SUPPLEMENT to

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RULES OF CASINO KENO AND GAMING MACHINES

CASINO CONTROL AUTHORITY

Notification of Approval for Casino Games and the Rules for those Games

Pursuant to section 63 of the Casino Control Act 1990, the Casino Control Authority on 13 October 1994 resolved that the rules set out in the attached schedule be approved as the rules for approved games to be played on electronic gaming machines, and the game of keno, in the licensed casino at 30-38 Victoria Street, Christchurch.

Ronald MacGregor Irvine
Chairman
Casino Control Authority

SCHEDULE

RULES OF GAMES

DIVISION I - GENERAL RULES

DIVISION II -KENO

DIVISION III - ELECTRONIC GAMING MACHINES

DIVISION IV - GAMING AND MONITORING EQUIPMENT STANDARDS

DIVISION I - GENERAL RULES

1.0 Interpretation

In these rules, unless the contrary intention appears:

"**Act**" means the Casino Control Act 1990;

"**Authority**" means the Casino Control Authority established by section 7 of the Act;

"**Casino**" means a casino licensed under the Act;

"**Casino Operator**", in relation to a casino, means the operator for the time being of the casino, being the holder of a casino operator's licence;

"**Casino Operator's Licence**" means the licence granted to a casino operator under section 37 of the Act;

"**Casino Premises**", in relation to a casino, means the area defined as constituting the casino in the casino premises licence, which shall include any building or room in which games are conducted and played and in which money counting, surveillance, storage, and other activities related to the conduct and playing of games are carried on;

"**Casino Premises Licence**" means the casino premises licence issued under section 31 of the Act in relation to a casino;

"**Certificate of Approval**" means a certificate of approval as an employee in a casino issued under section 57 of the Act;

"**Chips**" means any tokens used or capable of being used in a casino in the conduct of gaming in the place of money and approved for the purpose by the Authority, but shall not include tokens approved solely for use in gaming machines;

"**Electronic Gaming Machine**" means:

(a) a mechanical, electrical, electro-mechanical or electronic machine or device played, used or operated for the purpose of obtaining by chance, or by a combination of chance and skill, money or goods or services, or tokens or chips or credits representing money or goods or services, and
(b) in respect of which direct or indirect consideration is paid to participate,

but does not include a random selection device used in the game of keno;

"Gaming Area", in relation to a casino, means the area of the casino designated by the Authority as the area in which gaming is to be conducted;

"Gaming Machine" means an electronic gaming machine;

"Government Inspector" means an inspector appointed under section 80 of the Act;

"**Keno Supervisor"** means any person employed or working in a casino who is responsible for the supervision and management of the conduct of the game of keno, and includes any person for the time being acting as a keno supervisor;

"Secretary" means the Secretary to the Authority;

"Void" means:

(a) in relation to a wager, that the wager shall neither win nor lose and shall constitute a stand off,
(b) in relation to a hand, round or keno draw, an invalid hand, round or draw with no result.

2.0 Application of Rules

2.1 These rules shall apply to the games described herein, being games that may be conducted or played in a casino pursuant to the casino premises licence and the casino operator's licence, and shall be binding on the casino operator and its employees and agents.

2.2 By participating in a game a player undertakes to comply with and be bound by these rules and to accept as binding the decisions made by the casino operator and its employees and agents pursuant to these rules.

3.0 Tips

No person employed in a casino in any capacity relating to the conduct of gaming, and no other holder of a certificate of approval employed in or associated with a casino, may solicit or accept any tip, gratuity, consideration or other benefit from any player or customer in the casino.

4.0 Advice

A player shall not be advised by an employee of the casino on how to play, except to ensure compliance with these rules.

5.0 Side Bets

Players and spectators are not permitted to have side bets with or against each other.

6.0 Disputes/Complaints

6.1 Any dispute or complaint arising from these rules or not covered by the provisions of these rules shall be referred for decision in the first instance:

(a) where the dispute or complaint relates to the conduct of a game of keno, to the keno supervisor;

(b) where the dispute or complaint relates to a gaming machine, to the gaming machine shift manager,

subject to a right of review by a more senior casino employee, if requested, whose decision shall be final subject to a review by a Government inspector, if requested.

6.2 Complainants in all unresolved disputes shall be advised of the presence of, and their right to consult, a Government inspector.

6.3 A copy of these rules shall be made available for inspection upon request.

7.0 Minimum Age

No person under the age of 20 years shall be permitted to enter or remain in any part of the gaming area of a casino.

8.0 Entry/Exclusion

The fact that a casino is licensed under the Act shall not entitle any person to enter or remain on the casino premises as against the holder of the casino premises licence or the casino operator's licence; and, subject to any right conferred by or under any Act, every person shall leave the casino premises when required to do so by or on behalf of the holder of the licence.

9.0 Use of Calculators and Other Devices Prohibited

9.1 A person shall not, either alone or in concert with any other person, use or have in his/her possession or control, at or near a gaming table or location related to the playing of a game, a calculator, computer, or any other electronic, electrical or mechanical apparatus or device that is capable, with respect to a game or a part thereof, of recording, projecting or analysing an outcome or the changing probabilities or the playing strategies to be used.

9.2 A person shall not, either alone or in concert with any other person, use or have in his/her possession or control, at or near any gaming machine or location related to the playing of a gaming machine, a calculator, computer, or other electronic, electrical or mechanical apparatus or device that is capable, with respect to the gaming machine or a part thereof, of interfering with the proper or normal operation of the machine or a part thereof.

9.3 Where the casino manager or shift manager is satisfied that a player has contravened any provision of rule 9.1 or 9.2 of this division, he/she may:

(a) declare that any wager made by the player shall be void; and

(b) direct that the player be excluded from further participation in the game.

9.4 Rules 9.1 and 9.2 of this division shall not apply to possession, use or control by an agent or employee of the casino operator, a Government inspector or a member of the Police, where such person is acting in the course of his/her duty.

10.0 Invalidation of Games

10.1 The casino operator may invalidate the outcome of a game if:

(a) the game is disrupted by civil commotion, fire, riot, brawl, robbery or an act of God; or

(b) any fraudulent act is perpetrated by any person that, in the sole opinion of the casino operator, affects the outcome of the game.

10.2 Where the outcome of a game is invalidated pursuant to rule 10.1 of this division, all wagers made by the players for that particular result shall be refunded, provided that the casino operator may direct that the wager of any person referred to in rule 10.1(b), being a player, be forfeited.

11.0 Wagers

11.1 A player shall not make, and the casino operator, its employees and agents shall not accept, in connection with any game, a wager if the wager is not expressly permitted by the rules of the game.

11.2 Where the rules of a game provide for wagers to be made with or represented by chips, such chips shall be value chips (i.e. chips marked with denominations of value) unless the rules permit non-value chips (i.e. chips without denomination markings) to be used.

DIVISION II - KENO

1.0 Interpretation

In this division, unless the contrary intention appears:

"Catch" means the spots drawn as winning numbers in a game of keno;

"Draw" means the random selection from a keno drawing device of the twenty winning numbers for any game of keno;

"Entry Form" means a form, issued by the casino operator and approved by the Authority, containing the numbers one to eighty, on which a player wishing to wager on keno may mark his/her selection of a number or numbers;

"Keno Day" means a period of 24 hours fixed by the casino operator, or such other period as a Government inspector may approve, identified by the calendar day on which that period commenced;

"Keno Drawing Device" means a machine or computer capable of containing eighty numbers or balls, twenty of which are necessary to establish a result;

"Keno Runner" means a casino employee responsible for the transfer of receipt tickets, entry forms, wagers and winnings, on behalf of a player, to and/or from a writer terminal;

"Keno Writer" means a casino employee responsible for the operation of a writer terminal;

"Main Game" means the place where the keno drawing device is located;

"Major Prize" means any prize of $200 or more;

"Match" means a number selected that is included in the winning numbers drawn in a game of keno;

"Receipt Ticket" means the printed ticket, the form of which shall be approved by the Authority, produced or validated by the writer terminal, showing the wagering details selected or requested by the player or (where applicable) selected by the keno computer for and at the request of the player;

"Special Entry" means a form of entry where the player has nominated to enter an alternative schedule of prizes and which attracts prizes paid in accordance with rules 12.2, 12.3 or 12.4;

"Standard Entry" means a wager made on the choice of one to ten numbers from the eighty numbers provided in the keno drawing device and may include entry into a jackpot;

"Spot" means a number marked on a receipt ticket wagered on by a player;

"Voucher" means any voucher issued by a casino operator which is or is capable of being used in the casino for the purpose of placing wagers at keno, and is approved for that purpose by the Authority;

"Wager" means the amount charged to enter a keno game;

"Way" means an individual selection of numbers that are to be played on a receipt ticket;

"Writer Terminal" means the keno computer terminal used for the processing of entries, issuing of receipt tickets and processing of claims.

2.0 Equipment and Supervision of the Game

2.1 The game of keno shall be played with:

(a) a keno drawing device of a type approved by the Authority, which may be either:

i) a ball drawing device, designed to select at random and one at a time the twenty winning numbers necessary to establish the results of each game of keno, or

ii) a computer-based random number generator designed to select at random the twenty winning numbers necessary to establish the results of a game of keno,

and shall comply with the applicable provisions of Division IV of these rules and shall operate, when activated, in accordance with rule 7.4 of this division; and

(b) the use of a computer system of a type approved by the Authority, which will record entries into and the results of the games and facilitate the payment of winnings, and shall contain hardware and software components necessary for the performance of these functions and comply with the applicable provisions of Division IV of these rules.

2.2 The ball drawing device referred to in rule 2.1 of this division shall consist of a spherical wire cage which rotates in either direction on a horizontal axis, with wire retaining arms on either side of the cage in which the twenty winning balls drawn to decide the results of a keno game are contained. The cage shall have a removable aperture which incorporates guides which locate the ball drawn until it emerges from the exit chute where it eventually rests with nineteen counterparts in the two retaining arms.

2.3 Where the keno drawing device is a ball drawing device, eighty keno balls, numbered one to eighty but otherwise the same in all respects, shall also be used in the game.

2.4 Where the keno drawing device is a ball drawing device, at the start of each keno day eighty balls, numbered 1 to 80 but otherwise the same in all respects, shall be, in the presence of a Government inspector, secured in the device.

2.5 Where the keno drawing device is a ball drawing device, a keno supervisor shall, at the beginning of each keno day, inspect all the balls therein for faults or flaws and ensure that any defective balls are replaced.

2.6 A keno supervisor shall be present while the game of keno is in progress and shall be responsible for:

(a) ensuring that the game is conducted in accordance with these rules;

(b) the drawing, calling, entering into the computer and notification on all display boards of each number drawn; and

(c) the correct settlement of all winning wagers.

3.0 Entry and Entry Forms

3.1 An entry into a game of keno may be made only through a writer terminal. For a player to be eligible for inclusion in a game, a receipt ticket must be issued to the player and the details of that ticket recorded and stored in the keno computer system.

3.2 A player may make a wager by:

(a) submitting an entry form; or

(b) verbal request; or

(c) requesting an official computerised QuickKeno ticket, Mystery QuickKeno ticket or Set Bet ticket.

3.3 A QuickKeno ticket is a type of receipt ticket bearing a number or set of numbers selected at random by the computer after the player has specified how many numbers are required.

3.4 A Mystery QuickKeno ticket is a type of receipt ticket bearing a number or set of numbers selected at random by the computer, which also selects the number of numbers to be played.

3.5 A Set Bet ticket is a type of receipt ticket chosen from a catalogue of pre-selected ticket types. These entries may be either fixed, that is the numbers

illustrated must be played, or random, in which case the numbers illustrated are changed for a selection chosen by the computer.

3.6 A player who elects to submit an entry form shall hand the form, together with the amount of the wager, to a keno writer personally or through a keno runner.

3.7 An entry form shall be printed with:

(a) squares containing the numbers 1 through to 80;

(b) squares for the selection of:

i) the amount to be wagered on each game (which may or may not be predetermined),
ii) the number of games to be played (which may or may not be predetermined), and
iii) where applicable, special entry options; and

(c) such further particulars or information as the Authority may require.

3.8 A player shall, by placing a mark in the desired square or in each of the desired squares, select:

(a) the number(s) on which he/she wishes to wager, which may be a single number or two or more numbers as provided in the relevant schedule of prizes;

(b) the amount being wagered on each game;

(c) the number of games in which the entry form is to be entered, which may be a single game or two or more games, up to a maximum of 1,000; and

(d) where applicable, any special entry option that may be required, by means of the appropriate special entry box.

3.9 A player who elects to make a verbal request shall indicate to a keno writer:

(a) the number(s) selected, which may be a single number or two or more numbers as provided in the schedule of prizes;

(b) the amount being wagered on each game;

(c) the number of games to be played, which may be a single game or two or more games, up to a maximum of 1,000; and

(d) where applicable, any special entry option that may be required,

and tender the amount of the wager to the keno writer. A keno runner will not accept verbal entries of this type.

3.10 A player who elects to receive a QuickKeno ticket shall request a keno writer to issue such a ticket, indicating:

(a) how many numbers are required to be selected;

(b) the amount being wagered on each game; and

(c) the number of games in which the ticket is to be entered, which may be a single game or two or more games, up to a maximum of 1,000,

and tender the amount of the wager to the keno writer.

3.11 A player who elects to receive a Mystery QuickKeno ticket shall request a keno writer to issue such a ticket, indicating:

(a) the amount being wagered on each game; and

(b) the number of games in which the ticket is to be entered, which may be a single game or two or more games, up to a maximum of 1,000,

and tender the amount of the wager to the keno writer.

3.12 A player who elects to receive a Set Bet ticket shall request a keno writer to issue such a ticket, indicating:

(a) the pre-selected ticket type required; and

(b) where applicable, whether the entry is fixed or random,

and tender the amount of the wager to the keno writer.

3.13 Upon receipt by a keno writer of the entry from, verbal request or request for a QuickKeno ticket or Mystery QuickKeno ticket or Set Bet ticket, the entry details requested shall be entered into the writer terminal by the writer, who shall issue to the player an official computerised receipt ticket marked with the following:

(a) the number(s) marked, requested by the player, or selected by the keno computer;

(b) the amount wagered per game;

(c) the number of games entered;

(d) the total amount wagered;

(e) the keno writer's name and/or identification number;

(f) the time and keno day of issue;

(g) the terminal number;

(h) the ticket serial number;

(i) the numbers of the first and last games for which the ticket is valid;

(j) a machine-readable identification bar code;

(k) where the ticket is a special entry, QuickKeno ticket, Mystery QuickKeno ticket or Set Bet ticket, an indication to that effect.

3.14 A receipt ticket shall be in a form approved by the Authority and may contain other information and particulars not inconsistent with these rules.

3.15 The entry form shall be returned to the player if the wager was placed through a keno runner, but otherwise only on request.

3.16 The casino operator shall not be liable if a keno runner is unable to place a wager before the closure of a particular game. In that event the keno runner shall endeavour to place the wagers taken from players prior to the next available game.

3.17 It is the responsibility of the player to ensure that the wager details on the receipt ticket issued are those required by the player.

3.18 Particulars recorded on the receipt ticket that are inconsistent with the particulars stored in the keno computer system shall be determined in accordance with the information recorded in the system.

3.19 Any claim for a payment on the grounds that a receipt ticket is incomplete or incorrect in any particular shall be determined in accordance with the details contained in the computer memory.

4.0 Wagers

4.1 Wagers may be placed by the use of cash, chips or vouchers, or by the tender of a winning receipt ticket. This rule shall apply subject to the conditions upon which any voucher tendered was issued by the casino operator.

4.2 The minimum wager for a game shall be $2.00 and increments shall be in multiples of $1.00 per game to a maximum of $9,999 for a single receipt ticket issued.

4.3 The minimum and maximum permissible wagers shall be displayed on a notice at or near the writer terminal or writer terminals.

4.4 No wager may be placed or withdrawn after the game wagered upon has closed.

5.0 Jackpots

5.1 The casino operator may, in its discretion and subject to the approval of the Authority, conduct progressive jackpot keno games on approved spot games.

5.2 Should the casino operator conduct jackpot games on more than one spot game at a time, the jackpots in each such spot game shall be separate.

5.3 Jackpot keno games shall be conducted in accordance with this part of the rules.

5.4 The minimum wager for a jackpot entry shall be $2.00 per way and increments shall be in multiples of $1.00.

5.5 The jackpot pool to be distributed to players shall be established as provided by this part.

5.6 The guaranteed minimum jackpot prize (ie. jackpot reset value) shall be not less than the relevant amount specified in the relevant schedule of prizes.

5.7 Where an entry into a jackpot is made, a percentage of the wager shall be credited to the relevant jackpot pool for the jackpot ticket type. The percentage(s) by which jackpots will be incremented shall be approved by the Authority.

5.8 Where a jackpot is operated, the receipt ticket shall be a wager in the jackpot and a wager in the standard game, subject to rule 5.11.

5.9 The winner of the relevant jackpot pool shall be the player who has a "total catch", for example having selected all six out of six, or all eight out of eight, numbers during any jackpot game.

5.10 Where, in any one game, two or more players have selected the winning jackpot numbers drawn in that game, the relevant jackpot pool shall be shared

between those players in proportion to the number of winning receipt tickets and the amount wagered on each of those receipt tickets.

5.11 The payment of a jackpot pool, or any share thereof, to which a player is entitled under this part shall be in substitution for the amount the player would otherwise be entitled to receive in accordance with the relevant schedule of prizes.

5.12 All jackpot entries up to but not including 100% matches shall be paid in accordance with rule 8.

5.13 No jackpot shall be paid until the video recording (if any) of the draw of the relevant game has been examined and verified by a Government inspector.

5.14 Subject to rule 5.10, the amount of a jackpot prize shall be in accordance with the amount of the relevant jackpot pool, irrespective of the amount wagered by the player on the receipt ticket; jackpot prizes payable are not adjusted for wagers in excess of the minimum.

