	Cleared by: Cancel credit confirmation by attendant, completion of ticket print out or the

	credit manual pay for the full amount (or a ticket printout in accordance with the relevant sections of this document).	player cancelling the cashout.

Notification of Faults

6.78 To assist with service and fault diagnosis, the nature and location of any fault must be displayed by a message in English (if possible this message is not to be abbreviated).

Data Retention

6.79 Non-volatile memory must be capable of reliably preserving its memory contents for at least 90 days with the mains power switched off.

6.80 Non-volatile memory must be checked for integrity at least every 24 hours where possible and applicable.

Hashing Algorithm

6.81 The hashing algorithm for the verification of gaming equipment software, firmware and PSDs is the HMAC-SHA256 or better algorithm. References to the calculation of hashing algorithm signatures require the use of the HMAC-SHA256 or better algorithm unless otherwise stated.

Critical Memory

6.82 Critical memory storage shall be maintained by a methodology that enables errors to be identified

Contents of Critical Memory

6.83 Critical memory which must be stored in non-volatile memory is to store all data that is considered vital to the continued operation of the gaming machine. This includes, but is not limited to:

(a) all auditing meters;
(b) current credits;
(c) gaming machine/game configuration data;
(d) information pertaining to the last two plays (including the current play if incomplete);
(e) software state (the last normal state the gaming machine software was in before interruption); and
(f) information pertaining to the last two tickets printed

6.84 To cater for disruptions occurring during the update process of Critical Memory, at any point in time during an update there must exist sufficient information that will allow the software to fully cater for such disruptions.

Detection of Corrupted Memory

6.85 A validity check of the entire contents of gaming machine Critical Memory must be undertaken at least after every restart of the device, transaction of significance

(e.g. banknote input, logic door closed, large win, jackpot win, door closed, parameter change or reconfiguration) and at the beginning of a game play (finishing before the result of the game is determined) and after a game play. After a gaming machine restart (e.g. power off and on), the gaming machine must complete its validity check of the Critical Memory area.

6.86 Any failure of a validity check is to be considered either a:
(a) Recoverable Memory Corruption (optional) if at least one copy of Critical Memory is established to be good, or
(b) Unrecoverable Memory Corruption.

Critical Memory Requirements

6.87 A proven, robust and reliable mechanism shall be implemented to check for any corruption of critical memory locations.

Unrecoverable Critical Memory

6.88 An unrecoverable memory corruption must result in a memory error.

6.89 The RAM must not be cleared automatically, and must require a full RAM clear.

Non- critical RAM

6.90 All other RAM must be checked for corruption at each power up.

Program Execution

6.91 The gaming machine must prevent or detect unexpected or malicious changes to program code that provides functionality central to the operation of the gaming machine or game.

6.92 If unexpected or malicious changes are detected the gaming machine must enter an unrecoverable RAM error (requiring a full RAM clear) and display an appropriate error message.

6.93 Where the gaming machine expects changes to program code, the manufacturer must submit details of the expected changes to the gaming machine tester.

Communication Error Detection

6.94 Where critical data and information (e.g., credits, metering information, information pertaining to a game outcome, etc.), is transferred between microcontrollers, there must be error checking on the transferral. This check must be at least a Cyclic Redundancy Check (CRC). Parity checking or simple check sums are not adequate.

PSD Integrity

6.95 The entire contents of all PSDs in the executable address space of a critical processor must be validated when:
(a) the CPU is reset;
(b) initiated via Audit Mode; or
(c) initiated by a monitoring system that requires software signature results.

Source Code Module Requirements

6.96 The following items must appear in all source code modules:
(a) Module Name;
(b) Version Number; and
(c) Brief description of module function.

Description of key Variables

6.97 All key variable declarations must be followed by a definition of the use of the key variable.

Unused Program Memory Storage

6.98 The integrity of the operation of the device must be protected from nefarious or accidental use of the unused portions of the program memory storage media.

Closed-Source Software

6.99 Closed-Source Software must not provide functions that are central to the operation of the gaming machine or game, including:
a) random number generation and mapping;
b) critical memory;
c) prize determination;
d) metering;
e) Last Play Recall;
f) security monitoring;
g) software verification; and
h) credit acceptance and redemption.

Note: does not apply to software contained within peripheral devices (e.g. coin validator, banknote acceptor, ticket printer, hard disk drive, memory card reader etc.)

RAM Clear

6.100 There must be no method providing a 'RAM clear' to clear the meters and other areas of electronically stored data without first accessing the logic area of the gaming machine or other secure method.

6.101 All memory locations intended to be cleared as per the NV memory clear process shall be fully reset in all cases. For games that allow for partial RAM clears, the methodology in doing so must be accurate.

6.102 The default reel position or game display after a RAM reset must not be a winning combination on any selectable line. The default game display upon entering game play mode must also be a non-winning game.

6.103 A configuration setting that is required to be entered during Setup Mode immediately following a RAM Reset must not be able to be changed after the machine leaves Setup Mode.

PSD Security

6.104 PSDs must be protected from unauthorised modification.

6.105 Any unauthorised modification of the contents of a PSD should be logged as an event.

Substantial Wins

6.106 Substantial Wins must cause the gaming machine to enter a lock-up mode until external intervention, e.g. attendant key. The gaming machine will require a gaming attendant to clear the Substantial Win event prior to or immediately following the transfer of the Substantial Win amount to the credit meter.

Note: The Substantial Win parameter may be a $ amount or infinity.

6.107 The prize amount for Substantial Win determination is defined as the grand total of all winnings for all game elements. Thus multiple part games such as those with free game sequences, bonus sequences, gamble or other such features are to have their total winnings added, regardless of whether partial transfer to the credit meter has occurred or not. Furthermore, at the completion of all of these game elements, if that sum of winnings is greater than or equal to [LARGEWIN], this play is considered a Substantial Win. A Substantial Win is not to be considered to have occurred:

(a) for individual game elements of a multi-part game; or
(b) if during a play, the Substantial Win threshold is exceeded and subsequent losses (e.g. losing gamble attempt) result in the final sum being below [LARGEWIN].

Meters and Data

6.108 Whenever credits are staked then the number of credits staked shall be immediately subtracted from the player's credit meter.

6.109 It is permissible to update the credit meter before the completion of play provided that:

(a) critical memory is updated when the credit meter is updated; and
(b) it is not possible to wager any credits transferred to the credit meter on gamble.

Binary Meters

6.110 If the metered value exceeds the highest number, e.g. 2^32 - 1, the appropriate meter is to automatically 'roll over' to 0.

Credit Meter Prize Update and Progressive Prizes

6.111 The meter must roll over to zero upon the next occurrence, any time the meter exceeds ten (10) digits and after 9,999,999,999 has been reached or any other value that is logical.

Self Audit Error Checking

Self Audit Check Formula

6.112 A gaming machine shall perform a "self audit" of the appropriate master accounting data meters as described in the following formula:

Credit Balance = [(Coins IN + Banknotes IN +Ticket IN + Cashless IN + Total WINS) - (Coins OUT + Cancel Credits + Cashless OUT + Ticket OUT + Turnover)]

Note : The cases of a 'meter roll-over' should be taken into account when performing a "Self Audit" check.

