

Victorian Casino  
and Gaming Authority

**Technical Requirements for Gaming Machines  
and Electronic Monitoring Systems  
in the Melbourne Casino**

**the "Technical Requirements Document"**

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Version 3.0

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## 7.7 Bonus Jackpots

## 7.7.1 Bonus Jackpot Parameters

All Bonus Jackpot parameters are to receive the approval of the Director. The parameters that are to be established, at a minimum, are:

1. Criteria for commencement of Bonus Jackpot sequences
2. Criteria for completion / stopping of Bonus Jackpot sequences
3. Criteria for an EGM awarding a bonus prize
4. Criteria for an EGM determining the amount of the bonus prize
5. Contribution to Bonus Jackpot pools - including start-up values and contribution rates

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## 7.7.2 Maintenance and Control of Bonus Jackpots

Bonus jackpots may be maintained and controlled by an external jackpot controller or by the EMS. If an external controller is maintaining a bonus jackpot all of the principles of section 7.4 must apply.

## 7.7.3 Bonus Jackpots Accounting

The EMS must account for all Bonus jackpot monies. At a minimum it must maintain and be able to report the following:

1. Bonus Jackpot Contributions made
2. Bonus Jackpot Contributions won
3. Bonus Jackpot Start-up values won
4. Current Bonus Jackpot Amount(s)

## 7.7.4 Bonus Jackpot Display

1. There must be some indication to indicate to patrons that a Bonus Jackpot sequence is currently happening. This indication may be an external jackpot display, appropriate messages on the participating EGMs or other means approved by the Director.
2. There must be some method on the winning EGM to display to the player that a Bonus Prize has been won.
3. The method and content of Bonus Jackpot display is to receive the approval of the Director.

## 7. Jackpots

### 7.1 Definitions

#### 7.1.1 Jackpot

A Jackpot is defined to be a game whereby a part of the wager amount is added to a pool or account (commonly called the jackpot). When a certain winning criteria is achieved 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 deducted 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", which encourages players to participate in the next jackpot. A Jackpot may have components of extra contributions from the Casino Operator.

A jackpot may be won by either a game oriented result (e.g. Royal Flush in correct order or 12 out of 12 Keno) or by a non-game oriented result (e.g. a jackpot contribution forces the jackpot to exceed a predetermined (and secret) level thereby becoming a winner).

#### 7.1.2 Standalone Progressive Jackpot

A Standalone Progressive Jackpot is defined to be one where contributions to the jackpot and the possibility of winning the jackpot only apply to a single EGM. The EGM may have one or more jackpots associated with it.

#### 7.1.3 Linked Progressive Jackpot

A Linked Progressive Jackpot is defined to be one that enables two or more EGMs within the Casino to participate in one or more common jackpots.

#### 7.1.4 Mystery Jackpot

A Mystery Jackpot is one where the winning of the jackpot is determined by an external jackpot controller or the EMS rather than the EGM. In most circumstances, the winning of the jackpot has nothing to do with the actual result of the game as it appeared to the player i.e. the winning of this kind of jackpot is by non-game oriented result.

#### 7.1.5 Bonus Jackpot

A Bonus Jackpot is one where an EGM is instructed by an external device to pay additional bonus prizes where the amount/multiplier, bonus eligibility criteria and time period are specified by the external device.

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## 7.2 General Principles

The following principles apply to the implementation of all styles of jackpots though many are appropriate to "linked jackpots". The requirements for each individual style of jackpot are in the subsequent sections

### 7.2.1 Jackpot Parameters

Parameters for the setting and control of all jackpots shall be included in the EGM internal controls and procedures manual which shall require approval of the Authority.

### 7.2.2 Jackpot Fairness

In order to have a jackpot that is equally fair to all players the following principles must be followed.

- (1) All players that play jackpot games must be eligible to win the jackpot. Exceptions to this jackpot rule should be submitted to the Director for individual approval before any development work on the jackpot is commenced.
- (2) Jackpot contributions must not be assimilated into revenue. If a cap is established on any jackpot all additional contributions once that cap is reached are to be credited to a diversion pool if the maximum has been reached. Please refer to section 7.2.5 below for the treatment of diversion of jackpot contributions.

The Director recommends, but does not require, that the following jackpot fairness rules also apply:

- (3) The probability of the player winning the jackpot be directly proportional to the size of the wager.
- (4) The proportionality factor in 7.2.2(3) does not vary between type of EGM and/or game(s) played.