5.15 Rules 8.2 to 8.5, 8.11 and 8.12 shall apply to wagers on jackpot receipt tickets.

6.0. Cancelled Tickets

6.1 Subject to rule 6.2, a refund will be allowed on a receipt ticket that is valid for a game or games of keno that has or have not yet closed, in relation to such game or games.

6.2 When the games nominated on a multi-game receipt ticket have not all been run by the end of the keno day on which the wager is accepted, no cancellation of the remaining games shall be permitted after the end of that keno day.

7.0 Closing the Game and Drawing Winning Numbers

7.1 No receipt ticket shall be produced or validated for a particular game of keno once the keno drawing device has been activated for that game.

7.2 The draw of all winning numbers will take place in the casino in a manner that allows the players to view each drawing if they so choose.

7.3 At the close of each game of keno and before the draw, players shall be notified by means of display boards located in the playing areas that the particular game is closed.

7.4 When activated, whether automatically or manually, a keno drawing device shall:

(a) rotate in one direction for at least one revolution, so that any balls held in the retaining arms re-enter the main body of the device, then the device shall rotate in the other direction drawing one ball each revolution until twenty balls are drawn; or

(b) operate in such other manner as is designed to ensure the random selection of the twenty balls or numbers.

7.5 Twenty numbers shall be randomly selected by the keno drawing device for each game. These numbers shall represent the twenty numbers related to the 'catch' of each individual wager.

7.6 The winning numbers shall be displayed at various locations in the casino.

7.7 The keno supervisor and two keno writers shall attend the draw, when it is made using a ball drawing device, and shall record the winning numbers independently of one another. The results shall then be input into the keno computer system to facilitate the payment of prizes.

7.8 The keno supervisor shall monitor the draw, when it is made using a computer-based random number generator. The process of drawing and recording numbers is completely automatic and the draw shall be entered into the keno computer system electronically.

8.0 Winning Wagers and Payment of Prizes

8.1. A winning wager by a player shall be one where:

(a) the selection of a number or numbers for a particular game matches a number or numbers selected by the keno drawing device as (a) winning number(s) for that game; and

(b) the catch represents a winning wager in accordance with the schedule of prizes,

but otherwise the wager shall lose.

8.2 A player can win only on the game or games corresponding with the game number or numbers which appear on the receipt ticket and have been captured by the writer terminal.

8.3 All winning wagers shall be paid:

(a) through a writer terminal; and

(b) in accordance with the applicable schedule of prizes contained in rule 12, and as provided in this rule, subject, in the case of winning wagers on jackpot receipt tickets, to the provisions of rule 5.

8.4 Subject to rule 8.12, a winning wager shall not be paid except upon the presentation of the relevant receipt ticket.

8.5 After payment, winning receipt tickets presented for payment shall be retained by the keno writer as a record of payment.

8.6 The maximum payout on any individual way played on a single receipt ticket in a game (excluding jackpot tickets) shall be $100,000, regardless of the amount wagered.

8.7 The maximum aggregate payout for all major prizes in a single game, excluding jackpot prizes, shall be $125,000. If the major prizes in any one game total more than $125,000, those prizes shall abate and be pro-rated so that the total payout for the prizes does not exceed $125,000.

8.8 For the purposes of abatement under rule 8.7, the share of a winning receipt ticket in the aggregate payout shall be directly proportionate to the amount which, but for the process of abatement, the ticket would have won.

8.9 Notwithstanding rules 8.7 and 8.8, if abatement is required in accordance with rule 8.7, no major prize shall be reduced below $1,000.

8.10 All jackpot entries up to but not including 100% matches shall be paid in accordance with rules 8.3, 8.6 and 8.7 and shall also be subject to abatement.

8.11 All winning wagers shall be paid out in cash, except that a major prize or a prize resulting from a claim under rule 8.12 may be paid by cheque.

8.12 If a receipt ticket is submitted by a player for processing and cannot be read by the writer terminal or a keno writer, or the receipt ticket has been lost, a claim for payment may be made by the submission to the casino operator of an Unclaimed Prize Claim Form. Where the claimant satisfies the casino operator of the authenticity of the claim, payment shall be made, subject to the approval of a Government inspector. The form of the Unclaimed Prize Claim Form shall be approved by the Secretary.

9.0 Unclaimed Prizes

9.1 The computer system shall retain details of prizes for at least twelve months after the keno day on which the win was recorded.

9.2 After a period of twelve months from a win being recorded but remaining unclaimed, the player shall cease to have any claim in relation to the prize. The casino operator shall, as soon as practicable thereafter, apply the amount of the prize to such purpose or purposes as the Authority may approve.

9.3 The casino operator shall record such particulars of all unclaimed prizes applied pursuant to rule 9.2, and of all unclaimed prizes held by it prior to such application, as the Secretary may require.

10.0 Game Closure

The casino operator may close keno prior to the close of gaming, provided that twenty minutes' prior notice of the closure is given to players and to a Government inspector. This rule applies subject to any restrictions relating to the hours during which the casino may operate.

11.0 Irregularities

11.1 In the event of an equipment malfunction which has not compromised the integrity of the draw, or an error in the transfer of winning numbers from the keno drawing device to the display boards or monitors, the winning numbers on the twenty balls drawn shall be the official record, unless those numbers were drawn by a random number generator, in which case the numbers recorded by the keno computer shall be the official record.

11.2 A draw shall be invalid if a ball or number is retained in the keno drawing device in such a manner that it is prevented from forming part of the draw.

11.3 If fewer than eighty numbers are in the keno drawing device at the commencement of the draw, that draw shall be void and a new draw commenced.

11.4 Under a system using a ball drawing device operating mechanically:

(a) if a keno ball breaks and a portion of the ball is drawn as a winning number, that number shall be declared void and shall not be counted as a valid number. A further ball shall be drawn to complete the twenty winning numbers and the draw shall otherwise be declared a valid draw. The keno supervisor shall remove the broken ball from the device and replace it with a new ball in the presence of a Government inspector prior to the conduct of any further draws on the device;

(b) In the event of a malfunction of a keno drawing device during a game draw, the keno supervisor shall turn the keno drawing device manually to complete the draw of winning numbers. No further draw using that device shall be conducted until the device is repaired;

(c) In the event of a malfunction in which a ball drawn falls back into the drawing device prior to the completion of the draw and subsequent to the number of the ball being entered into the keno computer system, the ball which dropped back into the device shall be:

i) if there is no video recording of the game showing the number on that ball, deemed not to have been drawn, and a further ball shall be drawn manually by rotating the drawing device to complete the draw,

ii) if there is a video recording of the game showing the number on that ball, deemed to have been drawn as a winning number, and the draw shall continue accordingly, by manually rotating the drawing device, until the twenty winning numbers have been selected. The video recording of the game draw shall be examined and verified by a Government inspector before any winnings are paid on the draw;

(d) Sub-paragraph (c) shall apply where more than one ball drawn falls back into the device during any particular game draw.

11.5 In the event of a computer malfunction no further games will be conducted until the malfunction has been rectified and a Government inspector has been notified of the proposed re-commencement.

11.6 In the event that a game cannot be continued, all numbers drawn will be declared null and void and wagers will be carried forward to the next game played, or be refunded on presentation of receipt tickets should a further game within the same keno day not be possible.

11.7 If, after twenty winning numbers have been selected, a malfunction prevents the transmission or acceptance of the results by the computer, that draw shall be valid. Manual payments shall be effected on the numbers selected. No further draw shall take place until the malfunction has been rectified.

11.8 A Government inspector shall be notified immediately of any malfunction of keno equipment or of the incorrect display of numbers on the keno display boards or monitors.

12.0 Schedule of Prizes

12.1 Standard Schedule of Prizes

The following schedule shall be the schedule of prizes for the purposes of the game of keno, provided that the casino operator may from time to time, subject to the prior approval of the Secretary, elect to use any one or more of the alternative schedules of prizes set out in rules 12.2, 12.3 and 12.4.

The following schedule of prizes is based on a minimum wager of $2.00. Increments over the minimum wager shall be in units of $1.00.

Numbers Selected (i.e. number of spots)	1 $	2 $	3 $	4 $	5 $
Match 1	6	2	0	0	0
Match 2		12	4	2	2
Match 3			70	10	4
Match 4				200	20
Match 5					500

Numbers Selected	6 $	7 $	8 $	9 $	10 $
Match 3	2	2	0	0	0
Match 4	10	4	4	4	2
Match 5	150	40	20	10	4
Match 6	*2,500	500	100	50	30
Match 7		10,000	1,000	500	250
Match 8			*50,000	2,500	1,000
Match 9				75,000	10,000
Match 10					100,000

* Denotes the minimum guaranteed jackpot prize, ie. jackpot reset value.

The amounts listed under each "Numbers Selected" column for various matches (ie. catches), denote the prizes to which a player is entitled in any one game for minor prizes and the maximum payout for major prizes, subject to rules 8.6 and 8.7 of this division.

12.2	Special Schedule of Prizes: One	)	These schedules are reserved for promotional events to be notified, subject to the approval of the Secretary.
12.3	Special Schedule of Prizes: Two	)	
12.4	Special Schedule of Prizes: Three	)	

DIVISION III - ELECTRONIC GAMING MACHINES

1.0 Interpretation

In this division, unless the contrary intention appears:

"Base Denomination" means the value of one credit or play on an electronic gaming machine;

"Double Up" or **"Gamble"** means a doubling option on an electronic gaming machine that may be activated at the election of a player, by pressing a button marked "Gamble" or "Double Up" following a win;

"Electronic Monitoring System" means any electronic or computer system or device that is designed so that it may be used, or adapted, to communicate with and process data in relation to the security, accounting or operation of gaming equipment;

"Game", in relation to a gaming machine, means a game designed to be played on that machine and identifiable from all other games played on that machine by differences in rules, mode of operation or physical appearance;

"Gaming Equipment" means any:

(a) gaming machine, or
(b) game, or
(c) linked jackpot equipment, or
(d) electronic monitoring equipment, or
(e) credit transfer or card reading devices, or
(f) ticket printer, or
(g) other equipment or device that may influence or determine the outcome of a game on a gaming machine;

"Linked Jackpot" means a progressive jackpot that may be won on a machine contributing to the jackpot when a stipulated symbol configuration or other specified outcome is achieved by the player on the reels, cards or other specified medium, with sufficient credits having been wagered to be eligible for the jackpot;

"**Linked Jackpot Arrangement**" means an arrangement whereby one or more gaming machines in a casino are linked to a device, being a device:

(a) that records, from time to be time, an amount which, in the event of a jackpot or other result being obtained on one of those machines, may be, or part thereof may be, payable as winnings through or from that machine, and

(b) that, for the purpose of recording the amount referred to in sub-paragraph (a), receives data from each gaming machine to which the device is linked, and
(c) that is not capable of affecting the outcome of a game on a gaming machine to which the device is linked;

"Linked Jackpot Equipment" means any jackpot meter, payout display, linking equipment, computer equipment, programming or other device (other than a gaming machine) forming, or capable of forming, part of a linked jackpot arrangement;

"Mystery Jackpot" means a progressive jackpot that is won by a player on a machine contributing to the jackpot, who is selected at random in accordance with these rules;

"Progressive Jackpot" includes a linked jackpot and a mystery jackpot;.

"Take Win" or "Take Score" means an option for a player on an electronic gaming machine with a "Gamble" or "Double Up" option, who may elect not to gamble by pressing the "Take Win" or "Take Score" button and completing the game;

"Token" means any token used or capable of being used in a casino in the conduct of gaming on a gaming machine in the place of money and approved for the purpose by the Authority;

"Tokenisation" means the conversion of a token or coin inserted into an electronic gaming machine into a multiple number of credits;

"Unit" means the denomination of a coin or token accepted by an electronic gaming machine.

2.0 Equipment

2.1 All gaming machines and games played on gaming machines, and all other gaming equipment used in the conduct of such games, in a casino shall be of a type approved by the Authority and shall comply with all applicable provisions of Division IV of these rules.

2.2 Where an electronic gaming machine is adapted for tokenisation, it shall display:

(a) the unit which the machine accepts; and
(b) either:
    i) the base denomination of the game, or

ii) the number of machine credits provided by the insertion of a single unit.

3.0 Operation of Electronic Gaming Machines

3.1 The rules of play for each game to be played on an electronic gaming machine are displayed on the artwork or screen of the gaming machine as approved in accordance with Division IV of these rules.

3.2 The game will be initiated by the player activating the appropriate game start function.

3.3 Options of play are in accordance with the rules of play for each game as displayed on the machine's artwork or screen. These options are initiated by the player activating the appropriate function(s) on the machine.

3.4 Tokens may be inserted into all machines that accept tokens, and coins of the appropriate denomination into all machines that accept coins, to obtain credits at any time unless the machine is showing an alarm condition or a payout is in progress.

3.5 It is the responsibility of the player to ensure that the correct number of credits is wagered per line, and that the correct number of lines is selected per game.

3.6 It is the responsibility of the player to check that coins or tokens inserted into the gaming machine increment the credit meter correctly.

3.7 A player's credits shall be displayed on either the video screen or an illuminated display.

3.8 A player's winnings shall be displayed on either the video screen, an illuminated display or a jackpot display meter.

3.9 Winnings may be used by the player for further game plays or returned by the machine when the player activates the appropriate cash out function.

3.10 Before a player ceases playing on a particular electronic gaming machine, the player shall clear the machine of all credits and shall complete the final game.

3.11 No person shall attempt to operate a gaming machine with any object or device other than New Zealand legal tender or a valid token.

3.12 No person shall tilt, rock, or in any way damage or interfere with an electronic gaming machine, nor shall any person seek to gain any undue

advantage from any manipulation of any gaming equipment or any part thereof.

3.13 A player shall not be entitled to a prize on an electronic gaming machine unless that prize results from the legitimate attainment of the prize on the machine.

3.14 Machine overpays are not the property of the player. All coins and tokens in electronic gaming machines shall remain the property of the casino operator until won by a player in accordance with the approved rules of the game.

3.15 The casino operator may restrict a player to playing one gaming machine at any one time.

3.16 The casino operator may close gaming on any electronic gaming machine(s) prior to the close of gaming, provided that 30 minutes' prior notice of the closure is given to the players and to a Government inspector. This rule applies subject to any restrictions relating to the hours during which the casino may operate.

4.0 Payouts

4.1 At the end of any game a player may collect his/her credits displayed on the video screen or illuminated display, or his/her winnings, by activating the appropriate cash out function on the electronic gaming machine.

4.2 Credits or winnings may be paid by the machine by returning coins or tokens to the coin tray unless the accumulated credits, as indicated on the video screen or illuminated display, are in excess of a payout limit fixed by the casino operator and approved by the Secretary. Where the indicated credits exceed the machine payout limit, those credits will be paid to the player manually by procedures approved by the Authority, and the credits so paid will be cancelled from the machine. This rule shall apply subject to rules 4.5 and 5.10.

4.3 Prizes shall be paid in accordance with the schedule of prizes displayed on the artwork and/or the screen of the relevant gaming machine, and/or, where applicable, on the relevant jackpot display meter, subject to these rules.

4.4 A player entitled to receive a manual payment shall both verify the amount of the payment and acknowledge receipt of that payment by signing the appropriate hand payment form.

4.5 A casino operator shall have the right to request a player to play out any credits where the value of such credits is less than $2. In the event the player

declines the request, the casino operator will process a manual payment to the player.

4.6 Prizes, coin or token issues, and coin or token redemptions payable by the casino operator will wherever possible be paid immediately in the form requested by the player. The casino operator may however delay payment subject to further verification of a player's entitlement, delay payment to a mutually agreed later time, pay the prize other than in the form requested by the player, and request appropriate forms of personal identification from the player.

4.7 The casino operator may withhold or void the payment of any prize, coin issue or token issue, or demand the return of any prize, coin issue or token issue, if in its opinion there are grounds to do so, until such time as the casino operator has completed an investigation and made a determination. A player or his/her representative may be present during the verification process.

5.0 Jackpots

5.1 The casino operator may from time to time provide for the payment of jackpots to the players of electronic gaming machines.

5.2 The value of each progressive jackpot game conducted in the casino shall be displayed on a meter located in a prominent position in relation to the electronic gaming machines which contribute to it.

5.3 The following matters shall be subject to the prior approval of the Authority:

(a) the number and type of electronic gaming machines that may be linked together for the purpose of providing a jackpot amount that increases progressively;
(b) the minimum amounts of jackpots;
(c) the incremental amounts by which jackpots shall be progressively increased;
(d) the maximum amounts of jackpots, where applicable.

5.4 A linked jackpot will operate by adding a percentage of a machine's turnover to a linked jackpot pool.

5.5 The winner of a linked jackpot pool will be determined in accordance with the specific rules of the game as displayed on the machine artwork or screen. Subject to rule 5.11 of this division, the winner of the linked jackpot pool will win the prize indicated on the linked jackpot display, in addition to any other concurrent winnings that may be payable in accordance with rule 4.3.

5.6 A mystery jackpot will operate by adding a percentage of a machine's turnover to a mystery jackpot pool.

5.7 The winner of a mystery jackpot pool will be selected at random by a process approved by the Secretary. The winner of a mystery jackpot pool will win the prize indicated on the mystery jackpot display, in addition to any other concurrent winnings that may be payable in accordance with rule 4.3. The number of the machine winning the mystery jackpot pool will be indicated on the mystery jackpot display.

5.8 Minimum and maximum mystery jackpot amounts shall be displayed on the mystery jackpot display.

5.9 It is the responsibility of a player to ascertain whether he or she has won a mystery jackpot, but the casino operator shall inform a winning player as soon as possible after becoming aware of such a win, should the player not already have displayed his/her awareness of the win.

5.10 Jackpot wins as indicated on the relevant jackpot meter may be paid to the player through manual payment procedures approved by the Authority, and the amount so paid will be cleared from the jackpot meter. Rule 4.4 of this division shall apply to any such payment.