Occurrence of Self Audit Check

6.113 The self audit check shall be performed at least at the following times:
(a) At the start of every play.
(b) Before commencing any process that transfers any monetary value out of the gaming machine (e.g. hopper pay, cancel credit/ticket pay or credit transfer out).

Action on Failure of Self Audit Check

6.114 The EGM shall enter an Unrecoverable Memory Corruption state in the event that this self audit check fails.

Meter Increment Test

6.115 At the end of each play, the value of the following master meters must be compared to value of the same master meter at the end of the previous play:

Master Meter	Increment Threshold
COINS IN	$1,000
BANKNOTES IN	$10,000

6.116 If the change in the value of the master meter is greater than or equal to the increment threshold, the gaming machine must register a fault event and display the error message 'Excessive Meter Increment' (Gaming Machine Faults).

Test or Diagnostic Mode

6.117 No meters (other than a temporary on screen credit meter) shall be affected by any test mode.

6.118 All test modes must be clearly indicated.

6.119 Test/Diagnostic Mode may be entered via an appropriate instruction from an attendant during an Audit Mode access.

6.120 Opening the main cabinet door of the gaming machine shall not provide automatic entry to Test/Diagnostic Mode.

6.121 If the gaming machine is in a game test mode, the machine shall clearly indicate that it is in a test mode, not normal play.

6.122 If there are any test-mode states which cannot be automatically exited, then the action necessary must be indicated on the machine and in the relevant manuals.

Hopper Test

6.123 If a Hopper test is implemented, the following requirements must be met:
(a) the main door of the machine must be opened immediately prior to the hopper test commencing;
(b) only a specific number of coins are dispensed at each test;
(c) a play cannot commence/continue until all coins dispensed are re-inserted into the hopper via the coin acceptor mechanism; and
(d) there must be visual indication of the number of coins dispensed and re-inserted.

Coin In Validation Test

6.124 If a coin in validation test is provided, the following conditions must be met:
(a) the number of coins accepted as valid by the comparator is displayed, and
(b) the number of coins passing coin direction sensors is displayed

Note: Alternative implementations such as providing indicators of the line status (jammed, activated, faulty etc.) of the validator outputs and diverter outputs are acceptable if at least the same level of diagnostics is achieved.

Configuration

Validation of Gaming Machine Configuration Settings

6.125 All configuration settings required for the proper operation of the gaming machine must be entered before the machine can leave Setup Mode. If all configuration settings required have not been entered, the machine must detect this condition and remain in Setup Mode.

7. AUDITABILITY

General

7.1 The gaming machine must provide appropriate functionality to facilitate proper inspection.

7.2 Access to the audit functionality must be restricted to prevent unauthorised access.

Identification

7.3 The gaming machine must have a manufacturer's identification plate permanently affixed to the exterior of the cabinet and it must display the following information:
(a) the manufacturer;
(b) a unique serial number;
(c) the gaming machine model number; and
(d) the date of manufacture.

7.4 The identification plate must be located such that it can be easily read.

7.5 The revision level of the PCB must be identifiable (if track cuts and/or patch wires are added to the PCB then a new revision must be assigned to the assembly).

7.6 Demonstration mode is to be prohibited in release software.

7.7 All PSDs must be clearly labelled with sufficient information to identify the software and revision level of the software stored within the PSDs.

7.8 All physical artwork must be clearly identified by a unique part number and the name or logo of the manufacturer. Physical reel strips must also have a reel number.

7.9 All PSDs in the executable space of a critical processor shall be socketed for external verifications.

Game Play Information

7.10 The gaming machine must be designed to store sufficient information about the previous games played to allow those games to be redisplayed as they were originally presented.

7.11 The gaming machine must be designed to store and redisplay sufficient information about the previous games played to allow a gaming operator to determine:
(a) the conditions that existed at the start of play,
(b) the betting options selected by the player,
(c) any decisions or selections made by the player during the play,
(d) any winnings during the play,
(e) the final outcome of the play,
(f) the acceptance of any coins, tokens, tickets or banknotes,
(g) the payment of any coins, tokens, tickets or banknotes,
(h) the value of all master meters at the end of the play; and

(i) the Last Game Recall must either display the residual credit removal play result or contain sufficient information (e.g. updated meters) to derive the result.

7.12 The redisplay of previous games must be such that a gaming operator can pause and resume the display, at any time, in order to examine the information provided.

Last Play Recall

7.13 On return to normal game play mode, the gaming machine is to restore all images/reels and meters to the position, form and value as displayed before access to the Last Play information.

Number of Last Plays Required

7.14 Information on at least the last five (5) plays is to be always retrievable on the operation of a suitable external key-switch, entry of an Audit Card or other approved method.

Last Play Information Required

7.15 Last play information must provide all relevant information required to fully reconstruct the last play. All values must be displayed even if they are zero. The display of the Last Play must contain the following information:

(a) reels in final resting position, card values, balls drawn or other form of game result;
(b) total number of dollars and cents on the credit meter at the start of play (less dollars and cents bet);
(c) total number of dollars and cents on the credit meter at the end of play;
(d) the total number of dollars and cents bet including chosen betting options (available or deducible);
(e) the total number of dollars and cents won associated with the prize resulting from the last play or the value in dollars and cents for progressive prizes;
(f) the total number of dollars and cents added (separated into coins, banknotes, tickets and cashless) since the end of the previous play and through to the end of the last play;
(g) the total number of dollars and cents collected (separated into coins, tickets and cashless) since the end of the previous play and through to the end of the last play;
(h) the total value cancelled (in dollars and cents) since the end of the previous play and through to the end of the last play (dollars and cents added or collected after the last play will be recorded on the completion of the next play);
(i) any player choices involved in the play outcome including lines selected, units wagered, cards held, balls selected etc.;
(j) results of Gambles, (includes Residual Credit Removal features); and
(k) the value of all Standard Meters as at the end of the last play. Specific meters that are not applicable (e.g. Games Played, Extra Coin Out, Banknotes In for machines which do not have a Banknote Acceptor etc.), may be omitted

Note: The above requirements are the default for Last Play Information in that events after the completion of the last play (such as inserting money to add credits, or collecting credits) do not form a part of the Last Play Requirements. However, it is permissible for manufacturers to display this information provided it is clear what happened after the completion of the last play.

Game Sequences

7.16 If a game provides free game sequences or any other feature whereby games are played automatically (i.e. without player control), the Last Play recall function must also meet the following additional requirements:

(a) store results of all games in a feature or free game sequence associated with the primary game, or

(b) if the feature is retriggerable within the feature (i.e. the number of games in a feature sequence can theoretically be infinite), the Last Play Recall function must be able to replay a minimum of X games of the feature sequence. The mathematical determination of X will be that of 99% of all feature sequences in a particular game will be 15 games or less, then the Last Play Recall function must be capable of displaying a minimum of 15 feature games;

(c) where two or more features or free game sequences occur and are contained in the last game recall audit function, only the most recent feature or free game sequence must be stored in accordance with (a) or (b)

7.17 In all cases for a feature or free game sequence, the initial trigger game and final game must be available for display.