The proportionality factor in 7.2.2(3) might be achieved in the following ways:

- (a) restriction of all plays to the jackpot to a single denomination (e.g. \$1) - either by only allowing a single bet amount to play that game or to only allow a single bet amount to be eligible to win the jackpot (if permitted by the Director as described in section 7.2.2(1)),
- (b) implementation of the jackpot on multiple line, single denomination "spinning wheel" EGMs,



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- (c) implementation of a mystery jackpot where the winning is determined by an event other than the game result such as the jackpot contribution making a (random) predetermined amount be exceeded.

The proportionality factor in 7.2.2(3) may not be achieved by modification of the method of selection or determination of the game result (e.g. fiddling with a deck of cards).

### 7.2.3 Jackpot Winner Determination

Traditional jackpots are won by some event that happens as a result of the game being played. For example, a 10 out of 10 Keno catch or a Royal Flush (maybe in order) might be examples of this event. The Director requires that all jackpot winners are determined by the EGM as a result of such a game oriented event except that the Director will accept schemes where mystery jackpots are determined by a jackpot controller or EMS provided that:

- (a) all technical requirements of section 7.6 are met
- (b) appropriate internal controls are in place.

### 7.2.4 Jackpot Display Updates

The update of the current amount of the progressive jackpot(s) should be as often as possible. The Director will not approve a scheme where the jackpot displays are normally "significantly inaccurate" for a substantial period of time. The Director will accept a scheme where the jackpot displays "artificially" increment based upon a value and increment rate passed to the display by the EMS and/or EGM provided that he/she is satisfied with the security and accuracy of the display.

### 7.2.5 Partial Jackpot Redirection

#### 7.2.5.1 Diversion Pools

Jackpots may have a diversion pool scheme where a portion of the jackpot contribution is redirected to another pool such that when the current jackpot is won, this pool is added to the restart level of the next jackpot. This partial jackpot redirection may involve variable diversion rates where the size of the primary jackpot determines the diversion factor.

All jackpot diversion schemes and parameters require the approval of the Authority as per section 7.2.1 of this document. No diversion scheme will be approved by the Authority if the diversion pool can "grow to infinity".

Note that the Authority will not approve a jackpot scheme whereby the diversion pool is used to fund a "minimum jackpot level" unless the definition of the minimum jackpot is treated to be zero for the purposes of calculation of expected player return.



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## 7.2.5.2 Reimbursement Pools

Jackpots may have a reimbursement pool scheme where the Operator adds money to a Jackpot and then a portion of the jackpot contribution is redirected to another pool to pay back the Operator for the money added. This partial jackpot redirection to a reimbursement pool may involve variable diversion rates where the size of the primary jackpot determines the diversion factor.

Redirection of jackpot contribution portions must immediately cease when the reimbursement pool reaches a zero amount - i.e. all monies have been repaid.

The method of adding money to a jackpot, including active jackpots, must be approved by the Director. Note that it is not permitted for monies to be subtracted from an active jackpot - refer to section 7.2.9 for conversion or elimination of jackpots.

All jackpot reimbursement schemes and parameters require the approval of the Authority as per section 7.2.1 of this document.

## 7.2.6 Multiple Jackpot Winners

The possibility of more than one player winning the jackpot at the same time is to be resolved. The Director does not recommend a simple algorithm of paying the first one in the current jackpot, and then the subsequent the minimum.

The Director recommends that there is to be an implementation of a time window, roughly equivalent to the time it will take to reset the jackpot displays, whereby multiple winners arriving in that time window share the jackpot in some manner. Whether to parimutuel the current jackpot or to pay a copy to each or whatever is up to the Casino Operator but the method must be approved by the Director.

## 7.2.7 Jackpot Winners When Communications Go Down

It is necessary to resolve the problem that occurs when an EGM determines that a jackpot has been won, but the link to the jackpot controller or EMS becomes inoperable. There are at least two possible things to do:

- (1) insist that in order to win the jackpot that communication to the host be guaranteed first. This has the disadvantage that the player may be "cheated" out of his/her winning jackpot - even if he/she does not know he/she has been cheated,

or

- (2) allow a manual method of indicating to the system that a jackpot has been won, in these circumstances, which may be entered through a EMS control terminal or other procedure approved by the Director. The inherent security risks of this

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method are to be resolved to the satisfaction of the Director if this method is to be approved.

The Director requires resolution of this problem before the jackpot is implemented. Whatever the resolution, the Player rules must clearly state what is to happen in this circumstance.