5.11 Where two or more players are eligible for payment of the amount displayed as the linked jackpot on the relevant meter, the following provisions shall apply:

(a) the minimum amount of the jackpot shall be payable in full to each such player; and
(b) the balance of the jackpot amount shall be shared equally among the winning players.

5.12 Two or more players shall be eligible for a linked jackpot if:

(a) all of the players obtain the winning combination at the same time; or
(b) i) one or some of the players obtain the winning combination at the same time, and
ii) the linked jackpot arrangement allows other players on gaming machines forming part of the arrangement to complete wagers made before, or at the same time as, the winning combination was obtained, and
iii) in completing such wager(s) before further play is prevented, another player obtains, or other players obtain, the winning combination as a result of such wager(s).

6.0 Rules Specific to Video Keno

6.0 Rules Specific to Video Keno

6.1 The purpose of the game is for the player to match numbers selected by him/her with the numbers drawn by the electronic gaming machine.

6.2 A player may:

(a) select from two to ten numbers from the range of numbers 1 to 80 inclusive;

(b) wager one or more credits, up to the maximum number of credits allowed by the electronic gaming machine;

(c) activate the appropriate game start function to initiate a random draw by the electronic gaming machine of twenty numbers in the range of numbers available.

6.3 The electronic gaming machine will display the winning results.

6.4 The value of the player's wager and the number of matched numbers will determine the payout on a game.

6.5 After the first draw is completed, a player may elect to have an additional two numbers drawn, by pressing the "Bet Extra Ball" button when illuminated, for an additional wager equal to the original wager.

7.0 Rules Specific to Video Poker

7.1 The purpose of the game is for the player to attain, with the cards dealt to the player's hand, one pair of jacks or a pair of higher value cards, two pairs, Three of a Kind, a Straight, a Flush, a Full House, Four of a Kind, a Straight Flush or a Royal Flush.

7.2 The value of the cards shall be as follows:

(a) subject to these rules, aces may count as ace high or ace low;

(b) all other cards shall count as their face value.

7.3 Each game utilises one deck of fifty-two cards which shall be shuffled electronically after each game.

7.4 A player, after wagering sufficient credits and activating the appropriate game start function, shall receive five cards dealt face up on the initial deal.

7.5 A player may choose to hold any or all of the cards dealt on the initial deal by activating the appropriate function(s).

7.6 Cards which have not been held will be discarded electronically when the appropriate function is activated.

7.7 A player shall then, by activating the appropriate function, receive the same number of further cards dealt to his/her drawn hand as were discarded from the initial deal.

7.8 A player shall win if his/her drawn hand corresponds to a winning combination in the prize schedule for the game.

7.9 The value of a player's wager shall determine:

(a) the value of the payout on a winning hand; and

(b) the player's eligibility for any jackpots that may be available.

7.10 After receiving a winning hand a player may elect to "Double Up" or "Gamble", should such a feature be available on the game. A player who, after electing to double up:

(a) wins; or

(b) selects a card of equal value to the dealer's card,

shall have a further option to double up.

7.11 A player may continue to "Double Up" or "Gamble" following a winning combination until:

(a) five such consecutive "Double Up" or "Gamble" wagers have been made; or

(b) the accumulated credits are in excess of the maximum wager accepted by the machine,

whichever occurs sooner.

7.12 Where a player elects to "Double Up":

(a) a card, referred to as the dealer's card, will be displayed in the position of the first card on the extreme left of the screen;

(b) the player shall select one of four available cards, which are displayed face down on the screen, by activating the appropriate function;

(c) the player shall win if the card selected is ranked higher than the dealer's card;

(d) the ace shall be the highest ranked card.

7.13 Where a player elects to "Gamble":

(a) a card will be displayed face down on the screen;

(b) the player shall attempt to predict whether that card is of a red suit or a black suit by activating the appropriate function;

(c) the player shall win if the colour of the card's suit is correctly predicted.

7.14 The casino operator may provide alternative methods of doubling up or gambling in the course of an approved game.

7.15 The following varieties of video poker may be offered:

(a) *Standard Draw Poker* - played in accordance with these rules, where card face values depict the rating or standard of the winning hand. A Royal Flush shall be the highest possible hand;

(b) *Joker Wild Poker* - played in accordance with these rules, but with the variation of a fifty-three card deck including a joker, with the joker serving as a "wild" card that substitutes for any other card in making up winning combinations. Depending upon the specific game variety, a Royal Flush with a joker, a Royal Flush with or without a joker, or Five of a Kind shall be the highest possible hand;

(c) *Deuces Wild Poker* - played in accordance with these rules, but with the variation that the deuces (two's) serve as "wild" cards and substitute for any other card(s) in making up winning combinations. Depending upon the specific game variety, a Royal Flush without deuces, a Royal Flush with or without deuces, or Five of a Kind shall be the highest possible hand;

(d) *Four of a Kind Bonus Poker* - played in accordance with these rules, but with the variation that specific ranks of Four of a Kind (eg. aces or deuces, etc) attract a bonus prize over and above the standard Four of a Kind prize for the game, as set out on the artwork or monitor screen. A Royal Flush shall be the highest possible hand.

8.0 Rules Specific to Video Blackjack

8.1 The purpose of the game is for the player to attain with the cards dealt to the player's hand a total of twenty-one, or as close as possible thereto without exceeding twenty-one, and yet exceeding the total of the cards dealt to the dealer.

8.2 The value of cards shall be as follows:

(a) cards from two to ten shall count as their face value;

(b) cards showing jack, queen and king shall count as ten;

(c) an ace shall count as eleven unless the relevant hand (player's or dealer's) would total in excess of twenty-one, in which case it shall have a value of one.

8.3 Each game utilises one deck of fifty-two cards which shall be shuffled electronically after each game.

8.4 The "dealer" shall hit on sixteen or less and stand on seventeen or more (including "soft" totals).

8.5 A player, after wagering sufficient credits and depressing the appropriate game start function, shall receive two cards face up on the initial deal.

8.6 The dealer's hand on the initial deal shall receive two cards, one face up and the other face down.

8.7 A player obtaining a higher point score than that of the dealer without exceeding twenty one shall win and be paid at odds of one to one.

8.8 A player with a lower point score than that of the dealer, without the dealer's score exceeding twenty-one, shall lose the credit(s) wagered.

8.9 A player's hand and dealer's hand of identical point value shall be deemed a tie (stand-off) and the wager on that hand returned to the player.

8.10 A player may stand on any total of not less than twelve and not exceeding twenty-one, made with two or more cards.

Player Options

8.11 A player may:

(a) wager from one credit per game up to the machine maximum, which may be as many as ninety-nine;

(b) stand on twelve or more if not exceeding twenty-one;

(c) hit or draw on any value less than twenty-one;

(d) double down with any first two cards totalling nine, ten or eleven. A player may increase his/her wager by an amount less than or equal to the original wager. A player shall receive one further card only when doubling down;

(e) subject to sub-paragraph (f), split on receiving any pair, by wagering an amount equal to the original wager. A player shall split pairs only once per game;

(f) split on receiving aces, by wagering an amount equal to the original wager. A player shall split aces only once per game and will only receive one further card per ace;

(g) take insurance against a dealer's ace. A blackjack game may also offer a player holding blackjack against a dealer's ace the opportunity to accept an immediate "even money" payment instead of possible odds of three to two;

(h) should this feature be available on the game, elect to "Double Up" or "Gamble" following a winning hand, subject to these rules.

A player shall not increase his/her wager after the game has been initiated except as provided for in these rules.

9.0 Rules Specific to Video Spinning Reel Games

9.1 To initiate the game, a player shall insert coins or tokens or wager credits to a sum of not less than the minimum wager required.

9.2 A spinning reel game shall have three, four or five independent reels, which may be of a mechanical or simulated video type.

9.3 The number of lines, and/or the number of credits per line, to be played may be selected by activating the appropriate clearly-labelled function(s) on the machine.

9.4 Credits shall be displayed on the machine and may be collected by the player after any game.

9.5 When a game is initiated:

(a) credits displayed on the credit meter shall be reduced by the amount wagered on the game;

(b) all reels shall start spinning and, after a period of time, come to a halt;

(c) the machine shall thereupon display the winning results.

9.6 A player shall not alter his/her wager after a game has been initiated.

9.7 Spinning reel games shall be of one of the following types:

(a) *Line Game* - a player may choose to play one or more lines, up to the machine maximum. The number of credits wagered is equal to the number of lines selected.

Depending upon the specific model of machine, a player may initiate a game:

(i) by selecting the number of lines to be played, or

(ii) by selecting the number of lines to be played and activating the appropriate play function;

(b) *Multiplier* - a player may choose to wager one or more credits, up to the machine maximum, on a single line. The number of credits wagered shall be selected by the player.

Depending upon the specific model of machine, a player may initiate a game:

(i) by selecting the maximum number of credits permissible, or

(ii) by selecting the number of credits to be played and activating the appropriate play function;

(c) *Multiline* - a player may choose to play one or more lines per game, as well as one or more credits per line, up to the machine maximum. The wager for the game is the product of the number of lines played multiplied by the number of credits wagered per line.

Depending upon the specific model of machine, a player may initiate a game:

(i) by selecting the number of lines to be played, or

(ii) by selecting the maximum number of lines to be played, or

(iii) by activating the appropriate play function;

(d) *Buy Line* - the wager of a single credit will automatically bring into play all lines that are part of the game. The number of credits wagered will not exceed one credit per game.

Depending upon the specific model of machine, a player may initiate a game:

(i) by selecting one credit to be wagered, or

(ii) by activating the appropriate play function.

9.8 A game may have an "Autoplay" function, as follows:

(a) activation of the appropriate clearly-labelled function will initiate a game play and continue to do so until the button is depressed again or until there are insufficient credits remaining on the credit meter to play a further game with the total credit wager selected;

(b) the number of lines and credits per line, where applicable, played in each game shall be those selected by the player immediately prior to selecting the "Autoplay" function;

(c) some models may also offer a specific feature related to Autoplay which, following a winning combination, automatically enters a "Double Up" or "Gamble" mode, without a player having to select this. The player may override this mode by electing not to "Double Up"/"Gamble".

9.9 A game may have a "Double Up" or "Gamble" feature, as follows:

(a) after obtaining a winning combination, the player is offered the opportunity of wagering all or part of the win on the outcome of a further, dedicated "Double Up"/"Gamble" game;

(b) the player may continue to "Double Up"/"Gamble" following a winning combination, until:

(i) five such consecutive "Double Up"/"Gamble" wagers have been made, or

(ii) accumulated credits are in excess of the maximum wager accepted by the machine,

whichever occurs sooner.

10.0 Irregularities

10.1 The casino operator may refuse to make any payment to the player in respect of a wager in any case where the casino operator is satisfied that for any reason whatsoever the electronic gaming machine being played, or associated gaming equipment, has not functioned in full compliance with these rules or the manner in which the machine or equipment, as the case may be, has been designed and programmed to function.

10.2 Rule 10.1 shall apply whether or not the malfunction is the result of the act or omission of the player or any other person.

10.3 Where the casino operator refuses payment of a wager pursuant to rule 10.1, the casino operator shall:

(a) report the matter immediately to a Government inspector; and
(b) ensure that the machine involved is not played or otherwise dealt with by any person until a Government inspector is afforded the opportunity to make a full examination of the machine.

10.4 An electronic gaming machine shall be deemed, in the absence of it being established to the contrary, to have malfunctioned where the same hand, set of numbers or combination of symbols is displayed during three or more consecutive games on the machine.

10.5 Players are required to notify the casino operator in the event of any and all machine malfunctions. Failure to do so, and the retention of any prize or free plays as a result of machine malfunction, may be considered a contravention of these rules.

10.6 Should an electronic gaming machine malfunction while a player's credits remain displayed on the machine, the credits remaining shall be paid out manually.

10.7 In the event of a malfunction of a jackpot meter, jackpot controller or electronic gaming machine forming part of a linked jackpot arrangement, the casino operator reserves the right to adjust the value of the jackpot prize in accordance with procedures approved by the Secretary.

DIVISION IV - GAMING AND MONITORING EQUIPMENT STANDARDS

TABLE OF CONTENTS

A. EXECUTIVE SUMMARY

A.1. Executive Summary Detailed Table of Contents

A.2. Ownership and Control of GAMES Document

The ownership, distribution and control of the specifications contained in this division ("this document") and all subsequent amendments reside with the Authority.

A.3. The Act

This document has been prepared pursuant to section 63 of the Casino Control Act 1990.

A.4. Objectives

The intent of this document is to place sufficient controls on electronic gaming equipment and operations to ensure that casino gaming is:

- Fair
- Safe
- Secure
- Reliable
- Auditable
- Profitable
- Publicly acceptable.

It is not the intent of this document to:

- Mandate a single solution or method of realising an objective
- Limit technology application to gaming equipment
- Limit creativity and variety of choice
- Limit marketability
- Advantage any supplier or manufacturer of equipment.

A.5. Document Format

The document is formatted in a manner that acknowledges:

- Manufacturers' development methodologies
- The modular design of gaming equipment
- The usefulness of module approvals for manufacturing lead times (especially of hardware) of gaming equipment. [Manufacturers can submit a new gaming machine and associated software in modules for progressive approval. Thus artwork, mathematics, primitive or shell software, the logic box, program control boards, etc might all be submitted as individual modules at different time points.]
- Optimum testing strategies. [This technical requirements document has been organised so as to remove any ambiguity from the response and submission process for manufacturers, enable testing to be completed quickly and efficiently and facilitate ongoing control. Testing agencies should formulate testing strategies on the basis of these objectives and adopt "world best practice" approaches and procedures in gaming evaluation and control.]

- Transfer of module approvals between jurisdictions.

A.6. Document Revision

The Authority may issue revisions to this document at any time. However, gaming equipment approved or substantially evaluated under existing technical standards will continue to be approved unless the Authority deems that the objectives of this document would not be substantially realised.

A.7. Approval Process

This document is designed such that gaming equipment approved in either South Australia or Victoria will be eligible for approval in New Zealand with a minimum of alterations (if any). To this end, the following information is intended to assist in this process.
Machines approved in other jurisdictions may be eligible to receive a transfer of approval under other parts of this document.

A.7.1. Modular Design, Testing and Approvals

The document is modular in design in accordance with the modular design of gaming equipment. Modular hardware and software, and good design and supporting documentation, facilitate the ability to transfer approvals of modules. The modular approach also enables the testing laboratory to test modules concurrently to expedite the testing process. Therefore, to reduce time and cost of testing, manufacturers are urged to adopt a modular approach to design and maintain adequate documentation.

A.7.2. Cross Reference Guide to Assist Approvals

A cross-reference of requirements pertaining to gaming machines is provided in Part G of this document. Consequently, when suppliers submit a response to this document, instead of making a complete re-submission manufacturers may wish to refer to previous approvals for either Victoria or South Australia. If the testing laboratory certifies that its previous testing addressed all aspects of the applicable sections of this document, a transfer of approval may be warranted. Notwithstanding communications interfaces, it is expected that only minimal additional testing, if any, should be required for a previously approved product.
It is important to take note that a cross-reference does NOT imply identical requirements. Rather, the same subject matter is dealt with (eg. percent return in Victoria and New Zealand is 87% minimum, whilst in South Australia it is 85%).

A.7.3. Approval Process Procedure

The steps involved in obtaining approval of equipment will be supplied to equipment manufacturers and suppliers upon request.

A.7.4. Special Approvals

Notwithstanding anything contained in this document the Authority may in exceptional or unusual circumstances grant special approval to equipment complying substantially with the applicable standards contained in the document. Such approval will be granted in writing at the discretion of the Secretary.

A.8. Withdrawal of Approval

The Authority reserves the right to revoke prior approval of gaming equipment. In such cases the Authority may order immediate withdrawal of the equipment from the gaming floor or direct the casino operator to address the concerns of the Authority within a set time frame.

A.9. Inspection of Delivered Gaming Equipment

Only approved gaming equipment may be operated in a casino. The Authority may inspect delivered equipment and reject any gaming equipment which is not identical in every material particular with the submission evaluated and approved as complying with the requirements of this document.

A.10. Equipment Operation - Special Dispensation

Gaming equipment is to be operated in accordance with approved internal controls and administrative and accounting procedures. Accordingly, gaming equipment which does not fully comply with all requirements specified in this document may be approved provided adequate compensating controls are in place. The grant of any such special dispensation will be at the discretion of the Authority, subject to such conditions as the Authority may require. It will not be granted where a particular supplier or manufacturer of gaming equipment would be unfairly advantaged.

A.11. Cost of Compliance Testing

All costs of testing, including but not restricted to the following items, are to be borne fully by the casino operator and/or the supplier of the equipment:

- Costs of conducting tests, evaluations, analyses and audits, including time and materials relative to new equipment, hardware or software, or changes to existing equipment, hardware or software.
- Provision of equipment to be tested.
- Provision of specialised test equipment, if such is not already available to the laboratory.
- Transportation of equipment.
- Repair or replacement of equipment that has failed or has been damaged or destroyed during or as a result of testing.

A.12. Ownership, Return and Destruction of Submission Materials

All testing equipment, documents, and other material supplied to the Authority's testing agency for the purpose of compliance testing remain the property of the party making the submission. Submission material may be returned at the request of the party who made the submission provided sufficient notice is given to the Authority or the testing agency.

From time to time, the Authority or its appointed testing agency may elect to return obsolete submission material. Under certain circumstances, the party who made the submission may elect to have obsolete material (eg. documentation) destroyed rather than returned.
All submission material shall be returned or destroyed at the expense of the owner of the material.

A.13. Design/Testing Strategy

It is in the long term interests of all suppliers to design their equipment to specifications, and to thoroughly test their equipment prior to submission for compliance testing. It is suggested that such an approach would assist a supplier in ensuring long term maintainability, transferability and reliability of its product. It could also reduce the time and cost incurred through re-testing by nominated testing agencies.

As a guide to design and testing, it is suggested that suppliers or manufacturers of gaming equipment simply prepare a checklist of each of the relevant specifications contained in this document. If the specifications form part of the product design, and the supplier's testers were to simply tick-off against the check-list, the supplier may be relatively confident that its product should pass compliance testing with minimal, if any, modifications being required.