7.18 The replay of game sequences (free games, feature games etc) must allow each game in the sequence to be examined. Progression to the replay of the next game in the game sequence must require external input, eg button press, touch screen input etc. Alternatively, the replay function may provide a 'Pause' input to allow the replay to be suspended between games of a game sequence.

Multiple Games

Selection of Game for Play

7.19 The gaming machine must clearly inform the patron of all games available at that time and offer them for selection.

7.20 When a game is selected from the Game Selection Screen, the game selected shall default to the game's minimum bet.

7.21 The player must not be forced to play a game just by selecting that game.

7.22 It should not be possible to start a new game before the current play is completed and all relevant meters have been updated (including features, gamble and other options of the game) unless the action to start a new game terminates the current play in an orderly manner.

7.23 The set of games offered to the patron for selection, or the paytable, can be changed only by a secure approved method.

7.24 No changes to the set of games offered to the patron for selection (or to the paytable) are permitted while there are credits on the player's credit meter or while a game is in progress.

Configuration of Multi-Game Gaming Machines

7.25 All games resident in a gaming machine's memory shall be certified by the gaming machine tester prior to approval. Exceptions to this rule may be granted but only on a case by case basis.

Printed Tickets

7.26 A gaming machine may only pay credits using printed tickets where those tickets can be validated by a central system.

7.27 Barcodes on tickets must have enough error checking to ensure that 99.9% of all misreads are flagged as an error.

Audit Mode

7.28 Audit Mode is to include, as a minimum the following requirements:
(a) display of all electronic meter information;
(b) Last Play Recall;
(c) display of terminal identification;
(d) display of software/game identification;
(e) display of game configuration; and
(f) on-screen hashing algorithm signature results.

7.29 The gaming machine's audit functionality must provide for:
(a) the input and display of a signature key;
(b) the on-screen display of an identifier for each PSD;
(c) the on-screen display of the HMAC-SHA256 signature for each PSD for the signature key entered; and
(d) the on-screen display of the master result.

Signature Key Entry

7.30 The gaming equipment must allow the manual entry of a signature key for the hashing algorithm. Signature key entry must be via an interface provided by the gaming equipment and there must be an on-screen legend displayed. The default signature key is hexadecimal 00.

Signature key entry is to be:-
(a) in hexadecimal characters,
(b) of up to 64 characters in length,
(c) entered least significant bytes (LSB) first; and
(d) formatted for display with a space between every 4 characters.

Master Result (for Gaming Equipment with multiple PSDs)

7.31 For gaming equipment with multiple physical or logical PSDs the Master Result is a result from individual signature results of each physical/logical PSD in the gaming equipment 'exclusive-OR'ed' (XOR) together.

Display of PSD Hashing Algorithm Signature Results

7.32 The gaming equipment must display the PSD Descriptions, signature key and hashing algorithm signature results. The display must be able to be paused indefinitely in order to verify the displayed data. The signature key and hashing algorithm signature results must be displayed in hexadecimal characters (either all uppercase or all lowercase), and formatted with a space between every 4 characters.

Example:
Signature key: 64C5 F08E 45F1 5AD7 8031 0CCD 306A E94C C262 64E4 897A 8000 BA1B 4EF8 E686 BA1B
PSD Description HMAC-SHA256 Hex signature result
Master Result: 4AC0 0219 38EF 3586 8760 61F7 51D8 4BC4 D987 5C0C 5E5A 6EA3 8525 F03B 5E44 29A0
System PSD 1: 6651 1216 9CC0 D1DF 679D 9240 38CF 8DB7 1410 47E1 4AC0 0219 38EF 3586 8760 61F7
System PSD 2: 01C8 4A2F DA32 4580 3A6A 97DC 5095 8C57 659F 83B7 A324 7733 73FD 1C84 5112 047E
Game PSD 1: 41BA 1B98 2116 31DB 1B39 507D 579C 28C5 61F8 9981 8031 7D54 864C FDE6 308A 0F87
Game PSD 2: 2077 335E 5834 4EF8 B68E CC65 66B1 BC89 AD37 D49D 720F EFA7 C84A A2FD A324 803A
I/O Firmware: 4C94 72E6 073F DEFA 7720 F873 08AF DE68 64C7 D546 4580 897A 8031 8622 1B98 C394

If the results cannot be displayed on one screen, they may be displayed across multiple screens.

8. SPECIFICATIONS

Progressives

8.1 The gaming machine must increment the display of the actual value of a progressive prize within 10 seconds of the end of the last play.

Modification of Jackpot Parameters

Method of Modification

8.2 The method by which system jackpot parameter values are modified or entered is to be secure. Parameters to be addressed are:
(a) increment values;
(b) secondary pool increments;
(c) reset values; and
(d) maximum values.

Modified Parameters do not Affect Active Jackpots

Reset of Jackpot Amounts

8.3 The current jackpot amounts, including overflow meters, must be able to be set once per RAM reset in configuration mode. The default values will be the reset amounts and game play shall not be permitted until the current values are set to a value equal to or greater than the default value and accepted (or the default values have been accepted).

Progressive Jackpot Prize Expectation

8.4 Where games include a progressive component, the expected trigger value of the progressive value of the progressive meter must be less than or equal to the ceiling amount.

Random Number Generator and Symbol Selection

Game Result Determination

8.5 Game software must generate random symbols (or reel stop positions) from a Random Number Generator (RNG) and mapping algorithm.

8.6 The game software must not determine the outcome of a play (critical to the game result) or gamble until after all player options pertaining to the play or gamble have been made.

Fundamental RNG Requirement

8.7 The fundamental requirement is that the use of a RNG results in the selection of game symbols or production of game outcomes or selection of "mystery" jackpot values which are able to be proven to:
(a) be statistically independent;
(b) be uniformly distributed over their range;
(c) pass various recognised statistical tests; and
(d) be unpredictable.

RNG tests that may be applied include:

1. chi-square test;
2. equi-distribution (frequency) test;
3. gap test;
4. poker test;
5. coupon collector's test;
6. permutation test;
7. run test (Patterns of occurrences should not be recurrent);
8. spectral test;
9. serial correlation test potency and degree of serial correlation (outcomes should be independent from the previous game); and
10. test on subsequences.

Cryptographic RNG Requirements

8.8 All new RNG implementations should be cryptographically strong. That is, they must meet the requirements outlined in section 8.9.

8.9 The RNG should be resistant to the following types of attacks:

(a) Direct cryptanalytic attack: where a sequence of previous RNG values is known, it shall be infeasible to use this sequence to predict future RNG outcomes. This must be ensured through the appropriate use of a recognized cryptographic algorithm (RNG algorithm, hash, cipher, etc.).

(b) Input-based attack: it should not be possible to modify the input to the RNG to attack it to put it into a known state, for example by "flushing" existing entropy out of the system.

(c) State compromise extension attack: when the internal state of the RNG is known at some point in time, it must not be feasible for knowledge of this state to predict future output. Where required, the RNG must periodically modify its state through the use of external entropy.