## 7.2.8 Jackpot display equipment

Any jackpot display equipment that is to be used in the Casino, whether it be connected to a local controller or to an EGM, must satisfy all of the hardware and software requirements that are required of EGMs for the relevant technical specifications.

## 7.2.9 Conversion or Elimination of Jackpots

### 7.2.9.1 Permission for Conversion of a Jackpot

The Casino Operator must receive permission from the Director if a jackpot is to be converted or combined into another jackpot.

### 7.2.9.2 Permission for Elimination of a Jackpot

The Casino Operator must receive permission from the Director if a jackpot is to be eliminated. Because the elimination of a jackpot represents the assimilation of the jackpot contributions into revenue, the Director will only approve the elimination of a jackpot under special circumstances.

If a jackpot is to be eliminated, the amount of the jackpot contributions is to be deducted from the "Total Jackpot Contributions" for the Casino for the purposes of calculation of minimum player return for the Casino.

## 7.2.10 Communication of Jackpot Information

The Director requires that communication of jackpot information, i.e. jackpot increments and win notification, to/from the EGM and the external jackpot controller or EMS be via direct serial communication with the micro-processor that controls the EGM.

The Director will accept linked progressive and mystery jackpot schemes where jackpot information is gathered via "wiring harness" interfaces to the EGMs but only for operation in the Galleria Casino and only if the wire harness arrangement has been determined acceptable in accordance with 3.19.6.

## 7.2.11 Fixed Prize Jackpots

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Jackpots which pay fixed prizes when won, whether linked progressive or mystery, will be permitted in the Casino as long as the fixed prize has received the approval of the Director. If the jackpot win pays a non-cash prize the following rules apply:

1. The VCGA will deem the value of the prize for the purposes of settlement with the jackpot pool, to be the Operator's purchase price of the prize. Documentation substantiating the actual purchase price must be maintained by the Casino Operator and made available to the VCGA upon request.
2. When requesting approval for new jackpots with non-cash prizes, the Casino Operator must submit to the Director the public's perceived "retail" value of the prize as well as the actual purchase price.

## 7.3 Standalone Progressive Jackpots

The Standalone Progressive Jackpot may be entirely controlled by the EGM itself or be controlled by an external jackpot controller. The following points apply to any implementation but are most apropos to EGM controlled jackpots.

### 7.3.1 Recovery of Software Meters

The EGM must be able to determine when some of its memory is corrupted but other is still valid and appropriately recover the valid information into all of the meter storage devices. Recovery from all variations of meter storage failure must be demonstrated before a jackpot EGM will be approved.

### 7.3.2 Recovery of Jackpot Amounts

Should there be a total EGM and/or RAM failure, it will be necessary to recover the "un-won" jackpot contributions into the replacement EGM. However, the Director views the ability to "manually change" a jackpot amount as a potential security risk. The Casino Operator must specify a method of handling this recovery situation which must be approved by the Director. One possible alternative that may be accepted is:

the jackpot update procedure is only performed as a part of a full reconfiguration of an EGM. If a full configuration is done, a significant event is to be recorded and the update amounts for each jackpot is to be logged.

Note that the value of the jackpots when an EGM fails may not be known. For this reason the EMS is to receive from the EGMs and maintain in its database the current value of the jackpots on at least a daily basis for recovery and audit reasons.

### 7.3.3 Jackpot Amount Storage

The Director recommends that the current jackpot amounts be stored in the EGM in absolute amounts, in units to be approved by the Director, rather than in terms of numbers of plays of the jackpot. This will facilitate the conversion of a jackpot EGM



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from one denomination or another. The Director will not approve the conversion of EGM jackpot denominations unless this requirement is met.

## 7.4 Jackpot Controllers

Jackpots may be maintained and controlled by an external jackpot controller, or from the central point of the EMS. If a external jackpot controller is maintaining a jackpot the following points apply:

### 7.4.1 Jackpot Controller Security

The Director must approve the physical and software security schemes applicable to each Jackpot Controller implementation. The location and access to Jackpot Controllers as per section 8.3 will be assessed by the Director to determine the adequacy of each scheme.

It is a fundamental requirement that software integrity of a Jackpot Controller is maintained and the Director will need to be satisfied as to all schemes for monitoring and restricting access to hardware and software. Unless agreed otherwise by the Director the following requirements must be met:

- (a) the controller must have a logic door which senses its opening even when power is off. The controller must remain disabled when the logic door has been opened until manually reset by any of the reactivation methods as described for logic doors in 3.3.4,
- (b) door opens and other such events must be observed and recorded by the EMS as for EGMs,
- (c) the controller must pass, on demand from the EMS, the same kind of signature checks as the EGM.