A.14. Acknowledgments

A.14.1. References

This document has been prepared giving detailed consideration to the following documents:

- Victorian Casino Control Authority - "Technical Requirements for Gaming Machines and Electronic Monitoring Systems in the Melbourne Casino", Version 1.0 (1993).

- Office of the Liquor Licensing Commissioner - "South Australian Gaming Machine Technical Standards", Version 2.3 (18 February 1994).
- Victorian Gaming Commission - "Technical Requirements - EGM and CMC Software", Version 2.0 (August 1993); "Technical Requirements - EGM Significant Events", Version 2.0 (August 1993); "Technical Requirements - Gaming System Hardware", Version 2.0 (August 1993).

In the preparation of this document reference was also made to technical requirements documentation of the New South Wales Liquor Administration Board and the Queensland Machine Gaming Division.

A.14.2. Consultancy

Technical Systems Testing Pty Ltd is the principal consultant associated with the preparation of this document.

The advice of the Australian gaming industry in response to the draft issue (Version 1.0) of this document has also been considered.

B. CASINO OPERATOR REQUIREMENTS

B.1. Casino Operator Requirements Detailed Table of Contents

B.2. Procedural

B.2.1. Maintenance

B.2.1.1. Retention of EGM Statistics

Maintenance procedures must be such that clearance of the metering information is only performed as a last resort if all other procedures have failed and then may only be performed in accordance with procedures approved by the Authority.

B.2.1.2. Maintenance Not To Default Approval

Maintenance or repair of equipment approved under this document must be undertaken using replacement parts that are identical or equivalent to the parts constituting an approved device.

B.2.2. Back House Computer Systems

B.2.2.1. Computer System Disaster Recovery

a. It must be possible to restore the state of the back house system(s) and its/their database(s) with no loss of data.

b. The procedure by which , and elapsed time within which, the recovery must be achieved shall be approved by the Authority.

B.2.2.2. Back House System Software Auditability and Control

a. Only approved programs, data files and operating system files may reside on disk or in the memory of the back house system computers. In particular, editors, compilers, assemblers and data manipulation programs (other than as a part of the normal program suite) must not be available anywhere on the system.

b. The casino operator is to operate approved procedures for virus protection and detection, where appropriate.

c. The back house system software is to be maintained under an approved software change control system.

B.2.2.3. Database and System Back-up

Periodic back-ups (at least daily) of the variable database files on the back house system computer disks are mandatory.

B.2.2.4. Off-site storage

Off-site storage of at least one copy of the back-up is mandatory.

B.2.3. Gaming Floor Equipment

B.2.3.1. Malfunction

Procedures for dealing with patrons and gaming equipment in the event of gaming floor equipment malfunction must be included in the internal controls and procedures manual which will require the approval of the Authority.

B.2.3.2. Coin/Note Refills

Refill procedures for gaming equipment must be included in the internal controls and procedures manual which will require the approval of the Authority

B.2.3.3. Access to Locked Areas

Procedures for access to locked areas of gaming equipment must be included in the internal controls and procedures manual which will require the approval of the Authority.

B.2.3.4. Movement/Upgrade/Modification of Gaming Equipment

The procedures for the movement, upgrade or modification of gaming equipment, and the tracking thereof, are to be included in the internal controls and procedures manual which will require the approval of the Authority.

B.2.3.5. Jackpot Procedures

a. The procedure for the setting (and re-setting in case of failure recovery) and control of all jackpot parameters and meter values shall be included in the internal controls and procedures manual which will require the approval of the Authority.

b. The procedures for converting, combining, eliminating or adding to jackpots shall be included in the internal controls and procedures manual which will require the approval of the Authority.

c. The procedures for verifying and paying jackpot winnings shall be included in the internal controls and procedures manual which will require the approval of the Authority. The possibility of more than one player winning the jackpot at the same time, and how jackpots are verified if communications are lost, are to be addressed.

B.2.3.6. Player Tracking and Cash Cards

a. The procedures for the handling, distribution and verification of player tracking and cash cards and related equipment such as writing devices are to be included in the internal controls and procedures manual which will require the approval of the Authority.

b. All schemes for account betting which enable cashless wagering via a card, key or other such device shall require the approval of the Authority.

c. In accordance with section 66 of the Act there shall be no credit wagering other than in accordance with the Act.

B.2.3.7. Use of Electro-Mechanical Meters

If electro-mechanical meters are required by a casino operator, the casino operator's controls and auditing procedures pertaining to electro-mechanical meters must be approved before the Authority will permit the information obtained from mechanical meters to be relied upon.

B.2.3.8. Live Games

The procedures for the conduct and playing of live keno, horse racing or other such electronically-based games involving interaction with more than one player at a time are to be included in the internal controls and procedures manual which shall require the approval of the Authority.

B.2.3.9. Gaming Tournaments

a. The procedures for the conduct and playing of tournament games are to be included in the internal controls and procedures manual which shall require the approval of the Authority.

b. Particular attention must be given to:

   i. conditions of entry and fees;

   ii. prize pool and distribution;

   iii. conditions of play;

   iv. the requirements for "Tournament Mode" operation of gaming devices.

B.2.3.10. Statistical Collection Requirements for Traditional Games

a. Traditional games employ hardware-based random number generators (eg. flipping of coins, rolling of dice, spinning of wheel, etc) which are not able to be mathematically proven and may establish a bias in the course of operation.

b. Where a hardware-based RNG is used, the Authority may require the casino operator to ensure that statistics are maintained on the frequency with which each possible event has occurred and provide those statistics upon request for analysis by the Authority.

B.2.3.11. Rules of Play

The casino operator must provide or display the rules of play together with the payout schedule for each game offered.

B.2.3.12. Software Validation

The casino operator shall ensure that there are means in place whereby signature verification of all software resident on all processor boards associated with a gaming device (including programmable coin or note acceptors, card reading devices, display drivers, I/O boards, printer and other peripheral controllers) is able to be verified. The Authority will consider either automatic or manual processes or a combination of both.

B.3. Physical

B.3.1. Back House System Computer Room

The following points apply to the computer room and its environment that are to house the central computers of the EMS.

B.3.1.1. Computer Room Security

a. The back house system computer room(s) shall be a secure area which only authorised personnel may enter. The method of locking and entry into the computer room is to be approved. The adoption of an electronic locking system that provides monitoring information on entry and exit of personnel is preferred.

b. There is to be a detection system that provides an alarm, in several forms, when unauthorised entry to the computer room is attempted.

B.3.1.2. Computer Room Fire Protection

a. The computer room must have an appropriate automatic fire detection and protection system.

b. The computer room must have several appropriate (non-water) hand-held fire extinguishers strategically placed to counter small localised fires.

B.3.1.3. Air Conditioning

The back house computer room must have appropriate air conditioning to maintain the environment required by the computer(s) for normal operation. There must be sufficient duplication in the air conditioning system to allow the computers to continue operation should there be a failure of a single component of the air conditioning system.

B.3.1.4. Emergency Lighting

The computer room must have an emergency lighting system that automatically lights when mains power is lost.

B.3.1.5. Environmental Monitoring System

The operating environmental systems (at least the power and air conditioning) are to be monitored by a computerised system that will perform automated switching to backup systems for most component failures of the environmental system.

B.3.1.6. Power Supply

a. The back house computer systems must be protected against power fluctuations and temporary loss by installation of a UPS or other such device.

b. The back house systems and gaming floor equipment are to be protected against long term loss of power by installation of a generator or other such device. The generator or device should have the fuel capacity to support the computer systems, air conditioning, security system, telecommunications equipment and computer terminals, and sufficient lighting for normal operation of the computer room and gaming equipment for a period of not less than 24 hours.

c. The UPS must provide sufficient supply to support the gaming systems while the generator or device is operated and enable the system to be shut down in an orderly manner, without the loss of data, should the generator or device fail.

d. The UPS and generator or device are to be tested at least three monthly.

e. All wiring associated with supply of power to gaming and ancillary equipment is to comply with the requirements of the relevant New Zealand power authority.

f. All gaming equipment must be on circuits isolated from sources of power supply disruption. A list, which is not exhaustive, is provided below:

   i. Impulse: SCR controlled loads, variable speed drives, load start-up or disconnect, photocopiers;

   ii. Voltage Sag: load startup;

   iii. Voltage Distortion: SCR controlled loads, variable speed drives, high impedance sources, switch mode power supplies (please note: most computer equipment utilises such supplies so this is probably unavoidable);

   iv. Non-sinusoidal Phase Current: Computers(refer iii), variable speed drive, electronic phone systems;

   v. Repetitive Disturbance: variable speed drives, SCR controlled loads, light dimmers, arc welders.

B.3.2. Electrostatic Discharge Protection

B.3.2.1. Computer Room

Static electricity in the computer room must be kept to an absolute minimum.

B.3.2.2. Gaming Floor

a. All carpet near electronic gaming equipment must have permanent anti-static properties.

b. The materials from which seating provided on the gaming floor is constructed must be chosen to minimise the potential for static build-up.

B.3.3. Tokens

The Authority may accept the use of tokens instead of coins for gaming equipment provided that the following criteria are met:

a. the token must have unique properties to distinguish it from other tokens or coins so that only valid tokens will be accepted by the token acceptance device(s) used by gaming equipment;

b. the tokens must be unique so that they will not be in use elsewhere;

c. the supply of tokens must be secure in that it must not be possible for quantities of tokens to appear other than from the approved supplier.

C. GAMING FLOOR EQUIPMENT REQUIREMENTS

C.1. Gaming Floor Equipment Requirements Detailed Table of Contents

This part applies generally to gaming equipment resident and/or operated on the gaming floor of the casino. Equipment covered by the requirements contained in this part are:

- Gaming Machines
- Communications Controllers
- Jackpot Controllers and Displays
- Live Keno Ticket Issuing and other Terminals
- Table and other Games
- Machine Consoles.

Depending on the device configuration, it is appreciated that some sections may not be applicable.

C.2. Hardware

C.2.1. Common

These common requirements apply to all equipment housing cash or kind, wiring or electronic circuitry. Such equipment housing is deemed to be a "secure cabinet" unless otherwise directed by the Authority.

C.2.1.1. Manuals

a. All gaming equipment must have associated operation and service manuals.

b. Operation manuals must:

   i. accurately depict the use of the equipment in the casino operating environment;

   ii. provide sufficient detail and be sufficiently clear in their wording and diagrams to enable a machine attendant to comprehend their meaning with minimal guidance.

c. Service manuals must:

   i. accurately depict the equipment which the manual is intended to cover;

   ii. provide sufficient detail and be sufficiently clear in their wording and diagrams to enable a reasonably qualified repair-person to perform repair and maintenance in a manner which is conducive to the long term reliability of the equipment.

C.2.1.2. Artwork

a. The requirements of this part apply equally to artwork displayed in virtual form as a physical device must be used to generate the image (eg. on a video display, as a holographic image, on a LED or similar display, etc.)

b. By making a submission to the Authority for evaluation, the manufacturer, supplier and operator of gaming equipment agree to indemnify the Authority, its duly appointed testing agents, the Government of New Zealand and the Crown against 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 live keno tickets) or operation of approved gaming equipment in New Zealand.

c. Written messages shall be in English and be both grammatically and syntactically sound.

d. Manufacturer's logos or copyright messages may be visible, but in a discreet manner.

e. Written instructions must be concise and not open to interpretation.

f. There is to be no advertising of commercial products in any manner or form on the gaming equipment or on any related displays unless approval to do so is granted, in writing, by the Authority.

g. Artwork must not be in any manner or form indecent or offensive.

h. Game play and device usage instructions must be stated unambiguously and must not be, in the opinion of the Authority, misleading to the player.

C.2.1.3. Secured Cabinet

a. All secured cabinets must retain evidence of forced entry.

b. All protuberances from a cabinet (eg. buttons, handles, etc) and attachments to a cabinet (eg. labels and identification plates) must not be able to be easily removed or broken away from the cabinet.

c. Where holes or slots exist in the exterior of a secured cabinet, there must be sufficient external or internal protection to ensure that the insertion of foreign objects would not compromise the security or safety of the material or information stored or operated in that cabinet.

d. The exterior of a cabinet which is generally accessible to casino patrons and staff shall be constructed so as not to have the potential to inflict injury.

e. The entirety of the equipment of a device, being equipment which does not form part of the player input interface, must be stored within one or more locked cabinets or areas within a locked cabinet.

f. Access to a locked area, even after access has been gained to another locked area, must not be possible without the key or keys for the locked area.

g. Liquid spills applied to the areas of a gaming device readily accessible to patrons (eg. display glass, button panel, coin slot , chip tray) must not compromise the security or safety of the material or information stored or operated in that cabinet. This test is to be conducted by:

   i. Using any liquid typically served in casino venues (eg. water, beer, spirits);

   ii. In the case of beers and other drinks, using a quantity of 300ml poured from a typical glass (ie. tubes and funnels are not to be used), provided that a quantity of 60ml shall be used for spirits.

C.2.1.4. Cabinet Identification

a. A cabinet must have one identification badge permanently affixed to the machine cabinet by the manufacturer. The badge must include the following information:

   i. manufacturer;

   ii. unique serial number;

   iii. model identification;

   iv. date of manufacture.

b. The badge is to be located on the exterior right-hand side of the cabinet, in a position that allows it to be easily read.

C.2.1.5. Keys (including Key Switches) and Locks

Keys and locks:

a. Must offer a level of security which is not able to be easily by-passed without leaving physical evidence of tampering;

b. Which give access to the interior of a cabinet must be of a different combination to other keys and locks for other areas of the equipment.

C.2.1.6. Labelling

All key switches, switches and buttons must be labelled according to their function or the series of events that are initiated by their activation.

C.2.1.7. Doors

a. All doors shall be manufactured of materials and in a manner suitable for allowing only legitimate access to the inside of the cabinet, on which the door is mounted, via operation of a lock.

b. A door may open in any direction provided that, when fully opened, it presents minimal interference to adjacent machines/patrons.

c. The door should close and lock in an easily executed and satisfactory manner.

C.2.1.8. Hinges

a. Door hinges must be of solid construction to prevent sagging of the door and door sensor alignment problems.

b. Hinge centre pins, if used, must not be able to be removed without leaving evidence of tampering.

C.2.1.9. Secure Cabinet Tamper Detectors

a. The sensor system used must provide a method to enable software to interpret and notify of access via valid entry points such as doors.

b. The detection system must be designed so that it is not possible to activate a door open/close condition without actually opening the door.

c. The detectors, or any part of them, must not be accessible or be able to be bypassed in any way when the door of a secure cabinet is closed.

C.2.1.10. Restricted (Logic) Compartment

a. Components which the Authority deems to have the potential to influence significantly the gaming equipment or the outcome of a game must be housed in a secure restricted compartment.

b. Typical components (modules) required to be housed in a restricted compartment area are:

- Circuit boards with resident software designed for the purpose of controlling an element of the gaming equipment, for example:
  - i. I/O controllers (printers, displays, coin input, card readers, etc.),
  - ii. communications controllers,
  - iii. jackpot controllers,
  - iv. memory devices,
  - v. game controllers (eg. printed circuit boards housing the game program storage media);
- Devices forming part of a "physical" RNG:

vi. dice (for use in games such as Tai-Sai),

vii. numbered balls (for use in games such as Keno).

c. It must not be possible to access the data bus, address bus, or control lines of any of the above mentioned circuit boards without gaining access to a restricted logic area.

d. A restricted area, being a form of cabinet, must comply with secure cabinet requirements as defined in section "C.2.1.9. Secure Cabinet Tamper Detectors".

e. Until the Authority is completely satisfied with the implementation of section "C.2.1.11. Restricted (Logic) Compartment Tamper Detection Sensors" below, a logic area is to have provision to be sealed closed (that is, the interior of the logic area must not be accessible unless a seal is broken) using one or more of the Authority's physical seals. A 4 mm diameter hole is required for each seal.

C.2.1.11. Restricted (Logic) Compartment Tamper Detection Sensors

a. The restricted area shall be fitted with a device or devices that will detect when the restricted area has been accessed, regardless whether mains power is switched on or off. Refer section "C.2.1.10. Restricted (Logic) Compartment" above. The use of Flip/Flops for this purpose is not recommended but will not be failed at this time.

b. Where the restricted area is capable of being removed from a secured cabinet in its entirety and replaced with another complete unit, the restricted area shall be fitted with a device or devices that will detect removal regardless whether mains power is switched on or off.

c. If the restricted area is accessed more than once while powered-off, it is only necessary to treat this as a single access.

d. The restricted area entry/removal detection circuitry must provide a method to enable software to interpret and notify of a restricted area access.

e. Once a restricted area is penetrated, the tamper system itself may be tampered with. Consequently, the manufacturer is presented with two options:

i. for all submissions after 1 January 1996, the tamper system itself must not be able to be tampered with or replaced without leaving evidence that this has occurred, or

ii. the tamper system must be sufficiently complex in its nature of operation that only a person who possessed intimate knowledge of the design and method of operation (eg. testing laboratory or manufacturer) would be able to bypass the tamper system.

f. Where distributed processing is used manufacturers should house all restricted boards within a single, restricted (logic) compartment. If this is not achievable, for all submissions after 1 January 1996 all separate restricted areas must, where practical, comply with all requirements of section "C.2.1.10. Restricted (Logic) Compartment". If not practical, the Authority must be convinced that the level of security is adequate.

g. It may be acceptable for an item listed in this document (Refer "C.2.1.10. Restricted (Logic) Compartment") to not employ electronic seals, but reside in a restricted area which is able to be secured by way of the Authority's seals. Suppliers MUST NOT assume dispensation in this regard, but must have the risk associated with the components to be protected assessed by the Authority and a decision made on a case-by-case basis.

h. It must not be possible to reset the restricted area door open state either by hardware or software means, if the restricted area door is still open.