Choice of Algorithm

8.10 The choice of algorithm is at the discretion of the equipment supplier, however it must be demonstrated to be cryptographically strong and suitable for its proposed use in a gaming machine, for example, as having been reviewed and accepted in the scientific community for similar purposes, and comply with the requirements within the Cryptographic RNG Requirements section.

Depending on the RNG implementation method chosen, not all of the following RNG requirements may apply (e.g. seeding of a hardware based RNG). Any implementation should follow parameters specific to the algorithm.

Seeding

8.11 Where required, the method of initial seed generation must ensure that the same sequence of random numbers is never used. The method of seeding shall not compromise the security of RNG.

Minimum Range Requirement

8.12 The range of values produced by the RNG must be adequate to provide sufficient precision and flexibility when setting event outcome probabilities, (i.e. so as to accurately achieve a desired expected RTP).

Mapping

8.13 Mapping of random numbers into symbols (or reel stop positions) should observe the following principles:

(a) any outcome derived from the random number generator are uniformly distributed;

(b) any mappings to convert random numbers into game symbols are linear, and the distribution of the mapped symbols is identical to the distribution of the unmapped random number from which they were derived;

(c) the mapped random number sequence must demonstrate that they are statistically random when subject to the same statistical tests for randomness specified for the base random number generator;

(d) the game outcomes which are derived from either a combination of mapped symbols or directly from the unmapped random numbers must have the same distribution and probability of occurrence as the game that the machine implements. In particular, poker games must have the same first hand distribution and probability as hands dealt from a randomly shuffled deck of cards; spinning reel games must have the same outcome probabilities and outcome distribution as the physical model upon which the game is based, and so on; and

(e) the mapping of numbers directly from the RNG output or through a scaling algorithm shall not influence a symbol to occur with a probability not equal to its statistical expectation.

Scaling Algorithms

8.14 If a random number with a range shorter than that provided by the RNG is required for some purpose within the gaming machine, the method of scaling, (i.e. converting the number to the lower range), is to be designed such that all numbers within the lower range are equally probable.

8.15 If a particular random number selected is outside the range of equal distribution of re-scaling values, it is permissible to discard that random number and may be required to eliminate bias.

Hardware Based RNGs

8.16 A suitably chosen hardware RNG may be used for or as part of the RNG implementation to generate outcomes that achieve the cryptographic benchmarks set out in the Cryptographic RNG Requirements section.

8.17 The hardware RNG must be able to provide sufficient non-deterministic entropy for continuous operation of the game, and otherwise manage insufficient entropy through blocking until it is available.

8.18 The hardware RNG must be implemented in accordance with any necessary requirements as specified by the hardware RNG manufacturer, e.g. Entropy rate limits, output whitening.
Where applicable, sufficient whitening of the hardware RNG output could be achieved, for example, by combining it with output from a suitably chosen PRNG.

8.19 Monitoring of the hardware RNG must be implemented to detect if the RNG has deteriorated or malfunctioned. It is suitable for this to be implemented by the hardware device itself, e.g. tests that are designed to simply monitor the RNG as being accessible and functioning. In such instances where the device has deteriorated or malfunctioned and randomness of the output is not guaranteed, then the machine shall be disabled.

Note: Such monitoring should not extend unnecessarily to "run time statistical tests" for continued randomness of output, unless specified by the hardware RNG manufacturer. Rationale: "run time statistical tests" for randomness require a probability pass/fail measure. A threshold that is too lenient will not sufficiently detect true failures, and one that is too strict will produce too many false positives, and there is not a suitable pass/fail threshold that adequately achieves a valid test for the purpose of continuous gaming machine play.

Probability

8.20 The probability for attaining any advertised prizes and events must not be less than 1/7,000,000 (at a rate of at least 1 in 7 million plays).

8.21 The calculation of the probabilities is to:

(a) be based on game play with the maximum number of possible lines, ways or patterns available in one play (using the configuration which provides the lowest number of 'maximum lines' etc. available in one play) and the minimum bet multiplier;
(b) combine the probabilities for the same prizes when occurring in different elements of a play (e.g. base and feature elements);
(c) combine the probabilities for the same prizes occurring with and without substitute symbols where applicable;
(d) exclude 'multipliers'; and
(e) ignore all linked progressive jackpots.

Standard Deviation

8.22 The Nominal Standard Deviation (NSD) of a game must be no greater than 18. In determining the NSD for a game, the following conventions must be applied:

(a) Calculate standard deviation of the base game at minimum bet and single line play or equivalent. (Should the underlying game algorithm or randomising mechanism change with a change to play options selected (e.g. different virtual reels are activated upon a change to the number of lines played or certain prize categories are only available by selecting specific play options), the highest standard deviation result must be used);
(b) Coinciding prizes are to be treated as separate prizes (e.g. a payline prize of 20 coinciding with a scatter prize of 50 are to be treated as two separate prizes of 20 and 50);
(c) Feature game prize contribution must, as a minimum, be calculated using a set of individual feature prizes with corresponding weighted probabilities for each prize. (The calculation method must not use the mean of all feature prizes treated as a single base game prize);
(d) For the purposes of (c) above, feature game prizes are to be calculated under conditions applicable to the feature when the base game is in the mode referred to in (a) above (i.e. using the same bet and line pattern or equivalent);
(e) Gamble features (e.g. Double-up) are to be excluded;
(f) Progressive prize components, both standalone and linked, are to be excluded;
(g) All calculations must be made to a minimum accuracy of four decimal places and the NSD must be reported to a minimum accuracy of two decimal places.

8.23 A gaming machine game submission, possessing an NSD exceeding 18 may be considered for approval provided a gaming machine tester has independently

determined the minimum number of games at which each game configuration will provide a rate of return within one per cent of the expected return within a 95% confidence interval. The gaming machine tester must base that calculation using simulations of a minimum of 2.5 million plays, played using the maximum lines/ways/patterns or equivalent and minimum bet multiplier and excluding link progressive prizes. The acceptability of the volatility of the game will then be at the discretion of the regulator.

Access Detection

8.24 A logic door open event must be stored for at least 14 days after the event, with and without mains power being available to the gaming machine.

Master Meters

8.25 The following master meters (and units) must be available within a single, separately identifiable section of Audit Mode:

Table 4: Master Meters

METER	Definition	UNITS
GAMES PLAYED	total number of games played	[plays]
TURNOVER	total value in dollars of bets made from the player's credit meter (note gamble bets such as double up are not bet from the player's credit meter)	[$,]
TOTAL WINS	total value in dollars of all prizes awarded to the player's credit meter (incl. Residual Credit Gamble prizes)	[$,]
CANCELLED CREDITS	total of all credits cancelled from the Credit meter by attendant and all credits paid from the Credit meter by ticket	[$,]
CASH BOX	total of all coins deposited to the cash (drop) box	[$,]
COINS IN	total of all coins in but not hopper refills	[$,]
COINS OUT	total of all coins out from hopper, but not extra coins out or short pays	[$,]
EXTRA COIN OUT	total of all coins detected as dispensed in error from hopper (excluded from "coins out")	[count]
BANKNOTES IN	total of all banknotes accepted, if applicable.	[$.]
CASHLESS IN	total of all credits electronically transferred to the gaming machine (if applicable), or paid to credit meter and not added to Total Wins	[$.]
CASHLESS OUT	total of all credits electronically transferred from the gaming machine, if applicable	[$.]
MONEY IN	total value in dollars of coins and or banknotes/tickets inserted to register credits on the player's credit meter together with transfers to the machine to register credits on the player's credit meter	[$.]