For operation in the Galleria Casino, the Director will not fail the assessment of jackpot controllers purely because they do not meet all of the criteria of this section.

### 7.4.2 Recovery of Software Meters

The principles described of the EGM in section 7.3.2 for Recovery of Software Meters must equally apply to the local controller that maintains jackpots.

### 7.4.3 Recovery of Jackpot Amounts

The principles described of the EGM in section 7.3.3 for Recovery of Jackpot Amounts must equally apply to the local controller that maintains jackpots.

#### **7.4.4 Jackpot Controller Hardware Requirements**

The Director requires that jackpot controllers achieve at least the same standards of hardware requirements as for EGMs. In specific, approval of a jackpot controller will not be granted until the jackpot controller demonstrates conformance to the following EGM requirements:

- (a) Manipulation of EGM hardware as per section 3.11
- (b) Physical construction as per section 3.12
- (c) Magnetic and electromagnetic interference as per section 3.13.1
- (d) Electrostatic interference as per section 3.13.2
- (e) Radio frequency interference as per section 3.13.3
- (f) Data communications line isolation as per section 3.14.1
- (g) Power supply filtering as per section 3.15.1
- (h) Battery backup as per section 3.15.2
- (i) Electrical safety as per section 3.16

#### **7.4.5 Jackpot Controller Software Auditing and Verification**

The EGM software auditing and verification requirements apply equally to jackpot controllers. Therefore a jackpot controller must meet the requirements of section 3.20 of this document.

### **7.5 Linked Progressive Jackpots**

#### **7.5.1 Maintenance and Control of Linked Progressive Jackpots**

Linked Progressive Jackpots may be maintained and controlled by an external jackpot controller or from the central point of the EMS. If a external jackpot controller is maintaining a linked progressive jackpot all of the principles of section 7.4 must apply.

### 7.5.2 **Linked Progressive Jackpot Winner Determination**

All linked progressive jackpot wins will be determined by an EGM participating in the jackpot and will be based upon a game oriented event as described in section 7.2.3.

## 7.6 **Mystery Jackpots**

### 7.6.1 **Maintenance and Control of Mystery Jackpots**

Mystery jackpots may be maintained and controlled by an external jackpot controller or by the EMS. If an external controller is maintaining a mystery jackpot all of the principles of section 7.4 must apply.

### 7.6.2 **Mystery Jackpot Win Notification**

The notification of the winning of the Mystery jackpot is to be passed by electronic means to the EGM which is to signify in an approved manner to the player that he/she has won the Mystery jackpot and the amount that has been won.

The Director prefers that the jackpot amount won be automatically credited to the player's credit balance.

Notification of mystery jackpot win at an EGM will not be required for EGM operation in the Galleria Casino.

### 7.6.3 **Mystery Jackpot Win Determination**

The determination of a mystery jackpot win must follow the same requirements as for game result determination in EGMs. In specific, this means that any RNG used by a jackpot controller or the EMS to determine the jackpot win or criteria for the jackpot win must meet the minimum requirements for RNGs described in Appendix A.

## 7.7 **Bonus Jackpots**

### 7.7.1 **Bonus Jackpot Parameters**

All Bonus Jackpot parameters are to receive the approval of the Director. The parameters that are to be established, at a minimum, are:

1. Criteria for commencement of Bonus Jackpot sequences
2. Criteria for completion / stopping of Bonus Jackpot sequences
3. Criteria for an EGM awarding a bonus prize
4. Criteria for an EGM determining the amount of the bonus prize
5. Contribution to Bonus Jackpot pools - including start-up values and contribution rates.

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Bonus jackpots may be maintained and controlled by an external jackpot controller or by the EMS. If an external controller is maintaining a bonus jackpot all of the principles of section 7.4 must apply.

**7.7.3 Bonus Jackpots Accounting**

The EMS must account for all Bonus jackpot monies. At a minimum it must maintain and be able to report the following:

1. Bonus Jackpot Contributions made
2. Bonus Jackpot Contributions won
3. Bonus Jackpot Start-up values won
4. Current Bonus Jackpot Amount(s)

**7.7.4 Bonus Jackpot Display**

1. There must be some indication to indicate to patrons that a Bonus Jackpot sequence is currently happening. This indication may be an external jackpot display, appropriate messages on the participating EGMs or other means approved by the Director.
2. There must be some method on the winning EGM to display to the player that a Bonus Prize has been won.
3. The method and content of Bonus Jackpot display is to receive the approval of the Director.