C.2.1.12. "Critical Memory" Requirements

a. The Authority will consider any storage device for critical memory.

b. Critical memory is to be recorded in at least three (3) logically and two (2) physically separate and distinct devices.

c. The physically separate and distinct devices need NOT both be resident in a single item of gaming equipment. That is, the physically distinct storage devices requirement will be satisfied if another device such as a controller or monitoring system maintains up to date, suitably protected copies of the required information.

C.2.1.13. Power Supply

a. Gaming equipment must be certified as complying with the relevant requirements of the relevant New Zealand power authority, or standards which satisfy those requirements.

b. The equipment must be able to operate from 240 Volt, 50 Hz mains power source.

c. The amperage rating of all fuses must be clearly stated on or about the fuse holder.

d. The power supply unit shall enable the device to operate without disruption caused by:

   i. application of a fast transient (5/50 ns) voltage of 2.5 kV to AC power lines and 1 kV to I/O, data and control lines. The tests will be conducted in accordance with IEC.801-4;

   ii. injection of a surge voltage of 2.5kV (1.2/50 μs) to AC power lines. The tests will be conducted in accordance with IEC.801-5;

   iii. continued operation at voltages within the legislated supply variations with which power supply utilities are required to comply (typically +/- 6%);

   iv. surges or sags to +/- 20% of the supply voltage (note that it is acceptable for the equipment to reset provided no damage to the equipment or loss or corruption of data is experienced);

   v. other noise and interference;

   vi. repeated switching on and off of the AC power;

   vii. jiggling the power cord connection at the wall outlet.

e. All power switches must be clearly labelled to indicate the "on" and "off" positions.

f. Where a gaming equipment cabinet contains more than one power switch, each switch must clearly identify the unit to which it supplies power.

g. Different units of gaming equipment are to be powered from separate sources. This is particularly important for communications interfaces to ensure continued monitoring during machine maintenance activities.

C.2.1.14. Electromagnetic/Electrostatic Interference

C.2.1.14.1. Electromagnetic Interference

a. Electronic gaming equipment must have obtained a compliance certificate for radio emission standard AS/NZS3548 or the equivalent (eg. AS 3548, F.C.C. requirements, Part 15, Sub-part J).

b. The EUT that is submitted for EMI/RFI testing must be a production standard model and must be in "normal operation" during the test including communication with a EMS or approved simulator (where the equipment employs some form of data communications).

C.2.1.14.2. Electrostatic Interference

Protection against static discharge requires that the conductive cabinets be appropriately earthed, ie. earthed in such a way that discharge energy does not enter the electronics or other sensitive components.

C.2.1.14.3. Body Discharge

a. Note that the following tests require that the equipment under test be running gaming software during the tests, and the effects if any on the correct functioning of the software are assessed as part of the tests.

b. The tests will be conducted with a severity level of ± 15kV for air discharge and ± 7.5kV for contact discharge. The test set-up and test methodology will be as per IEC.801-2.

c. Gaming equipment must exhibit total immunity to human body electrostatic discharges on all player-exposed areas.

d. When subjected to such human body electrostatic discharges, gaming equipment must not interfere with the operation of any other such attached gaming device (eg. via local data communications wiring).

C.2.1.14.4. Temporary Disruption Test

a. Testing of temporary disruption will be conducted with a severity level of ± 25kV for air discharge and ± 10kV for contact discharge. The test set-up and test methodology will be as per IEC.801-2.

b. Gaming equipment may exhibit temporary disruption when subjected to electrostatic discharges greater than human body discharges, but must exhibit a capacity to recover and complete any interrupted play without loss or corruption of any stored or displayed information, game play state, game play outcome or gaming statistics and without component failure.

C.2.1.14.5. ESD Build-up in Coin/Note/Token/Ticket Handling Equipment

Valid objects entering or exiting gaming equipment have the potential to build up a static charge as they traverse various paths within the equipment. In particular the build-up of static in coin drop-boxes has the potential to damage equipment and cause injury to staff. Gaming equipment must employ some method of dissipating or preventing such ESD.

C.2.1.14.6. Radio Frequency Interference

Gaming equipment must not divert from normal operation by the application of radio frequency interference ("RFI"). The test set-up and test procedure will be in accordance with IEC.801-3, severity level 2 (including draft amendments). The frequency range tested will be 27 to 1000 Mhz with field strength of 3 volts per meter.

C.2.1.15. Wiring

a. Power and data cables into and out of gaming equipment are to be routed so that they are not accessible to the general public.

b. Data cables must be routed away from internal sources of electrical noise, including power cables.

c. Cables must not be routed or left unrestrained so that they interfere with the removal of components required to be removed during routine operation or maintenance.

d. Cables that are routed into a logic area must not be able to be removed without accessing the logic area in an approved manner.

e. There must be no mains ground interconnections via data cabling between devices powered from different wall outlets.

f. All wiring must comply with AS3000, 1991 (SAA Wiring Rules).

C.2.1.16. Circuit Boards

C.2.1.16.1. Identification

a. All circuit boards must be identifiable by some form of version, revision, or modification.

b. This identification is to be permanently displayed on the board.

c. Circuit boards must correspond exactly with the documentation and the boards submitted to the testing laboratory for evaluation.

d. Each circuit board must be readily identifiable in the field.

C.2.1.16.2. Circuit Board Construction and Modifications

a. Printed circuit boards ("PCBs") must be of production quality.

b. The Authority recommends that the guidelines given in AS 2546 and AS 3508 be adhered to in the design and manufacture of PCBs.

c. Where track cuts and patch wires exist, the following must apply:

   i. they must be consistent across all boards with the same revision or board patch number;

   ii. they must be easily verifiable;

   iii. they must be robust and reliable in nature (eg. patch wires must be secured to the board where they are likely to be damaged under normal service conditions, track cuts must not expose copper);

   iv. the board must indicate the new revision or patch level.

C.2.1.16.3. Normal Settings

The normal operation setting of a jumper or dip switch device, if such device has a normal mode, must be clearly marked on or immediately adjacent to the device.

C.2.1.17. EPROMS

a. All EPROMs must be fitted with covers over the UV-erasure windows.

b. EPROMs must be clearly marked with sufficient information to identify the version, modification, etc. of the EPROM. The identification used is at the discretion of the supplier but it must strictly follow that supplier's identification system as detailed in the supplier's software change control procedures.

C.2.1.18. Retention of Data During Power Loss

a. Data retention as supported by battery backup of RAM or other means as approved by the Authority must be sufficient to maintain information for a period of time of not less than 30 days without mains power.

b. Where RAM memory is maintained through a power source such as a battery or super-cap, a low voltage indicator must be provided in hardware to enable software to interpret and notify of a power source that is nearly depleted to a level which will no longer support retention of data.

c. Batteries used must be commercially available.

d. If an EEPROM is utilised within the gaming device, it must not be used to restore the critical memory into RAM upon recovery of power unless the critical memory data are written to EEPROM at least once per second. This is not considered practical however, given the limited 'endurance' (ie. write cycles before failures) of EEPROM devices.

e. Batteries must be connected to the board(s) that contain the RAM in such a manner that they cannot easily be removed.

f. Batteries must be "long life" with a life of at least five (5) years.

C.2.1.19. Cash Boxes

Cash boxes must be of a sufficient capacity to store coins, tokens or notes, as applicable, for at least a 24 hour period of trading. That is, the number of times secure cabinets must be opened for the purposes of cash clearances is to be minimised.

C.2.1.20. Serviceability

a. Any part of a device which is required to be removed under normal operating conditions must be constructed to facilitate this.

b. Any part of a machine which requires removal under normal operating conditions should not require any adjustment or the need to follow complicated procedures for re-instalment, nor should any special tools be required for the removal.

C.2.1.21. Environmental

Gaming equipment is to be capable of operating within the following bounds (refer AS1099):

a.	Temperature Range:	Ambient still air: 10 to 35 Celsius
b	Relative Humidity Range:	15 to 85 per cent.

C.2.1.22. Security

a. A program residing in the gaming device must not be able to be replaced or modified unless the logic area in which it is housed is accessed.

b. Memory clears must only be able to be undertaken by accessing the logic area in which it is housed.

c. The use of clearing EPROMs, or similar devices that write to memory, is not permitted, unless the Authority has evaluated the source code of the device and has established confidence in the associated controls to ensure that only approved devices are used in the field.

d. The risk associated with exposure through the need to physically access a restricted compartment (refer (a) and (b), above) is minimised if game data information is able to be changed remotely. Consequently, the Authority may grant exemptions to the above requirements where it is satisfied that the degree of compensating controls and security in place adequately addresses its concerns.

C.2.1.23. Quality Standards

It is preferred that all physical elements of gaming equipment be constructed, manufactured, and assembled with reference to relevant New Zealand quality assurance standards, eg NS9001, NS9002, or NS9003.

C.2.2. Gaming Machine/Terminal

These requirements generally apply to gaming machines and gaming terminals (such as live keno ticket dispensers or electronic horse racing terminals), though some requirements may extend to table games. Please note that where the possibility exists for common requirements (C2.1) to apply to the items covered below, those requirements will apply.

C.2.2.1. Coin/Note Handling Devices

a. The designated path which coins or notes traverse and associated handling devices shall be of solid construct.

b. The designated path which coins or notes traverse and associated handling devices must be designed so as not to impair travel during insertion, acceptance, depositing and expulsion of coins or notes.

c. All coin or note handling devices must provide means through which software may detect and/or logically deduce when potential cheating is in process.

C.2.2.1.1. Coin/Note Acceptance Devices

a. All acceptance devices must be able to detect the entry of valid coins or notes and provide a method to enable software to interpret and act upon a valid/invalid input.

b. The acceptance device(s) must be electronically based and be so designed to ensure that it/they accept(s) coins or notes of New Zealand legal tender (or approved tokens) by checking validity of coins or notes inserted and rejecting (returning to the coin tray) all others.

c. Once set, the acceptance device(s) must be protected from any form of simple adjustment.

d. An acceptance mechanism must include devices (referred to as "lockouts") which prohibit the device from accepting coins or notes or alternatively reject coins or notes entered during periods when the gaming equipment is inoperable for whatever reason.

e. Multiple coin/note acceptance devices may be permitted, provided the Authority is satisfied that the security and auditability of the gaming equipment in which they are installed are not able to be compromised.

C.2.2.1.2. Coin Direction Sensors

a. Sensors on the coin path must be provided to enable the software to determine the direction of travel of coins as they are input into the gaming device.

b. Sensors on the coin path must be provided to enable the software to determine:

   i. if a coin is travelling to a cash-box or to a hopper;

   ii. if a coin diverter has failed.

c. It is acceptable to provide sensors on the actual coin paths to sense coins or on the diverter to sense direction or both.

C.2.2.1.3. Coin Hopper

a. All hoppers shall have a cover fixed evenly around the perimeter of the coin container.

b. The cover shall have only a minimal opening to allow coins to enter the container and restrict hand access.

c. Hoppers shall have detection devices which provide a method to enable software to interpret and act upon the following conditions:

   i. hopper full (must be adjustable);

   ii. hopper empty;

   iii. coin out;

   iv. disconnection/malfunction of coin-out sensor.

C.2.2.2. Card Reading Device

a. The Authority will consider the use of cards employing some form of electronic storage medium (eg. smart card or magnetic stripe) for numerous purposes except credit betting.

b. The card read/write unit utilised for cashless transactions must provide a locking mechanism to enable a card to be retained until conditions as defined in software section "C.3.2.2. Card Reading" are met.

C.2.2.3. Player Input Devices

Gaming equipment hardware must protect against the simultaneous or sequential activation of the various inputs which might, whether intentionally or not, cause malfunctions, fraud or invalid results.

C.2.2.4. Information Display

C.2.2.4.1. Reels/Wheels

a. Electronic gaming equipment may use physical spinning reels or wheels to display the outcome of the device to the player as long as the reels are micro-computer controlled and the reels/wheels do not in any way influence the outcome of the game.

b. Electro-mechanically controlled display devices, such as spinning reels, roulette wheels and so on, shall have sensors to enable the control software to interpret and act upon the condition where the reel/wheel is malfunctioning.

c. A reel/wheel and reel/wheel-assembly must be so designed that the spin of each reel is not obstructed by other components.

d. A reel or wheel assembly must have a clearly identifiable reference point at which the top or start of the reel/wheel strip symbol artwork is to be secured and joined.

e. Reel/wheel assemblies must be constructed to ensure that, under correct software control, symbols line up with pay lines.

C.2.2.4.2. Video Display

a. Video images must be generated by the gaming equipment's computer.

b. External input to drive the video (such as by broadcast of an electronic horse race) will be considered by the Authority on a case-by-case basis.

c. Video displays shall be of an implosion type.

d. Video displays or their associated glass or perspex shields shall be constructed of toughened material to withstand patron abuse.

e. Video displays shall comply with all applicable standards as listed in sections "C.2.1.14.1. Electromagnetic Interference" and "C.2.1.14.2. Electrostatic Interference".

f. The yoke and other sources of high voltage must not be easily accessible to site staff when accessing a cabinet interior in which the display is mounted.

C.2.2.4.3. Touch Screens

a. Touch screens must be resistant to scratching.

b. Touch screens must be accurate, once calibrated, and must maintain that accuracy for a lengthy period.

c. Touch screens must be installed/designed such that static build-up is minimised to a level that ensures no static is discharged through a patron touching the screen.

C.2.2.4.4. Machine/Terminal Specific Artwork

a. The requirements of this part apply equally to artwork displayed in virtual form as a physical device must be used to generate the image (eg. on a video display, as a holographic image, on a LED or similar display, etc.)

b. The message that "Malfunction Voids Game" or its equivalent must be clearly displayed on each gaming device that provides or interfaces to a game.

c. The acceptable input denomination(s) of each gaming device must be clearly visible to the player, preferably near the coin and/or note slot.

d. If a game uses tokenisation, the machine must clearly state the number of credits registered per coin or note inserted.

e. The game instructions shall be clearly visible, or the means of displaying such instructions must be readily available, on the machine at all times.

f. Game instructions must not be misleading or ambiguous.

g. The pay table applicable to the machine must be clearly visible, or the means of displaying such information must be readily available, to the player at all times.

h. Pay table artwork must not be misleading.

i. The pay table artwork must clearly indicate all the possible winning combinations without any ambiguity.

j. Written instructions referring to more than one winning combination should be clearly recognisable as such.

k. The name of the game being played must be clearly visible to the public.

l. All machine artwork must be identified in a discrete manner by a version number, in particular prize-scale (top-box) artwork and reel strips.

m. The display of the result of a game outcome must not misleading or deceptive to the player (improperly indicate a near-miss, for example).

C.2.2.4.5. Printer

a. Printers must be used to issue authorised keno tickets associated with a game of live keno.

b. The use of printing devices in gaming machines is not required by the Authority; however, if an operator requires printers to be installed the requirements contained in paragraphs (c) to (g) below apply.

c. Printer hardware must provide for a duplicate hard-copy of all printed information to be retained within the gaming device (until removed during a paper change) unless all printed information is stored and able to be retrieved using some form of electronic storage.

d. A printer must be housed in a secure cabinet.

e. Printer paper must be able to be easily replaced.

f. Mechanisms to allow software to interpret and act upon any of the following events must be provided:

   i. paper out;

   ii. printer disconnection;

   iii. printer faults.

g. Where a printer is required, unambiguous and simple instructions for replacement of printer paper must be clearly displayed on or near the printer.

C.2.2.4.6. Mechanical Meters

a. The use of electro- mechanical meters is not required by the Authority.

b. Electro-mechanical meters must be non-resettable (the case of roll-over excluded).

c. Electro-mechanical meters must be capable of registering a minimum of six (6) decimal digits.

d. Where electro-mechanical meters are fitted, their connections shall be fully enclosed in a sealed environment to prevent disconnection.

e. A mechanism to allow software to interpret and act upon any electro-mechanical meter disconnection must be provided.

f. An electro-mechanical meter must be housed in a secure cabinet.

g. Electro-mechanical meters must be able to be viewed without accessing the secure cabinet in which they are housed.

h. Where required, electro-mechanical meters must be appropriately labelled.

C.2.3. Jackpot Controller

a. When gaming is conducted in an environment that does not provide constant monitoring by inspectors or by video monitoring, the Authority requires that communication of linked jackpot information and control of linked jackpots to/from the gaming equipment and the external jackpot controller or monitoring system be via a protocol-based communications scheme.

b. When gaming is conducted in an environment that does provide constant monitoring by inspectors or by video monitoring, the Authority will consider communication of linked jackpot information and control of linked jackpots to/from the gaming equipment and the external jackpot controller via "wiring harness" interfaces. However communications from the jackpot controller and monitoring system must be protocol-based.

c. Where a wiring harness is used to interface a gaming device to a jackpot controller, the equipment hardware must provide for the following signals:

   i. Credit Bet (EGM => Controller);

   ii. Jackpot Hit (EGM => Controller) - "Mystery" jackpots excluded;

   iii. Machine Lockup (Controller => EGM).

d. Stand alone progressive jackpots may be permitted in any operating environment and may employ either a protocol-based or harness-based form of communications.

C.2.4. Information Display

a. There is no restriction at this time on forms of display that may be employed to provide information related to gaming that is not part of a gaming terminal or gaming machine.

b. Displays must at least comply with applicable hardware requirements, as detailed in "Part C.2.1. Common" above.

c. Displays must communicate with controlling devices via a protocol-based form of communications and therefore must provide the hardware interface to achieve this.

d. 'External' displays employed in communicating the results of games such as:

   i. Tai-Sai,

   ii. live keno,

   iii. horse racing,

   iv. linked progressives,

   will be considered on a case-by-case basis by the Authority.

C.2.5. Other Forms of Information Display

There is no restriction at this time on other forms of display that may be employed by a gaming machine or terminal. Displays must at least comply with applicable hardware requirements, as detailed above.