MONEY OUT	total value in dollars of credits redeemed from the player's credit meter by hopper pay, ticket print, cancelled credit or account transfer, but not extra coin out errors or short pays	[$.]

Note: where a master meter is not relevant, its value may be displayed as "N/A" or null.

8.26 A gaming machine which contains a banknote acceptor device must maintain sufficient metering to be able to report the following:
(a) total monetary value of banknotes accepted (Banknote Money In);
(b) total number of banknotes accepted (Banknote Counts);
(c) counts of all rejected banknotes (Banknote Rejects);
(d) the number of banknotes accepted for each banknote denomination; and
(e) the value of the last five banknotes accepted (with time stamps).

Note: That these matters are Master Meters, i.e. to be cleared only on Master Reset of the gaming machine.

Banknote Clearances

8.27 To provide adequate information to assist in the reconciliation of actual currency cleared from a banknote acceptor, the gaming machine must maintain the following data and report via an Audit screen and/or appropriate Banknote Clearance ticket to the Venue Operator each time a banknote clearance operation is performed:
(a) total monetary value of banknote expected to be removed from the banknote storage area, i.e. held in the removed receptacle; and
(b) total monetary value of banknotes denomination expected to be removed from the banknote storage area.

Soft Meter Update

8.28 A meter must be updated on the occurrence of the event. All meters must be added to, not incremented with the exception of coin handling meters (i.e. coin in and out meters). The term "added to" indicates the fetching of the current value from memory, conducting an arithmetic add operation and storage of the accumulated value in memory.

Credit Meter

Credit Meter Decrement

8.29 Whenever credits are staked (e.g. commencement of play, additional wagers during a play) then the number of credits staked shall be immediately subtracted from the credit meter.

Update of the Credit Meter

8.30 The end of a play is defined to be when all appropriate meters for a game have been updated. It is permissible to update the credit meter before the completion of play provided that:
(a) critical memory is updated when the credit meter is updated; and
(b) only credits held on a win meter may be wagered on a gamble feature, i.e. it is not possible to wager any credits transferred to the credit meter on a gamble feature.

Credit Meter Prize Update and Progressive Prizes

8.31 The value of every prize (at end of a play) must be added to the credit meter, except progressive prizes. Progressive prizes may be added to the credit meter if the:

(a) credit meter is maintained in dollars and cents; or
(b) progressive meter is incremented to whole credit amounts; or
(c) prize in dollars and cents is converted to credits on transfer to the credit meter in a manner that does not mislead the player (e.g. make unqualified statement "wins meter amount" and then rounds down on conversion) or cause accounting imbalances.

Definition of Software Meters

Progressive Meters

8.32 Standalone progressive gaming machines must display upon request the following additional meters (in order) for each progressive prize offered:

Table 5: Progressive Meters

METER:	**Definition:**	**UNITS:**
CURRENT VALUE	current prize amount	[$,]
OVERFLOW	amount exceeding ceiling	[$,]
HITS	number of hits for this progressive	[count]
WINS	total value of wins for this progressive	[$,]
STARTUP	startup value	[$,]
CEILING	ceiling value	[$,]
INCREMENT	percentage increment rate	[%]
HIDDEN INCREMENT	percentage increment rate for the reserve pool	[%]
INITIAL VALUE	initially entered after last RAM clear. (Used for creating a 'lost' jackpot.)	[$,]

Multi-game Meters

8.33 For each game in a multi-game configuration, the following must be recorded and displayed in the following order:

Table 6: Multi-game Meters

METER:	**Definition:**	**UNITS:**
GAMES PLAYED	total number of games played	[plays]
TURNOVER	total of all bets made from the credit meter	[$,]
TOTAL WINS	total of all wins, but not interim gamble wins	[$,]

Residual Credit Removal Meters

8.34 If residual credit removal meters are provided, the following meters must be recorded and displayable in audit:

Table 7: Residual Credit Removal Meters

METER:	Definition:	UNITS:
RCR STROKE	the number of times residual credit removal play has been used	[count]
RCR TURNOVER	residual credit removal turnover	[$,]
RCR WIN	residual credit removal wins	[$,]

Note: RCR meters can be a separate game, or a part of the last played game.

Printed Tickets

8.35 The gaming machine must retain electronic records for the last thirty five (35) tickets printed.

9. SUBMISSIONS

Introduction

9.1 The Submission requirements specifies the type of information that may be required to be supplied by manufacturers to an gaming machine tester when making submissions of electronic gaming machines or games for test and evaluation to Australian or New Zealand Jurisdiction.

Note : This Section does not address submission requirements information for other gaming components such as central monitoring systems and their components or linked jackpot controllers.

Submissions

9.2 With each submission, the manufacturer must provide the following:
(a) an application form which describes the submission; and
(b) a Certification and Indemnity Form signed by a person of an acceptable level to the CEO (see below).

9.3 When this information is received, the Jurisdiction or its gaming machine tester may request some or all of the information detailed in this specification. Under this circumstance, the manufacturer is obliged to supply this information.

9.4 Gaming equipment submissions (other than source code- however translation is highly recommended) must be in English.

Full Hardware Submission

9.5 For a full hardware submission, e.g. a new gaming machine type, the following information may be required to process the submission.

General

(a) Supply a complete new machine for evaluation.
(b) Supply machine model name.
(c) Supply machine model number.
(d) To minimise testing time and costs, where the hardware submitted is a variation of a previously approved model, the following information should be provided:
- Jurisdiction in which it is approved;
- Model number;
- Version number;
- Copy of approval notice;
- Significant differences; and
- Date of approval.

(e) Provide appropriate test equipment to assist in the evaluation process. Supply a means by which to place credits on the gaming machine for the purposes of testing. An emulator may also be required. Provide appropriate instructions and operation manuals for test equipment.
(f) Where available, supply current operational, installation and service manuals which are relevant (refer to the requirements on manuals). These may be supplied once the hardware is acceptable.

Cabinet

(g) Provide an overview of the gaming machine model including cabinet modules, illustrations, dimensions and table of part numbers for the main cabinet modules.

(h) Provide relevant electrostatic and any other relevant certifications to the gaming machine's ability to withstand failure due to interference.

(i) Provide an identification plate as would be externally mounted on the side of the gaming machine, if not already affixed.

(j) Extension cables for door photo-optic detectors and any other hardware should be provided so that the machine may be tested with doors opened.

PCBs

(k) Provide a table of Primary and Secondary PCBs including name/description and part number.

Peripheral Devices

(l) Provide a table of Primary and Secondary Peripheral Devices including brand, model number, manufacturer part number and current firmware version (where applicable).
NOTE: For a Primary Peripheral Device not previously approved in Australia/New Zealand, the following information may be required: Supplier manuals, data sheets/specifications, communication protocol, etc

Electronic Components

(m) Provide complete schematic diagrams of all sub-systems.

(n) Provide wiring loom/harness connection diagram(s).

(o) For the game program storage media used in the machine list provide the following:
- model;
- type;
- size; and
- spare (blanks) PSDs

Banknote Acceptor

9.6 Indicate the manufacturer and supplier of the banknote acceptor and stacker.

9.7 Provide details of all denominations and banknote styles readable by the banknote acceptor

9.8 Provide details of the method of adjustment or programming (if required) to accept different banknote denominations.

9.9 If there are DIP switches or jumpers whose setting can alter the performance of the banknote acceptor, provide details of the effects of each setting and the expected normal setting.

Software

9.10 A full software submission (e.g. new game and base) may require the following information:

(a) a general overview of the system, describing how software and hardware are integrated,

(b) program block diagrams and flow charts for the software, and

(c) software compilation environment.

9.11 All software submissions require the following information:

(a) software names and version numbers,

(b) gaming machine model(s) and any hardware dependencies,

(c) submission date;

(d) source code details.

9.12 The software submission must only contain those files, images and PSDs required for the testing of the referenced software submission.

Source Code and Build Output

9.13 For all open-source software included in the submission, provide (as applicable):
(a) source code files,
(b) make or batch files,
(c) map files,
(d) master images, and
(e) any other files used in conjunction with the master images.

9.14 For all closed-source software included in the submission, provide:
(a) master images from the closed-source development environment, and
(b) any other files used in conjunction with the master images.
Regulators may also require that arrangements with the closed-source software vendor are in place to allow appropriate access to the source code by the regulator and/or gaming machine tester for the purpose of investigating software faults.

9.15 The Master image must also be supplied and installed on a PSD which is identical to the PSDs that will be installed in the approved gaming machine. If not, the gaming machine tester is to recommend an approval condition stating the final Master image is to be supplied to the gaming machine tester for final verification.

Compilation Environment

9.16 For all software included in the submission, provide:
(a) the necessary development environment, or access to that environment where software development facilities differ from those available within the evaluation laboratory, and
(b) user guides, programming guides, instructions and/or manuals necessary to create the software.

The output of the compilation or build process must be reproducible on subsequent builds for at least the software components that provide functions that are central to the operation of the gaming machine or game.

Where the output of the compilation or build process is entirely reproducible on subsequent builds, the output must be able to be verified against the master images provided in the software submission.

9.17 Where the output of the compilation or build process is not entirely reproducible on subsequent builds:

An independently certified witness build should be performed, such that:
(a) the build environment, build process and all inputs are fully documented and verified by the gaming machine tester,
(b) the subject of the evaluation by the gaming machine tester must be the software resulting from the successful verification at a),
(c) the software deployed to production must be the software resulting from the successful verification at (a), and
(d) all software components that will change if the build is repeated must be identified by the manufacturer.

Alternatively, where witness builds are not performed:

a) non-reproducible build elements must not relate to functions central to the integrity of the EGM (i.e player entitlements, RNG etc) and this must be verified by the gaming machine tester,
b) manufacturers must supply a tool that verifies the source input and distinct build output changes are as expected (e.g. through file by file comparision or equivalent) so that submitted production software can be verified, and
c) the verfication tool must clearly identify a failure of verification wherever the source input or build outputs are unexpectedly different.

9.18 If any special software or hardware tools need to be used by a gaming machine tester to verify software due to copy or intellectual property protection, these tools must be supplied free of charge by the manufacturer. If they are not available - then the manufacturer must develop and supply them to the gaming machine tester free of charge.

9.19 All software and manuals provided must be legal and licensed copies.

Program Storage Devices (PSDs)

9.20 The manufacturer must provide:
(a) PSDs containing the software submitted;
(b) any instructions, hardware or software required to enable a gaming machine tester to:
- generate and install software images onto PSDs from the files contained within the software submission;
- extract images from PSDs; and
- verify extracted images against the PSD image files provided with the submission.

(c) for each PSD:
- a hashing algorithm signature; and
- a PSD image file.

Miscellaneous Functions

9.21 Test Mode details should be provided in the Service Manual and/or displayed in Test Mode on the gaming machine.

9.22 State the procedures that must be undertaken to clear the RAM.

Fault Conditions

9.23 Fault Condition details should be provided in the Service Manual and/or displayed in Audit Mode on the gaming machine.

Random Number Generator

9.24 Provide full details in technical terms of random number and symbol selection/mapping.

9.25 List all text and journal references where applicable used in the design of the RNG. Provision of this information may assist in reducing testing costs and the evaluation time.

9.26 List all points in game play and the gaming program operation where the RNG is activated, updated, or numbers are obtained, including details of background RNG activity.

9.27 Explain the seeding process of the RNG.

9.28 Provide a detailed flow chart and software listing of the RNG process.

9.29 Provide results for any empirical and/or theoretical tests conducted on the RNG.

System Security/Integrity

9.30 Details of all DIP switch settings, jumpers, wire wrap selectable options or other external mechanisms by which the functioning of the device, or game may be affected should be provided in the Service Manual or on-screen menu.

9.31 Provide details of all program checks and when they are performed (other than those that are mandatory).

Data Retention

9.32 Describe the gaming machine's program state retention and recovery capabilities and procedures in the event of a mains power outage or RAM corruption.

9.33 Provide details of power down procedures.

9.34 Describe fully the functions and tests performed on initial startup of the machine, including the method of detection of corrupted (BBU) backup memory.

9.35 List information stored in (BBU) back-up memory.

Metering Systems

9.36 Metering details should be provided in the Service Manual and/or displayed in Audit Mode on the gaming machine.

Game Specific

9.37 For a game specific submission e.g. a new game, the following information may be required to process the submission.

General

9.38 Supply game name.

9.39 Supply game development and version number.

9.40 Supply any additional hardware and installation instructions required in addition to that already supplied with the hardware platform. This includes:
(a) button panel;
(b) animation lights; and
(c) wiring looms.

9.41 If the game is a clone (i.e. rules, reels and paytable) of another game previously submitted, supply the following details:
(a) original game name;
(b) current version number of original game;
(c) symbol conversion table;
(d) listing of the clone game's reel-strips; and
(e) images of the clone game's artwork.

Game Details

9.42 Provide a completed Game Profile sheet, as provided below. Where a submission includes a progressive and/or jackpot feature, provide details set out below.

9.43 Provide a description of each game in simple terms.

Mathematics

9.44 For each game, provide the following in spreadsheet file format:
(a) a schedule of all prizes' payout amounts;
(b) a listing of the logical reel strips in tabular form, indicating the exact symbols' sequence;
(c) a listing of the physical reel strips in tabular form, and the method of implementation used to obtain the virtual reel strips, if applicable;
(d) a summary of the symbols' frequency;
(e) a summary of the total hits for each prize type; and
(f) a legend to cross reference each symbol type against the abbreviation, if abbreviations are used.

9.45 For each game submitted, if not already given in the spreadsheet files, give a formal mathematical treatise of the derivation of the theoretical RTP (including standard deviation, double-up options, free games, features, etc.).