C.2.6. Traditional Games

a. The Authority will treat the evaluation of traditional games on a case-by-case basis.

b. Where a traditional game includes modules as detailed in this document, then the requirements relating to those modules will apply.

c. Additionally, consideration may be given to the following:

   i. balance of spinning devices (deviation from the plane in which it is designed to spin);

   ii. aerodynamics (eg. potential for a vortex to form in a particular pocket of a roulette wheel;

   iii. friction;

   iv. equally spaced compartments or sections;

   v. elasticity of balls, cubes, spokes, pegs, indicators, etc;

   vi. height of frets;

   vii. dimensions of balls, cubes, spokes, pegs, etc.

C.3. Software

C.3.1. Common

C.3.1.1. Software Quality Compliance

By 1 January 1996 all suppliers of gaming software must be able to provide evidence of compliance, or significant achievement in obtaining compliance, with AS3563 (or a recognised international equivalent).

C.3.1.2. Source Code

a. The Authority requires that all programs be well structured, well commented and well documented. Code which does not meet these requirements seriously impairs the evaluation process and consequently confidence in software.

b. All program source for all gaming equipment will be examined by the Authority's testing representatives.

c. Source code supplied to the Authority shall be exactly as installed in the EGM.

d. The evaluation of software written in a "high level language" may be expected to be undertaken more efficiently than the evaluation of software written in assembly language.

e. The following must appear in all source code modules:

   i. module name,

   ii. version number,

   iii. revision number,

   iv. brief description of functions performed,

   v. edit history: who, why and when.

f. Variable names chosen are to be informative.

C.3.1.2.1. Source Compilation

a. The Authority's test centre will compile, assemble, and/or link all versions of software.

b. Software compilable using commercially available compilers, assemblers or linkers is preferred by the test centre.

c. Should a manufacturer use an in-house or proprietary development environment, the Authority will require submission of those tools for assessment.

C.3.1.2.2. Source Control and Upgrade

a. Each software revision must be separately evaluated by the Authority's evaluation laboratory.

b. Software must be clearly labelled, and contain sufficient information to identify the version, modification, etc. The identification used is at the discretion of the supplier but it must strictly follow that supplier's identification system as detailed in the supplier's software change control procedures.

C.3.1.3. Validity Checks

a. All memory devices containing program memory or critical memory must be validated by some form of check such as signatures, checksums or use of validity codes.

b. Memory that does not dynamically change (eg. EPROM) must be validated at least every time the hardware is reset (eg. turning the power off and on) or the software is reset.

c. A validity check of critical data memory must be undertaken at least before and after a game play or transaction of significance.

d. If a validity check fails, the software must act in accordance with error handling requirements (Refer C.3.2.15. Event Handling).

e. If validity checking of critical memory information fails, and data memory remains operational, the software must be able to recover the critical memory information, where all instances of critical memory information are not corrupt.

C.3.1.4 Signatures

C.3.1.4.1. Exemption from Automatic Signature Calculations

When gaming is conducted in an environment that does provide constant monitoring by inspectors or by video monitoring, the Authority does not mandate automatic signature verification of gaming floor equipment software initiated by a central monitoring (back house) system.

C.3.1.4.2. Signature Computations Mandatory

When gaming is conducted in an environment that does not provide constant monitoring by inspectors or by video monitoring, the Authority requires verification of gaming floor equipment software initiated by a central monitoring (back house) system

C.3.1.4.3. Signature Algorithm Requirements

A signature algorithm must meet the following requirements:

a. it must combine all the contents of the software or data being processed, ie. each and every bit of the contents must influence the signature result;

b. it must combine the bits in a complicated and cross-interactive manner. An example of such a technique is the popular CRC method;

c. use of primitive techniques such as parity or simple "checksum" (regardless whether 8 or 16 bit or whether exclusive-or or add arithmetic is used) is inadequate and will not be acceptable;

d. it must produce a result of at least 16 bits in width. The algorithm must detect at least 99.995% and preferably 99.998% of all possible data errors.

C.3.1.4.4. Signature Seeding

a. Signature algorithm "seeds" (or more generally "algorithm coefficients") are to be supplied by the initiator of the signature request at the time of activation.

b. The following principles must apply to signature seeding:

i. the "seed" information is to be at least 15 bits in length;

ii. the "seed" information is to influence the behaviour of the algorithm in a non-trivial way.

c. The initial value of the CRC register would be an unacceptable "seed".

C.3.1.5. System Security

C.3.1.5.1. Activities to be Inoperable when any Secure Cabinet Door is Opened

Gaming equipment must disable all player inputs and suspend all gaming functions while any of its doors is opened or remains opened.

C.3.1.5.2. De-activation when a Restricted Compartment has been Accessed

a. When a gaming device determines that a restricted compartment has been accessed, the device is to de-activate itself until appropriate investigations are conducted at which time the device may only be re-activated by following approved procedures.

b. Where a protocol-based monitoring system is used a command is entered on a terminal connected to a back house monitoring system which is then forwarded to the gaming device by the monitoring system to clear the event.

c. Where gaming is conducted in an environment that provides constant monitoring by inspectors or by video monitoring and no protocol-based monitoring system is used:

i. (a) restricted key(s) is/are inserted into a separate key-switch (to cancelled credit or attendant mode) on the device and turned by a duly authorised officer;

ii. entry of PIN or variable code pattern (defined during device configuration) into the gaming equipment via user input devices by a duly authorised officer;

iii. a combination of the key switch and predefined security code (PIN). The PIN should be known only to inspectors and the key held by authorised casino personnel;

iv. any other method approved by the Authority.

C.3.1.5.3. External Adjustment

In order to prevent illegal tampering, gaming equipment may not have any functions or parameters adjustable by or through any separate computer, input device or input codes except for the following:

a. The adjustment of features that are wholly cosmetic (ie. that do not affect functionality in any manner) as approved by the Authority;

b. The down loading in an authorised manner of any software, data or operational parameter;

c. The replacement of a reference coin for comparison purposes in a coin reading device;

d. An approved configuration (set-up) mode;

e. Other operational parameters as approved by the Authority.

C.3.1.5.4. Access to Restricted Features

Access to the following restricted features of gaming equipment shall be regulated by at least a key-switch, or access to the inside of the machine cabinet:

a. Auditing Information (refer section "C.3.2.17.Auditing Information")

b. Statistical Information (refer section "E.2.3.Statistical Information")

c. Device Configuration (refer section "C.3.1.10.Set-up - Device Configuration")

d. Test Functions (refer section "C.3.2.16.Test/Service/Demo Mode")

e. Any other features deemed to be restricted by the Authority.

C.3.1.5.5. Audible Alarm

a. An audible alarm must be provided for signalling of door opens and error conditions in gaming equipment directly accessible to the general public.

b. When the alarm is activated it must remain audible for a period not less that ten seconds.

c. Accordingly, volume controls (either hardware or software set) must not be able to be adjusted to a level where the volume is barely audible (that is, unable to be heard by patrons at adjacent machines).

C.3.1.6. Recovery

In the event of a non-destructive fault (eg. coin jam) or failure (eg. power off), de-activation (eg. game disabled by host) or interruption (eg. door opened), the gaming device must be able to fully recover to its state immediately before the disruption, once the condition is cleared.

C.3.1.7. Communications

a. All gaming equipment supplied to or for an operator must comply with the approved communications requirements of that operator.

b. Where any data (eg. credits, metering information, information pertaining to a game outcome, etc.) are transferred between microprocessors or sub-systems internal or external to a gaming device, there must be a form of error detection and correction on the transferral.

c. Where an operator requires communication to be implemented, such that more than one gaming device may communicate using the same transmission medium, a device's communications port must, after loading the appropriate divisors into the UART (or other), operate at a baud rate within a 1% tolerance of the required baud rate.

C.3.1.8. Unused Program Memory

The Authority requires that all unused areas of EPROM be written with the inverse of the erased state, which for most EPROMs is zero bits (00 hex) rather than one bits (FF hex).

C.3.1.9. Player Input

Gaming equipment software must not allow a gaming device to be adversely affected by the simultaneous or sequential activation of the various inputs.

C.3.1.10. Set-up - Device Configuration

a. A variable required to be set during device configuration or set-up must be only able to be set once per valid memory clear.

b. A gaming device must not be able to be operated unless all configuration variables are set.

c. A device may be configured remotely or by direct access via an approved mechanism.

d. If memory becomes corrupted, a gaming device must not assume default values and re-commence gaming operation unless the assumed values have been configured by an approved mechanism.

C.3.2. Gaming Machine/Terminal

C.3.2.1. Coin/Note Acceptance

a. In games where tokenisation is used, each valid coin or note inserted must register a number of credits as stated clearly on the machine artwork, video, or other form of information display.

b. In games where tokenisation is not used, each valid coin inserted must register one credit, and one credit must correspond to one coin when applied to a game or collected.

c. All valid coins or notes are to be deposited in either a cash-box or hopper.

d. All invalid coins or notes are to be returned to the player.

e. Any coin or note that is accepted by a gaming device must be credited to the customer's balance by the correct amount as prescribed for that coin value.

f. All coins and notes must either be prevented from being inserted or be rejected during periods when the gaming equipment is inoperable for whatever reason.

g. Pulses from the coin comparator must be utilised in conjunction with photo-optics for detection of a valid coin.

C.3.2.1.1. Programmable Coin/Note Acceptors

a. There is to be an approved communications protocol between the coin/note acceptor and the programming device such that only specially supplied programming devices or programs (which are released exclusively to the casino operator and its maintenance group) may program the coin acceptor in the field.

b. Prior to a 1 January 1996 deadline, if a signature check is not provided (as defined in section "C.3.2.15.Event Handling"), the Authority must be able to read the contents of the program, for auditing purposes on the casino floor, via some approved method.

C.3.2.2. Card Reading

a. If cards employing a form of electronic storage of data are to be utilised, the Authority would have to be satisfied with all aspects of security. Some of the major concerns are:

   i. prevention of illegal alteration of data;

   ii. protection from loss of data;

   iii. recovery of information from damaged or lost cards;

   iv. accuracy of read/write operations;

   v. protection from fraudulent duplication of card information.

b. Software must activate a locking mechanism to retain a card used for cashless gaming within a reading device and lock a card into the unit once inserted.

c. Where cashless gaming is used, software must not de-activate a locking mechanism until one of the following conditions is met:

   i. a player has requested a collect of remaining credits AND all updating of account records and/or information retained on a card has been successfully completed;

ii. a player has a zero credit balance AND all updating of account records and/or information retained on a card has been successfully completed;

iii. an invalid card event condition has been cleared by an approved method (as defined in section "C.3.2.15.Event Handling").

d. Where cards are used for account betting, NO wager will be permitted to exceed the balance of an account.

C.3.2.3. Wagering

a. Wagers must only be made from credits appearing on the credit meter.

b. The Authority does not prescribe a maximum or minimum wager at this time.

c. In regard to multi-line games, each additional line which is brought into play by the wagering of (a) further credit(s) must be clearly indicated by the game so that the player is in no doubt as to which lines are in play.

C.3.2.3.1. Wagering Information

An EGM must display to the player the following information:

a. the player's current credit balance;

b. the current wager amount;

c. all possible winning outcomes;

d. win amounts for each possible winning outcome;

e. the amount won for the last completed game (until the next game starts);

f. the player options selected for the last completed game (until the next game starts).

C.3.2.3.2. Tokenisation

a. Devices that implement tokenisation must ensure that if a sequence of higher value coins is entered no credits will be lost even if there is a power failure of the EGM before all of the credits are incremented to the player's balance.

b. Tokenisation parameters must either be hard-coded, or be able to be configured during the configuration of the gaming device.

C.3.2.4. Game Initiation

a. A gaming device shall only initiate game play:

i. after credits have been registered, and

ii. after the player has nominated the number of credits to bet on that game, and

iii. after the player presses a "play" button (or similar input, eg. touch screen).

b. Where parts (ii) and (iii) are combined, such as "auto-play" buttons, or where pressing the "play" button causes a default number of credits to be selected, then such facilities will be acceptable provided these functions are clearly explained in game instructions (eg. on button artwork).

C.3.2.5. Game Play

a. Events of chance within games must not be influenced, affected, controlled or determined by anything other than (in conjunction with the prevailing payout table) numerical values obtained in an approved manner from the approved RNG .

b. A gaming device must not have any means of manipulation that affects the probabilities of random event outcomes during game play.

c. Prior to the commencement of each game play, the method by which all random behaviour is derived during a game is to be fully determined and frozen.

d. This requires that all random numbers (including random decisions, random events or any other random behaviour) to be used during the course of the game play be generated and recorded prior to the start of the game play.

e. Games must also comply with the requirements of Part D of this document.

C.3.2.6. Multiple Games

a. There is currently no limit as to the number of games implemented on a single EGM.

b. The patron must at all times be aware which game has been selected for play or is being played, as applicable.

C.3.2.7. Credit Redemption

a. The cash out button or its equivalent must be operable at any time except:
   i. during a game cycle (ie in the middle of computation of a random result),

   ii. whilst the gaming device is in a test or audit mode, or

   iii. whilst the gaming device is in a fault condition that does not allow for the collection of credits as defined by this document, or approved protocol documents.

b. CANCELLED CREDIT: If a patron attempts to collect available credits, and the total coin value of those credits is greater than the hopper fill amount, then the gaming device shall either:
   i. print a validated ticket for cash redemption, or

   ii. automatically lock-up and go into a hand-pay or cancel credit condition and not exit from this condition until all credits have been cancelled.

c. HOPPER PAY: If a patron attempts to collect available credits, and the total coin value of those credits is less than the hopper fill amount, then the gaming device shall dispense the equivalent value in coins from the hopper.

d. After a hopper pay, for any residual credits (eg. in a tokenised game) the following two options are acceptable:
   i. the player is given the option to either receive a cancelled credit OR play out the remaining credits;

   ii. the player is paid the balance by a cancelled credit only.

e. Whenever credits are redeemed by a player, the number of credits paid out must be clearly displayed.

C.3.2.7.1. Tokenised Device

When there are "odd credits" (ie. less than the hopper base coin) in the player balance and a collect is attempted on a gaming device with a coin hopper, the gaming device must pay out the balance as if it were a "large credit balance" (eg. by cash ticket or cancelled credit) instead of from the hopper.

C.3.2.8. Coin Diverter

a. The software must ensure the state of the diverter is directing coins to the cash-box only when the hopper is full.

b. If software determines from diverter sensors or sensors on the coin path that the diverter is not directing coins to the position dictated by software, software must assume a diverter fault has occurred and act in accordance with event handling requirements as defined in section "C.3.2.15.Event Handling".

C.3.2.9. Coin Hopper

a. Software must interpret sensor outputs to determine if one of the following events has occurred and act in accordance with event handling requirements as defined in section "C.3.2.15. Event Handling":

   i. hopper empty;

   ii. hopper jam;

   iii. disconnection/malfunction of coin-out sensor;

   iv. extra coin out;

   v. hopper runaway.

b. Software must interpret sensor output to determine if a valid coin has exited the hopper and update the coin-out meter.

c. In addition to accounting procedures used by software to determine the level of a hopper, software must interpret sensor output to determine if a hopper is full.

C.3.2.9.1. Refill Procedure

a. The refill procedure must be a software option clearly different from any other procedure (such as resetting a hopper jam).

b. As different casino operators tend to require different refill limits, it is strongly recommended that manufacturers allow the refill amount to be a variable parameter, configurable during machine set-up.

C.3.2.10. Reels/Wheels

a. The current position of a reel or wheel must be monitored by the control computer to detect malfunctions.

b. The software must interpret sensor outputs to determine when a reel or wheel does not stop in the position nominated by the control computer, and act in accordance with event handling requirements requirements as defined in section "C.3.2.15.Event Handling".

c. A reel or wheel must re-spin automatically to the last validly obtained play-mode result when the main door is closed.

d. Each microprocessor-controlled reel must spin at least one revolution per game.

C.3.2.11. Video displays - Screen Save

a. Any screen save function shall only be activated when there are no credits on the machine.

b. If a fault condition exists on the machine when the program enters the screen save function, the nature of the fault must be displayed, otherwise the machine must exit screen save.

c. Screen save mode shall exit upon the occurrence of any of the following:

   i. the activation of an input device;

   ii. any door opening;

   iii. event condition.

C.3.2.12. Touch Screens

a. Gaming equipment employing touch screens must have a re-calibrating facility which may be either manual or automatic.

b. The player's selected input must always be interpreted accurately and acted upon in accordance with the description of the choice (indicated on the screen) made by the player.

C.3.2.13. Printer

Where a printer is provided, software must interpret sensor outputs to determine if one of the following events has occurred and act in accordance with event handling requirements as defined in section "C.3.2.15. Event Handling":

a. paper out;

b. printer disconnection;

c. printer faults.

C.3.2.14. Metering

a. Meters must be activated upon the occurrence of the event.

b. A gaming machine must provide the following meters:

   i. total number of games played (stroke);

   ii. total of all credits played (turnover);

   iii. total of all credits won;

   iv. total of all hand pays (cancelled credits);

   v. total of all credits out;

   vi. total of all credits to the cash (drop) box;

   vii. total of all hopper refills;

   viii. total of all credits in.

C.3.2.14.1. Multi-Game

At least the following meters must be separate for each game offered on a multi-game:

   a. total of all credits won;

   b. total of all credits wagered.

C.3.2.14.2. Credit Meter

a. A gaming device must have a "Credit" meter and a "Collect" meter.

b. The number of credits resulting from a prize, as displayed on the pay table, must be added to the credit meter when won.

c. The player's current credits shall always be prominently displayed.

d. The number of credits staked on the game shall be subtracted from the player's credit meter.

e The number of credits collected shall be subtracted from the player's credit meter.

C.3.2.14.3. Feature Games

a. If a base game may be followed by feature games, then only the total number of credits won at the end of a feature game series is to be added (eg. if after four double-up games the metered win is 16, then after the fifth it is 0, only 0 is to be added to the coins won meter).

b. The number of credits bet on feature games is not to be added to the turnover meter unless credits which are additional to the credits won from the base game are required to be wagered to play the feature. In this case the credits bet, and the coin in (where coins have been inserted), are to be accounted for.