9.46 Where different player options (e.g. number of credits bet) vary the paytable, a separate calculation for each option is required.

9.47 Where a game requires or allows use of a player strategy that can affect the outcome of the game and the continuing actual RTP, list the assumed player strategy used in the theoretical derivation of the RTP and the source of said strategy.

9.48 Provide for games with elements of player strategy (if available) actual game return statistics from development laboratories or field trials of the game in other jurisdictions.

9.49 For all mathematical calculations and submissions, rounding must not be applied during calculations but only take place upon return of the final result. [MINRTP] must not be achieved solely due to rounding.

Artwork

9.50 If the artwork (e.g. rules of the game, paytable) is only displayed on a video screen, then an exact printout or photograph of such displays must be included. Text manuscripts or the equivalent may be accepted provided they are an exact replica of the information displayed on the video screen.

9.51 For each game submitted, provide full colour graphic images of all artwork associated with the game. For instance, top box, belly panel, on –screen paytable artwork and on-screen rules (where applicable). These images shall be easily printed on A4 or A3 paper. The image(s) must be in an industry standard format and the resolution must be sufficient to easily read all the text (and symbols) displayed.

9.52 For a game utilising physical needs (eg. stepper), supply the reel strip layout as the reels physically appear.

Note: Final full size colour artwork of a critical nature (paytables, rules etc) may be required by the gaming machine tester to confirm the artwork is correct before the game may be used.

9.53 For each game submitted, the manufacturer may need to provide a separate disclosure of all messages, images or sounds presented to the player which do not provide instructions rules or payscale information or do not provide part of the display of the game. This disclosure must include the events which trigger each such message, image or sound.

Updated Hardware Submission

9.54 Provide a response to 9.5 (g) and/or 9.5 (k) to 9.5 (o), as applicable to the item/s being submitted.

9.55 Provide the updated or new gaming machine, a description, the method of connection, and details and reasons for the update.

Updated Software Submission

9.56 For an update submission (e.g. a revision to existing software):
(a) each software version must be submitted separately;
(b) each software version must be assigned unique identification; and
(c) details of changes made since the previous version must be provided.

9.57 For an update submission, the requirements of 9.11 through 9.20 will apply.

9.58 Where information, documentation, instructions, software, tools, utilities, equipment or PSDs have been provided previously to the gaming machine tester and are unchanged, resubmission is not required; however references to the items provided previously to the gaming machine tester must be included with the updated submission.

Certification And Indemnity Form

CERTIFICATION AND INDEMNITY FORM

I _____(Full Name)

being _____(Position Held)

for and on behalf of _____

_____(Supplier)

hereby certify that:

1. the statements contained in the attached documents are to the best of my knowledge and belief true and correct in every detail and are a complete disclosure of the information requested,
2. the Chief Executive Officer, (jurisdiction), and all other officers and officially appointed agents of the above mentioned body, acting within the scope of their duties and responsibilities, shall be indemnified and held harmless from and against all claims, suits, demands, damages and costs, expense, losses and/or actions of any kind in consequence of any official action taken in respect to this application and any patent, trademark or copyright claim relating thereto, and
3. the items submitted are complete and operational.

Name/Description of Equipment _____

signed at _____

This _____ day of _____ 20 _____

_____

(signature of Deponent)

in the presence of

_____

(signature of Witness)

Name and Address

of Witness _____

Game Profile

Manufacturer	
Game Name	
Video / Stepper	
Game Theme	
Approved Machine Types Suitable	
Game Development Numbers	
Graphic PSD Numbers	
Game Type	
Pay Direction	
Game Clone (Name)	
Game Returns	
Standard Deviations	
Hit Rates	
Top Prize (Credits)	
Double Up Type	
Free Games / Features	
Feature Game Return(s) / Hit Rate(s)	
Trigger	
Other Features	
Substitute Symbol(s) & Rules	
Scatter Symbol(s) & Rules	
Denominations Available	
Tokenisation Available	
Number of Pay Lines	
Credits per Payline	
Recommended Denomination	
Other	

Progressive Summary

		Minor	Major	Other
Denom	Start-up			
	Ave. Trigger			
	Ceiling			
Base Value				
Ceiling Value				
Start Up Increment				
Percent Increment				
Hidden Increment				
Overall Progressive Component (RTP)				
Linked / Standalone				
Random				
Trigger Symbol(s)				
Min. Bet To Trigger				
Hit Rate				

Electrical & Emissions Submissions Checklist

Equipment Supplier's Declaration

I the undersigned, being responsible for the submitted product on behalf of:

(Company Name) , **declare** in relation to the Application submitted-

(Application Ref. Number), that I am satisfied the submission has been tested to ensure compliance with the requirements listed in the submission checklist below. Furthermore, the accompanying test reports verify completion of all required testing.

(Print Name) _____ **(Company Title)** _____

(Signature) _____ **(Dated)** _____

SUBMISSION CHECKLIST

Electromagnetic Compatibility (EMC)

Tick for completed:

Gaming machines shall not be affected in any way by the application of RFI at a frequency range from 27MHz to 1000MHz with a field strength of 3 volts per metre as specified in AS/NZS 61000-4-3 or any other equivalent international standard.	☐

Electrostatic Interference

Tick for completed:

Gaming machines must exhibit total immunity to human body electrostatic discharges on all areas exposed to player contact. Tests will be conducted on the gaming machine with a severity level of ± 15 kV for air discharge, and ± 7.5kV for contact discharge. The testing methodology to be used is defined at AS/NZS 61000-4-2 or any other equivalent international standard.	☐
Gaming machines may exhibit temporary disruption when subjected to a significant electrostatic discharge greater than a human body discharge but they must exhibit a capacity to recover and complete any interrupted play without loss or corruption of any control or data information associated with the gaming machine. Tests will be conducted on the gaming machine with a severity level of ± 25kV for air discharge, and ± 10.0kV for contact discharge. The testing methodology to be used is defined at AS/NZS 61000-4-2 or any other equivalent international standard.	☐

Power Supply

Gaming machines must employ power supply filtering sufficient to prevent disruption to the device after a recovery from any of the following occurrences (orderly shutdown of the device is considered acceptable):

Tick for completed:

(a) Current version of AS/NZS 61000-4-4 or any other equivalent international standard: (b) Application of a fast transient voltage of 2.5 kV to AC power lines (rise: 5 ns, duration: 50 ns), and 1 kV to external I/O lines.	☐
(c) Current version of AS/NZS 61000-4-5 or any other equivalent international standard: (d) Injection of a surge voltage of 2 kV (rise: 1.2 micro Sec, duration: 50 micro Sec) to AC power lines.	☐
(e) Current version of AS/NZS 61000-4-11 or any other equivalent international standard: (f) Voltage dips and interuptions. Continued operation at voltages within the legislated supply variations to which utility companies are required to comply (typically ±10% of 240 volts Australia & 230 volts New Zealand).	☐

TESTER'S Declaration

I the undersigned, being the responsible for the independent testing of the submitted product, declare in relation to the application-

*(**Application Ref. Number**)*, that I am satisfied evidence has been provided which verifies the product is compliant with the above requirements.