C.3.2.14.4. Labelling

All retrievable electronic statistics or other information must be suitably labelled.

C.3.2.14.5. Meter Overflow

In the event that a meter, of any type, reaches its maximum value it must automatically wrap back to zero and subsequently continue counting (from zero) in the normal way.

C.3.2.15. Event Handling

a. To assist with service and fault diagnosis, the nature of the event must be displayed.

b. All fault conditions may activate a tower light. The Authority does not mandate the use of tower lights to indicate events.

c. Upon the occurrence of an event as listed below, the gaming equipment is to disable all gaming functions until the condition is cleared in a manner which requires the intervention of a venue employee. It is understood that not all events will be applicable to all devices. Please refer also to E.2.4:

<u>Common</u>

i. power off

ii. power on

iii. EPROM validation or signature failure

iv. unrecoverable RAM failure

v. unrecoverable EEPROM validation failure

vi. low RAM back-up battery

vii. cabinet door open

viii. cabinet door closed

ix. restricted compartment door open

x. restricted compartment door closed

xi. power off restricted compartment door open

xii. power off restricted compartment door closed

Terminal Specific

i. coin yoyo

ii. coin/note-in jam

iii. hopper jam

iv. hopper empty

v. hopper runaway

vi. extra coin paid

vii. reel tilt

viii. diverter/optics error

ix. cancelled credit

x. printer out of paper

xi. jackpot

Controller Specific

i. controller fault/disconnect

ii. progressive award

Other

i. other events as required by the Authority from time to time.

C.3.2.16. Test/Service/Demo Mode

a. When in test, demo or service mode, the current play-mode status of the game, including player's credit, must be preserved.

b. A message indicating that the machine is in demo or service or test mode must be clearly displayed.

c. If a hopper test exists, all coins must still be properly accounted for in all circumstances.

d. Where the possibility exists to obtain credits whilst in test mode, those credits are to be automatically cancelled when the door is closed and shall not be accredited to the meters.

C.3.2.17. Auditing Information

a. Auditing information is to be retrievable at all times except during game play or when in test mode.

c. It is not mandatory that auditing information be displayed on the device from which the information originates. That is, it may be displayed on an external device and/or computer to which the gaming device has communicated such information.

b. The device must not be playable while auditing information is being displayed on the device.

C.3.2.17.1. Last Game Information

C.3.2.17.1.1. Information to be Provided

The following information on the last game played (the game before the current game) shall be retrievable:

a. Type of game played;

b. Prize table used;

c. Display card values, reels in position, or other game status information;

d. Total number of credits or monetary value at start of game (less credits bet);

e. Total number of credits or monetary value played;

f. Player choices (if any) involved in game outcome;

g. Total number of credits or monetary value associated with the prize resulting from the last play (won);

h. Total number of credits added after the last game;

i. Total number of credits collected or cancelled after the last game;

j. Replay of all feature games following the last game replay;

k. Jackpot amount and indication if won or not (if any).

C.3.2.17.1.2. Number of Games to be Retrievable

All game submissions received after 1 January 1995 must be capable of storing and displaying last game data for at least the five (5) most recently played games.

C.3.2.17.1.3. Implications of Last Game Replay

a. Card Games

All cards used in a game must be shown on the screen in the format in which they are normally shown to the player. In Draw Poker, it is necessary to show which cards were held and which were discarded. If Double-up is played, all cards involved in the Double-up must also be displayed.

b. Keno and Bingo

For Keno and Bingo all of the balls drawn, the selections made by the player and the final "catch" are to be displayed in a manner similar to that originally shown to the player.

c. Spinning Reel Games

The EGM must display, at least, the final resting place of the reels, the options (play lines and/or number of coins selected) and an indication of winnings in a manner similar to that originally shown to the player.

For a Stepper Motor EGM, this means spinning the reels to the final resting point at the completion of the game and illuminating / flashing any lights or other indicators that were in that state at the end of that game. The wheels, lights and display must be returned to their original states when the viewing of the last game replay is completed.

C.3.2.17.2. Software Version Number

Each gaming device must have a function to display the current software version(s) installed in the device.

C.3.2.17.3. Meter Display

Gaming equipment must have a function to enable all meter information retained by gaming equipment to be displayed.

C.3.3. Jackpot Controllers and Displays

C.3.3.1. Types of Jackpot Permitted

The Authority will only allow progressive jackpots to be implemented where:

a. the progressive win will be determined by a gaming device participating in the jackpot;

b. the progressive win is based upon a random event;

c. there is an equally likely chance of winning the jackpot at all times (that is, no predetermined jackpot schemes are permitted) for each play of a gaming device contributing to the progressive prize;

d. there is absolutely no doubt as to which device hit a jackpot in a back-to-back hit situation; or

e. it is convinced that jackpot schemes which fail to address the specifics of these requirements comply with the intent.

C.3.3.2. Fault in controller or display devices

a. If a progressive controller or a display device exhibits a fault or communications are lost for any reason:

   i. software must, where possible, notify the system monitoring the progressive controller of these events as defined in section "C.3.2.15. Event Handling";

   ii. all gaming devices associated with that controller or display must have their progressive games disabled.

b. Progressive games must not be permitted to be re-enabled after a recovery from a fault until the current value of the progressive meter has been re-established.

C.3.3.3. Jackpot Display Update

The Authority will not approve a scheme where the jackpot displays are normally "significantly inaccurate" for any period of time.

C.3.3.4. Jackpot Win

a. The Authority requires that there be the following indications of the winning of a jackpot prize both on the gaming floor and at the back house computer room and Government inspectors' office:

   i. audible, and

   ii. visual

   indication of such an event.

b. The progressive controller must accommodate the situation where two jackpots are awarded "back-to-back" (that is, are awarded before the controller has reset the progressive display) in a manner which is acceptable to the Authority.

C.3.3.5. Monitoring and Control of Progressive Jackpots

a. A progressive may be controlled by any of the following:
   i. game (standalone progressive);
   ii. jackpot controller;
   iii. back house system.

b. Progressive jackpots must be monitored and controlled at all times.

c. Where the progressive prize is updated based on calculated values (eg. protocol system) rather than increments (eg. pulsed system), the progressive controller must monitor values from gaming devices to ensure they are within acceptable tolerances. If they are not:
   i. invalid data must be ignored;
   ii. the controller must notify the back house system of the event as defined in section "C.3.2.15. Event Handling";
   iii. the gaming device providing the invalid data must have its progressive game(s) disabled.

d. If a progressive jackpot prize amount reaches a cap or ceiling value as approved by the Authority on a case-by-case basis, all additional contributions are to be credited to a diversion pool or overflow pool.

e. Where a "master controller" employs "slave controllers" to control a linked progressive jackpot, jackpot hit events must be time-stamped and the master controller must ensure:
   i. that all slave controllers are time-synchronised;
   ii. that the minimum time increment is not less than the time taken to:
      - register that a jackpot has displayed,
      - lock up the winning device, and
      - reset the progressive meter.

C.3.3.5.1. Jackpot Parameters

a. The values of the following jackpot parameters must receive the approval of the Authority:
   i. increment as a percentage of amount bet
   ii. base or reset amount
   iii. ceiling amount.

b. Jackpot controllers must ensure that jackpot parameters approved by the Authority are not able to be modified without the knowledge of the Authority. The amounts need not be hard-coded into memory, as it is acceptable to set these amounts during the configuration of the controller (Refer section "C.3.1.10.Set-up - Device Configuration").

c. To enable recovery of the current value of the progressive amount in case of controller failure, either:
   i. the current value of the progressive amount must be stored in at least one other device physically separate from the controller. It is not sufficient to rely on the amount displayed unless it can be shown that a controller failure would not corrupt the amount displayed at the time of failure; or

ii. the current value of the progressive amount must be capable of being accurately calculated from other metering information available (eg. Base Amount + S(Increment rate x Turnover per machine since last jackpot hit).

d. Jackpot controllers must ensure that the current jackpot value is not able to modified without the knowledge of the Authority. It is acceptable to set this amount during the configuration of the controller (refer section "C.3.1.10.Set-up - Device Configuration").

e. The current value of a progressive prize, after a valid win of a progressive prize has been reset, must equate to: BASE VALUE + OVERFLOW.

D. GAME DESIGN REQUIREMENTS

D.1. Game Design Requirements Detailed Table of Contents

This part applies to all games incorporating an element of chance, and therefore requiring a random selection process.

D.2. Random Selection Process

D.2.1. Software RNG versus Hardware RNG

The Authority does not mandate the method of random number generation. A pseudo-random number generating algorithm, a dice shaker, a selector of keno balls, or a roulette wheel, etc. may all be acceptable RNGs.

D.2.2. Requirement for Random Number Generators

The fundamental requirement is that the use of a random number generator (RNG) results in the selection of game symbols or production of game outcomes 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.

D.2.2.1. Additional Requirements for a Software-Based RNG

D.2.2.1.1. Choice of Algorithm

The choice of algorithm is at the discretion of the supplier of equipment.

D.2.2.1.2. Background RNG Activity Requirement

a. The RNG must be cycled continuously between games.

b. At the time that a play button is pressed the random sequence of numbers currently available is to be selected.

D.2.2.1.3. RNG Seeding

a. The method of seed generation must ensure that the same sequence of random numbers is never used in more than one device at the same time.

b. Seeding and re-seeding must be kept to an absolute minimum.

D.2.3. Scaling Algorithms

a. 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 re-scaling, ie. converting the number to the lower range, is to be designed so that all numbers within the lower range are equally probable.

b. If a particular random number selected is outside the range of equi-distribution of re-scaling values, it is permissible to discard that random number and select the next in sequence for the purpose of re-scaling.

D.3. Game Design

D.3.1. Prize Table Construction

D.3.1.1. Prize Determination

Prize determination shall:

a. Be for attainable combinations of the mapped symbol set (except for random prizes);

b. Be clearly specified on the exterior of the device (or in readily available literature, eg. live keno);

c. Be exclusively a consequence of the outcome of the RNG (in conjunction with the player's application of knowledge if applicable);

d. Not be relative to, but independent of, the playing history; and

e. Have a statistical expectation that the percentage return to the player, over a reasonable level of play, be no less than 87% for gaming machines, and not less than a percentage approved by the Authority for other devices.

D.3.1.2. Maximum Prize

a. The Authority has no restrictions on the maximum prize that may be offered on any gaming device.

b. The Authority will accept prizes in excess of $10,000 only if it is confident of the level of security, monitoring and controls in place for both the device and its operating environment.

D.3.1.3. Game Return

a. Games must have a theoretical and demonstrable return to the public of not less than eighty-seven percent (87%).

b. Where a progressive prize is offered, it must be implemented such that the start-up value together with the increment rate of the progressive ensure that the 87% minimum return is realised.

c. The Authority may accept games on a trial basis (where risk has been defined and agreed to) where a game's theoretical return can not be reasonably calculated, provided the Authority is confident in the security and fairness of the game.

D.3.1.4. Game Features

D.3.1.4.1. Feature Games

a. If a feature game is provided whereby the patron must wager credits, in addition to winnings from the game that triggered the feature, to enter that feature, the player must be given a choice whether to enter the feature game or not.

b. Initial entry to a feature game must be conditional upon an immediately preceding occurrence of a winning event in the primary game.

c. The winning event that gives entry to a feature game must not involve the winning of a stand-alone progressive or linked progressive jackpot.

d. The return from all feature games is to be theoretically and demonstrably greater than or equal to 87%.

D.3.1.4.2. Double Up

a. A maximum of five (5) consecutive double-up attempts may be made following a win on the primary game.

b. The double-up game must be a "zero expectation game" ie. it must have a theoretical 100% player return.

D.3.1.4.3. Random Prize

A game may offer random prizes provided that there is an equally likely chance to obtain a random prize on each play of a game.

D.3.1.4.4. Jackpots

The obtaining of (a) set winning combination(s) may result in the awarding of a progressive prize as advertised on a progressive meter.

D.3.1.4.5. Other

The Authority will consider any other type of game feature as it is presented.

D.3.2. Symbol Mapping

a. The mapping of numbers directly from RNG output or through a scaling algorithm shall not bias a symbol to occur with a probability not equal to its statistical expectation.

b. Symbols of virtual reel games (video) MUST appear to the player in the same arrangement as per the reel strips. No manipulation or rearrangement of the reels' symbols when displayed to the player is permitted.

D.3.3. Game Fairness Objectives

The following minimum requirements for game fairness objectives and their intent are to be achieved. The intent of the objectives is to ensure that the probability distribution of each random event within a game is:

a. as it appears to the player,

b. as it is represented to the player, and

c. as it could reasonably be inferred by the player.

D.3.4. Card Games

a. Cards must be drawn fairly from a randomly shuffled pack consisting of the full set of cards applicable to the game depicted.

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.

d. As cards are removed from the pack they must be immediately used as directed by the rules of the game, ie. are not to be discarded due to adaptive behaviour by the EGM.

D.3.5. Ball Drawing Games

a. Balls must be drawn fairly from a randomly mixed barrel consisting of the full set of balls applicable to the game depicted.

b. Balls once removed from the barrel must not be returned to the barrel except as provided by the rules of the game depicted.

c. The barrel must not be re-mixed except as provided by the rules of the game depicted.

D.3.6. Roulette/Wheel/Reel Spinning, Dice Rolling, Coin Tossing Games

For games depicting or involving any of:

a. the spinning of reels (such as "slot machines" or "poker machines"),

b. the spinning of wheels (such as roulette),

c. the rolling of dice,

d. the tossing of coins,

e. other similar depictions,

the following requirements apply:

i. For each reel/wheel/die/coin/etc. depicted, the probability of any one face appearing must be as for the actual physical device (eg. 1/20 for a 20-faced reel or wheel; 1/6 for a 6-faced die; 1/2 for a coin).

ii. The Authority may approve "virtual reel extensions" for physical reel EGMs (ie. stepper motor machines) but only if the probability of each virtual reel position is identical (eg. a 22 position physical reel is mapped into a virtual reel of 33 symbols - the probability of each virtual position must be 1/33). The virtual mapping of such physical reels must be approved by the Authority.

iii. The behaviour of each reel/wheel/die/coin/etc. must be independent of (ie. uncorrelated with) all other reels/wheels/dice/coins/etc.

iv. The behaviour of each reel/wheel/die/coin/etc. must be independent of (ie. uncorrelated with) its previous behaviour.

E. BACK HOUSE EQUIPMENT REQUIREMENTS

E.1. Back House Equipment Requirements Detailed Table of Contents

E.2. Back House Systems

a. The Authority requires that the casino operator implement an electronic monitoring system (EMS) capable of performing the following broad functions:

   i. logging, reporting and searching of gaming equipment events,

   ii. collection of individual device financial and meter data,

   iii. reconciliation of meter data against cash box hard count,

   iv. performance reporting as specified from time to time by the Authority,

   v. configuration of the gaming equipment,

   vi. systems security,

   vii. real time commands to the casino surveillance system.

b. The EMS must be computer based with sufficient capacity (processing, memory, communications interfaces and hard disk storage) to efficiently monitor all gaming devices within the casino.

E.2.1. Central Logging

Game play statistics and machine event and configuration data are to be held in a single (backed-up) central computer system. They may also be held in intermediate points in the EMS.

E.2.2. Communications

a. The back house system must support the communications requirements of Part F of this document.

b. Game play statistics information and event data will be passed to the EMS by an approved electronic data communications means in a timely manner by schedule and/or on demand.

c. The frequency of data collection will be approved by the Authority.

E.2.3. Statistical Information

a. Statistical information is to be collected and held for each individual EGM as well as accumulated for the casino.

b. The units in which each statistic is to measured is to be approved by the Authority but may include cents, dollars, number of coins/tokens or others.

c. The Authority requires that the information detailed in section "C.3.2.14. Metering" be maintained by the back house system monitoring gaming machines.

d. Meter requirements for other systems such as live keno terminals will be treated on a case-by-case basis.

E.2.3.1. Meter Wrap Handling and Meter Width

Operational procedures, software, etc. must be in place and must, together with the width of the meters and the expected rate of meter counts, be sufficient to cater for resulting meter wrap events (ie. to detect and correctly handle meter wraps), and so preserve the true total statistics.

E.2.4. Events

a. All events recorded are to be time stamped.

b. When gaming is conducted in an environment that does not provide constant monitoring by inspectors or by video monitoring, the Authority requires that the events listed in section "C.3.2.15.Event Handling" of this document be recorded.

c. When gaming is conducted in an environment that does provide constant monitoring by inspectors or by video monitoring, the Authority requires that events listed in section "C.3.2.15.Event Handling" OR an approved subset of those events be recorded. The Authority will consider submissions for dispensation on a case-by-case basis depending on the operating environment and internal controls in place.

E.2.5. Device Configuration Database

The Authority requires a gaming device monitoring system to maintain the following information for each gaming device which it monitors:

a. location,

b. device description (eg. serial number, manufacturer),

c. configuration (ie. denomination, software version installed, games available, progressive status),

d. history of upgrades, movements, and re-configurations, and

e. other information as deemed appropriate by the Authority.

E.2.6. Retention of Unclaimed Moneys

The operator must maintain a register of all prize money which has not been claimed after a time set by the Authority. The operator shall hold this money in trust for distribution as and when the Authority deems appropriate.

E.2.7. User Interface, Documentation and Reporting

The Authority must be satisfied that:

a. information printed or displayed is accurate, and

b. the user interface and operation of the system is presented, both by the system and in documentation (operator's manuals, etc), in a manner which is conducive to efficient operation of the back house systems.

E.2.8. Password Protection

a. The operating system of the computer(s) must provide comprehensive password security.

b. It is expected that all programs and important data files can be accessed only by entry of a password which will be known only to authorised personnel.

c. The Authority requires that storage of passwords and PINs be in an encrypted, non-reversible form.

d. A program must be available that will list all registered users on the system including their privilege level.