(Print Name) _____ **(Company Title)** _____

(Signature) _____ **(Dated)** _____

10. APPENDIX A – REGULATORS

10.1 The Australian/New Zealand Gaming Machine National Standard (the Standard) has been developed by participants from the following gaming regulators:

a) NSW Independent Liquor and Gaming Authority, Department of Trade and Investment General Enquiries Ph +61 2 9995 0599

b) Queensland Office of Liquor and Gaming Regulation, Department of Justice and Attorney-General Ph +61 7 3738 8535

c) Victorian Commission for Gambling and Liquor Regulation Ph 1300 182 457

d) South Australia Consumer and Business Services, Attorney-General's Department Ph 131 882

e) New Zealand: Regulatory Services; Policy, Regulatory and Ethnic Affairs Branch; The Department of Internal Affairs Te Tari Taiwhenua Ph +64 4 495 7200

f) Northern Territory Gambling and Licensing Services Division, Department of Business Ph +61 8 8999 1327

g) ACT Gambling and Racing Commission Ph +61 2 6207 0308

h) Tasmanian Department of Treasury and Finance – Revenue, Gaming and Licensing Division Ph +61 3 6166 4040

i) Western Australia Department of Racing, Gaming and Liquor Ph +61 8 9425 1888

11. APPENDIX B – LIMITS AND PARAMETERS

11.1 The following are definitions of the parameters/limits that will be established for gaming machines. These parameters may be set by the jurisdiction, operator or manufacturer. Some parameters may vary depending upon the gaming machine itself (e.g. there may be a different Hopper Refill amount depending upon relative sizes of hoppers).

[BKNTLIM]	The maximum credit balance which may exist on a gaming machine or account beyond which a note acceptor must be disabled due to a High Credit Balance condition.
[CRECANLIM]	Maximum number of credits payable from the hopper for non-tokenised gaming machines before a cancel credit or ticket pay must be used.
[GAMBWIN]	The maximum win that can be obtained from each single gamble attempt.
[LARGEWIN]	Substantial Win amount - wins greater than or equal to this value must generate a gaming machine Event.
[MAXHOPPER]	Maximum amount of money payable from the hopper for tokenised gaming machines before a cancel credit or ticket pay must be used.
[MAXNPWIN]	Maximum non-progressive win permitted in any game element (any individual primary or feature or gamble or bonus element).
[MAXPWIN]	Maximum progressive win permitted in a gaming machine game.
[MAXRTP]	Maximum theoretical acceptable RTP.
[MAXWAGER]	Maximum wager permitted in a gaming machine game.
[MINRTP]	Minimum acceptable RTP.
[PSAVACT]	The period of time a gaming machine must be in "Idle Mode" before activating power save.

11.2

NAME	**NSW**	**ACT**	**SA** Clubs & Hotels	**SA** Casino
BKNTLIM	$5,000	Not Specified	$99.99	$99.99
CRECANLIM	Set by Operator	Set by Operator	Entered via Setup Mode or CMCS parameter	Set by Operator
GAMBWIN	$10,000	Not specified	$10,000	$10,000 Excluding 'Premium' gaming areas

LARGEWIN	Not specified	Not specified	Set by CMCS parameter (currently $1,000)	Set by Operator
MAXHOPPER	Set by Operator	Set by Operator	Set by CMCS parameter	Set by Operator
MAXNPWIN	$10,000 $500,000 MTGM	Not specified	$10,000	$10,000 Excluding 'Premium' gaming areas
MAXPWIN	$10,000 standalone $100,000 linked	Not specified	$10,000 standalone	Not specified
MAXRTP	Not specified	Not specified	Not specified	Not specified
MAXWAGER	$10 $100 MTGM	$10	$5	$5 Excluding 'Premium' gaming areas
MINRTP	85.00%	87.00%	87.50%	87.50%
PSAVACT	Not required	Not required	Not required	Not required

Name	NT Clubs & Hotels	NT Casinos	TAS	WA Casino
BKNTLIM	$1,000	Not specified	Hotels and Clubs: Not Applicable Casinos: $500	$100
CRECANLIM	Controlled by QCOM, set by Director	No Limit	Set by Operator	Entered via Setup Mode or CMCS parameter
GAMBWIN	Set by Licensed Monitoring Provider	No Limit		$10,000
LARGEWIN	Set by Licensed Monitoring Provider	No Limit	Hotels and Clubs: Set by CMCS Casinos: Set by Operator	$10,000
MAXHOPPER	Controlled by QCOM, set by Director	Set by Operator	Set by CMCS	Entered via Setup Mode or CMCS parameter
MAXNPWIN	Same as Qld Clubs & Hotels	No Limit	Not Specified	Not specified
MAXPWIN	Same as Qld Clubs & Hotels	No Limit	Hotels & Clubs: Standalone - $25,000 Linked - $60,000 Casino: Not specified	Entered via Setup Mode or CMCS parameter
MAXRTP	Less than 100% (refer NT Appendix)	Less than 100%	Not specified	100%
MAXWAGER	$5	No Limit	$5	Not specified
MINRTP	85.00%	85.00%	85.00%	90.00%
PSAVACT	Same as Qld Clubs & Hotels	Not required	Not required	Not required

NAME	QLD Clubs & Hotels	QLD Casinos	VIC Clubs & Hotels	VIC Casino
BKNTLIM	$100	Set by Casino	$1,000	$9,949
CRECANLIM	Controlled by QCOM, set by QOGR	Controlled by QCOM, set by QOGR	Entered via Setup Mode or CMCS parameter	Entered via Setup Mode or CMCS parameter
GAMBWIN	Set by Licensed Operator	Set by Casino	$10,000	Not specified
LARGEWIN	Set by Licensed Operator	Not specified	$10,000	$10,000
MAXHOPPER	Controlled by QCOM, set by QOGR	Controlled by QCOM, set by QOGR	Entered via Setup Mode or CMCS parameter	Entered via Setup Mode or CMCS parameter
MAXNPWIN	$10,000	Not specified	Not specified	Not specified
MAXPWIN	Hotels & Clubs: Standalone - $25,000 Linked - $60,000	Not specified	Not specified	Not specified
MAXRTP	92.00%	Not specified	99.99%	99.99%
MAXWAGER	$5	Not specified	$5	$10 unless the game is operating in unrestricted mode in a specified area.
MINRTP	85.00%	85.00%	85.00%	87.00%
PSAVACT	Required - 15 minutes	Not required	Not required	Not required

NAME	NZ Class 4	NZ Casino
BKNTLIM	$5,979	$5,979
CRECANLIM	Not specified	Entered via Setup Mode or CMCS parameter
GAMBWIN	All total $500	Not specified
LARGEWIN	Not specified	Not specified
MAXHOPPER	Not specified	Entered via Setup Mode or CMCS parameter
MAXNPWIN	$500 for a single play	Not specified
MAXPWIN	$1,000 for a single play of the gaming machine that is linked to other gaming machines	Not specified
MAXRTP	92.00%	Not specified
MAXWAGER	$2.50 for a single play	Not specified
MINRTP	78.00%	87.00%
PSAVACT	Not specified	Not required