E.2.9. Access by Duly Authorised Officers

a. The Government inspectors and duly authorised officers of the Authority are to be able to access the back house system data at any time.

b. The system software is to provide comprehensive search mechanisms for the purpose of examination of events and statistical data. The search mechanisms should cater for a variety of "keys" for the search, including date, time, event number, machine/terminal number, etc.

E.2.10. Link to Authority Computing Facilities

a. There is to be an electronic link from the casino operator's back house computers to the Government inspectors' computer facilities and (if the Authority requires it) to those of the Authority.

b. This link is to be on-line real time within a casino operator's premises.

c. The link may optionally be dial-up to offices external to the operator's premises.

d. This link is for the purpose of obtaining reports or other information (eg. security events) requested by the Authority or the Government inspectors.

E.2.11. Back House System Hardware

a. The Authority must approve the hardware configuration of back house gaming systems.

b. The assessment will evaluate the hardware configuration for reliability, recovery, auditability, and redundancy.

E.2.12. Test System

a. The casino operator must ensure that upgrades to back house systems and associated gaming equipment are able to be adequately tested in an appropriate test environment using test systems.

b. If the live systems are used as test systems, it must not be possible to interfere with the operation of, or data stored on, the live systems.

F. COMMUNICATION REQUIREMENTS

F.1. Communication Requirements Detailed Table of Contents

F.2. Communication Scheme Dependent on Operating Environment

a. When gaming is conducted in an environment that does not provide constant monitoring by inspectors or by video monitoring, the Authority requires that:

   i. ALL communications be via a protocol-based communications scheme;

   ii. signature verification of all gaming floor equipment software be initiated by a central monitoring (back house) system;

   iii. the system have the ability to send control codes to a device to disable/enable all gaming operations on that device.

b. When gaming is conducted in an environment that does provide constant monitoring by inspectors or by video monitoring:

   i. the Authority will consider communication to/from the gaming machines or terminals and an external controller or communications interface via a "wiring harness" provided that security or metering information is not able to be readily compromised;

   ii. communications from the controller or interface to the monitoring system must be protocol based.

c. Either synchronous or asynchronous communications may be used.

F.3. Dial-Up or On-line Communications

a. All on-site communications must be on-line, real time.

b. The Authority requires remote communications to be on-line only in the circumstances where:

   i. linked progressive jackpots are operated with a prize value exceeding an amount prescribed by the Authority,

   ii. there is any form of cashless play involving the electronic transfer of funds.

F.4. Hardware

F.4.1. Communications Interfaces - Line Isolation

All equipment, if any, attached to the telecommunications network, and all telecommunications wiring, must satisfy Telecom's requirements with respect to line isolation and earthing.

F.4.2. Communications Transmission Medium and Method of Device Connection

a. The Authority will consider wired, wireless, fibre optic or any other form of transmission medium.

b. The Authority may approve the transmission medium after giving due consideration to:

i. signal attenuation or distortion;

ii. potential for ground loops;

iii. reliability;

iv. other matters as appropriate.

F.4.3. Data Communications

F.4.3.1. Message Formats / Protocol

a. The Authority must approve the message formats and protocol used for data communications.

b. The assessment will also extend to the adequacy of documentation which is to be distributed to selected suppliers for interfacing with the system operating the chosen protocol.

c. The Authority will approve a protocol only if it is confident that the devices implementing the protocol will comply fully with the requirements of this document, and any other requirements the Authority may specify from time to time.

F.4.3.2. Data Link

Communications protocols must include the following:

a. Error Control

b. Flow Control

c. Link Control (remote connection).

F.4.3.3. Error Detection

The data communications must make use of Cyclic Redundancy Checks (CRCs); use of only parity or simple checksum byte is not acceptable.

F.4.3.4. Encryption

a. The Authority requires data transmissions to be encrypted where:

i. linked progressive jackpots are operated with a prize value exceeding an amount prescribed by the Authority;

ii. cashless transactions are operated;

iii. a link to a Government facility is provided.

b. The method of encryption must be approved by the Authority.

F.4.3.5. Medium Access Control Methods

The Authority will consider any method of access control, such as:

a. CSMA/CD

b. Control Token

c. Slotted Ring

d. Polling.

F.4.3.6. Data Communication Control of EGMs

Only approved control functions of gaming devices may be implemented. These control functions must be clearly specified in the protocol documentation.

G. APPENDICES

G.1. Glossary of Terms

Account Betting	Wagers placed against an account that has had monies deposited in the account before wagering takes place.
Artwork	The designs, logos, and pictures adorning a gaming machine, displays on the monitor of the gaming machine, and the shape and design of the gaming machine cabinet.
Baud Rate	Rate of data transmission, typically in bits per second (BPS).
Clearing EPROM	An EPROM containing a program which completely erases each and every bit in RAM.
Coin Validator	Coin comparator, photo-optic sensors (internal or external to the comparator) and any additional devices used to validate a coin.
CPU	Central Processing Unit (microprocessor or micro-controller).
CRC	Cyclic Redundancy Code.
Critical Memory	Functions including, but not limited to: a. information pertaining to the play and final outcome of the prior game, b. random number generator outcome, c. credits available for play, d. metering information and any error states, e. critical memory pointers, f. security event buffer.
DIP Switch	Dual In-line Parallel Switch.
EEPROM	Electrically Erasable Programmable Read Only Memory (a form of electronic read/write memory that retains its contents while powered off).
EGM	Electronic Gaming Machine.
EMI	Electro Magnetic Interference.
EMR	Electro Magnetic Radiation.
EMS	The computerised Electronic Monitoring System of the casino operator's network (Back House system).
EPROM	Electrically Programmable Read Only Memory - a storage area which may be filled with data and information, which once written is not modifiable, and which is retained even if there is no power applied to the device. Modification (erasure) is only possible by the application of an Ultra Violet (UV) light source.
EUT	Equipment Under Test.

I/O	Input/Output.
ICE	In-Circuit Emulator.
Jackpot	A game whereby a part of the wager amount is added to a pool or account (commonly called the jackpot). When certain winning criteria are met by a player the jackpot is "won" and the winner(s) receive an amount from the pool (as specified by the rules of the game) as a prize and the pool is then reduced by the prize amount and/or reset to a minimum amount. In most implementations, the minimum amount is a non-zero value, often called a "seed" or "base value", which encourages players to participate in the next jackpot.
LCD	Liquid Crystal Display.
LED	Light Emitting Diode.
Linked Progressive Jackpot	A jackpot that enables two or more EGMs within the casino to participate in one or more common jackpots.
Memory	An area of a computing device used to store data and instructions.
Multi-game	Gaming software which offers more than one game on a single gaming device.
NV-RAM	Non-Volatile Random Access Memory (a form of electronic read/write memory that does not lose its contents when the equipment is powered off).
PCB	Printed Circuit Board.
PROM	Fusible link Programmable Read Only Memory (a form of electronic read only memory).
RAM	Random Access Memory - the storage facility used by the CPU to store data and instructions. This form of storage is volatile; if the machine in which it is installed loses power, the contents of RAM are lost.
RFI	Radio Frequency Interference.
RNG	Random Number Generator - a method of producing a sequence of random numbers.
ROM	Mask programmed Read Only Memory (a form of electronic read only memory). This document has been written in terms of use of EPROM program storage, so, as far as this document is concerned, ROM is an allowable type of EPROM.
SA	South Australia.
Slave Controller	A device which controls an aspect of gaming which is itself controlled by a master controller. For example, an EMS may perform overall control of a jackpot scheme, but a slave controller would only perform localised control.
Software Shell (Primitive)	The base software in which there is no game information.

Standalone Progressive Jackpot	A jackpot where contributions to the jackpot and the possibility of winning the jackpot apply only to a single EGM. The EGM may have one or more jackpots associated with it.
Tokenisation	Conversion of an inserted coin or note into a multiple number of credits.
UART	Universal Asynchronous Receiver Transmitter.
UPS	Uninterruptable Power Supply (a no-break mains power supply including battery backup equipment).
UV	Ultra Violet light.
VCCA	Victorian Casino Control Authority.

G.2. Standards Cross Reference Table

Aust Standard	NZ Standard	VCCA Sections	SA Sections	NZ Sections
AS2546	No NZ Equivalent	3.11.3		C.2.1.16.1.
AS3508	No NZ Equivalent	3.11.3		C.2.1.16.1.
AS3548	AS/NZS3548	3.13.1.2		C.2.1.14.1.
AS3563				C.3.1.1.
AS3100 - 1990	NZS6200 - 1988	3.16		
AS3108 - 1990	AS/NZS3108 - 1990[1]	3.16		
AS3250 - 1990	AS/NZS3250 - 1990[2]	3.16		C.2.2.5.2.
AS3260 - 1993	No NZ Equivalent	3.16		
AS1099[3]	IEC 68	3.18.2		C.2.1.21.
AS3000 - 1991	No NZ Equivalent	6.10.3.1		B.3.1.6., C.2.1.15.
IEC 801-2	No NZ Equivalent	3.13.2.3.1, 3.13.2.3.2		
IEC 801-4	No NZ Equivalent	3.15.1		C.2.1.13.
AS3901	AS/NZS 3901		2.5, 3.8.2	
AS3902	AS/NZS 3901		2.5	
AS3903	AS/NZS 3901		2.5	
IEC 801-5	No NZ Equivalent	3.15.1		C.2.1.13.
AS1120 - 1978[4]	No NZ Equivalent			
ISO 2014 - 1976	No NZ Equivalent			
MIL 461C RS01	Unknown			
IEC 801-3	No NZ Equivalent			

[1] Australia New Zealand Standard

[2] Australia New Zealand Standard

[3] Australia Standard based on IEC 68

[4] Replaced by AS3802

G.3. Cross Reference Table

New Zealand	VCCA	South Australia
B.2.2.1	6.4.2	
B.2.2.2	6.6.5	
B.2.2.3	6.5	
B.2.3.5	7.2.1	
B.3.1.1	6.10.1	
B.3.1.2	6.10.2	
B.3.1.3	6.10.4	
B.3.1.4	6.10.5	
B.3.1.5	6.10.6	
B.3.1.6	6.10.3.1	
B.3.1.6	6.10.3.2	
B.3.2.1	6.10.7	
B.3.3	3.21.3	
C.2.1.10, C.3.1.5.2	3.3.3	2.1.2.2
C.2.1.12	3.8.13.2	2.3.1, 2.3.6
C.2.1.13	3.15.1	2.1.3.1i
C.2.1.14.1	3.13.1.2	
C.2.1.14.2	3.13.2.1	
C.2.1.14.3	3.13.2.3.1	
C.2.1.14.6	3.13.3	
C.2.1.15	3.14.1.3	
C.2.1.16	3.11.3(1)	2.3.2
C.2.1.16	3.11.3(2)	2.3.2
C.2.1.16	3.11.3(3)	2.3.2
C.2.1.16	3.11.3(5)	2.3.2
C.2.1.16.3	3.11.2.5	
C.2.1.17, C.3.1.3, C.3.1.8	3.4.4.1	2.3.6.2, 1.2.1
C.2.1.18	3.15.2	2.3.1
C.2.1.19	3.1.3	2.1.2.1
C.2.1.2	X	1.4.2
C.2.1.2, C.2.2.5.4	5.4.1	1.4.3
C.2.1.2.3, C.3.1.1	3.20.7	2.5, 3.8.2
C.2.1.21	3.18.2	5.1a
C.2.1.22	3.4.3	
C.2.1.22, C.3.1.3, C.3.1.4	3.4.1.1	1.2.1, 2.3.6.1, 3.2
C.2.1.3	3.16	
C.2.1.3	3.17	2.1.3.3
C.2.1.4	3.6	
C.2.1.5	3.2.1	2.1.1.3i
C.2.1.7	3.12.2.2	2.1.1.2
C.2.1.9	3.1.2	2.1.2.2
C.2.1.9	3.1.5	2.1.1.1i
C.2.2.1	3.21.3	1.2.3, 2.2.1
C.2.2.1	3.9.2	2.2.1ii
C.2.2.1	3.9.2, 3.21.3	2.2.1ii
C.2.2.1, C.2.2.1.2	3.9.7.1	
C.2.2.1, C.3.2.1	3.21.4	1.2.3, 2.2.1

C.2.2.1.3, C.3.2.9	3.10.1	2.2.2
C.2.2.2	3.22.3	
New Zealand	**VCCA**	**South Australia**
C.2.2.2, C.3.2.2	3.21.1	
C.2.2.2, C.3.2.2	3.21.2.1	
C.2.2.3	3.9.2	2.3.7
C.2.2.5.1, C.3.2.10	5.2.3	2.3.8
C.2.2.5.2	5.2.2	
C.2.2.5.2, C.2.1.13, C.2.1.15	3.16	2.3.4
C.2.2.5.3	X	2.3.8
C.2.2.5.4	5.4.2	
C.2.2.5.4, C.2.2.4	5.4.3	1.2.3, 1.2.4i, 1.4.3, 2.2.1ii, 3.1
C.2.2.5.4, C.3.2.17.3	3.7.3	1.4.3
C.2.2.5.5, C.3.2.13		2.3.9.1
C.2.2.5.6	3.8.8	2.3.1
C.2.2.5.6, C.2.1.11	3.1.2.2(1)	2.3.4
C.2.3	7.2.11	
C.3.1.2	3.20.2	3.8.1
C.3.1.2.1	3.20.3	3.8.1
C.3.1.2.2	3.20.5	3.8.1
C.3.1.4.3	3.4.1.2(1)	
C.3.1.4.4	3.4.1.3	
C.3.1.5.1	3.3.2	
C.3.1.5.2	3.3.4	2.1.2.2
C.3.1.5.3	3.11.4	2.6
C.3.1.5.4	3.1.2.2.(2)	2.3.7, 2.3.9.2
C.3.1.5.5, C.3.2.15	3.12.3	1.1, 1.2.3, 1.2.6
C.3.1.6	3.8.12	2.3.10, 3.5.1, 1.2.5
C.3.1.6	5.3	1.2.5, 2.3.1, 2.3.10, 3.5.1
C.3.1.7	3.14	4.1.2
C.3.1.7, C.3.2.15, F.2.5	3.19.1	4.1.2, 1.1, 1.2.3, 1.2.6
C.3.1.9		2.3.7
C.3.2.1	3.9.4	2.2.1i, 2.2.1ii, 1.2.3
C.3.2.1.1	3.9.9.1(1)	
C.3.2.14	3.8	1.3.5, 1.3.1, 2.3.1
C.3.2.14	5.5.4	1.3.5, 1.3.1, 2.3.1
C.3.2.14	7.3	1.3.5, 1.3.1, 2.3.1
C.3.2.14	7.4.2	1.3.5, 1.3.1, 2.3.1
C.3.2.14.4	4.1	1.2.6
C.3.2.14.4	4.2	1.2.6
C.3.2.14.5	3.8.4	1.3.1
C.3.2.15	3.10.1	1.1ii, 1.2.3, 1.2.6
C.3.2.15	3.8.12	1.1ii, 1.2.3, 1.2.6
C.3.2.15	3.8.6	1.1ii, 1.2.3, 1.2.6
C.3.2.15	6.2	1.1ii, 1.2.3, 1.2.6
C.3.2.15, F.2.5	3.19.3	1.1ii, 1.2.3, 1.2.6
C.3.2.16	3.10.5	3.6, 2.3.9.2, 2.3.9.3, 3.8.3
C.3.2.16	5.6.3	3.6, 2.3.9.2, 2.3.9.3, 3.8.3
C.3.2.17.1	5.1.1	1.2.5, 3.6

C.3.2.17.1	5.5.5	1.2.5, 3.6
C.3.2.17.2	3.4.2	
New Zealand	**VCCA**	**South Australia**
C.3.2.3, C.3.2.17.1	5.4.1	1.3.2, 1.2.2, 1.2.3, 1.2.5, 3.6
C.3.2.3.2	3.9.11.1	1.2.3
C.3.2.3.2	3.9.11.4	1.2.3
C.3.2.3.2, C.3.2.7	3.9.11.2	1.2.3, 1.2.5
C.3.2.4		1.2.2
C.3.2.5	A.9.2	3.3.11
C.3.2.5	A.9.3.1	3.3.12
C.3.2.5	A.9.4	3.3.13
C.3.2.6	4.1.3	1.3.6
C.3.2.7.1	3.9.11.2	
C.3.2.8	3.10.6.2	3.9.7
C.3.2.9	3.9.8	2.2.2
C.3.3.1	7.4	
C.3.3.3	7.2.5	
C.3.3.4	7.2.3	
C.3.3.5	7.2.2	
C.3.3.5	7.5.1	
D.2	A.3.5	3.3.3, 1.2.3
D.2.1	A.8	3.3.9
D.2.2	A.4, A.4.1, A.4.2	3.3.5, 3.3.1, 3.3.2, 3.3.4
D.2.2.1.2	A.4.2	3.3
D.2.2.2	A.6.1	3.3.7.1
D.2.3	A.5.2	3.3.6.2
D.2.4, D.2.5	3.7.2	1.2.4iv, 1.3.4
D.2.5.1	A.9.1	3.3.10
D.2.5.3	3.7.2	1.3.3
D.2.5.4	3.7.2	1.3.4
D.2.5.5.1, D.2.5.5.2	5.5.1	1.3.5
D.2.5.6	B.1.1	
D.2.5.7	B.2.1.1	1.2.3
D.2.5.8	B.2.1.2	
D.2.5.9	B.2.1.3	
E.2.	6	1.1
E.2.1	6.1.1	1.1
E.2.10	6.7.2	1.1
E.2.11	6.6.1	1.1
E.2.12	6.9	
E.2.2	6.1.4	1.1
E.2.3	6.1.2	1.1i
E.2.3.1	3.8.5	1.3.1
E.2.4	6.1.3	2.3.10
E.2.4	6.2	2.3.10
E.2.8	6.6.4	
E.2.9	6.1.5	1.1
F.2.1	3.14.3	
F.2.4	3.19.4	
F.2.5	3.19.2	
F.2.5	3.19.5	

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