

TECHNICAL STANDARDS FOR GAMING DEVICES AND ON-LINE SLOT SYSTEMS

1.010 Definitions. As used in these standards unless the context requires otherwise:

1. "Alterable media" means any form of storage device that allows the modification of the programs or data on the device during the normal operation of the gaming device. This does not include devices typically considered to be alterable but through either software or hardware means approved by the chairman, have been rendered un-alterable.
2. "Cashable credits" means the monetary units displayed on a credit meter that are redeemable for cash.
3. "Chairman" means the chairman of the state gaming control board or his designee.
4. "Complete voucher" means a voucher which contains, at a minimum, a complete validation number and is of a quality that can be redeemed through the use of an automated reader or scanner.
5. "Conventional ROM Device" is a device incapable of being altered while installed in a gaming device and may contain executable programs or data that are directly addressed by a processor.
6. "Credit meter" means a slot machine indicator that displays the number of denominational credits or monetary value available to a patron for wagering.
7. "Debit instrument" means a card, code or other device with which a person may initiate an electronic funds transfer or a wagering account transfer.
8. "Duplicate voucher" means any reprinted complete or incomplete voucher.
9. "Electronic funds transfer" means a transfer of funds from an independent financial institution to a gaming device through a cashless wagering system.
10. "Inappropriate coin-in" is a legal coin or token of the correct denomination which has been accepted by a gaming device after the device has already accepted its maximum number of coins or when the device is in a state which normally rejects additional coins.
11. "Incomplete voucher" means a voucher which contains, at a minimum, the voucher validation number printed across the printed leading edge and is manually redeemable, but is not of a quality that can be redeemed through the use of an automated reader or scanner.
12. "Leakage Current" is any electrical current which flows when a conductive path is provided between exposed portions of a gaming device and the environmental electrical ground when the gaming device is isolated from the normal AC power ground.
13. "Non-cashable credits" means the monetary units displayed on a credit meter that have no cash redemption value.
14. "On-line slot system" means, as used in these standards, an on-line slot metering system, a cashless wagering system, or both.
15. "Presentation error" is a condition where a complete or incomplete voucher has been printed, however, the voucher is not presented to the patron for removal.
16. "Print failure" is a condition following the failed attempt to print a complete or incomplete voucher.
17. "Promotional account" means an electronic ledger used in a cashless wagering system to record transactions involving a patron or patrons that are not otherwise recorded in a wagering account.
18. "Random Access Memory" (RAM) is the electronic component used for computer workspace and storage of volatile information in a gaming device. The term does not include memory which is used exclusively for bit-mapped video displays.
19. "Random Number Generator" is a hardware, software, or combination hardware and software device for generating number values that exhibit characteristics of randomness.
20. "Read Only Memory" (ROM) is the electronic component used for storage of non-volatile information in a gaming device. The term includes Programmable ROM and Erasable Programmable ROM.
21. "Replacement voucher" means any voucher that is printed following a failed attempt to print a complete or incomplete voucher.
22. "Slot machine coupon" means a printed wagering instrument that has a fixed dollar wagering value that can only be used to acquire non-cashable credits.
23. "Slot machine payout receipt" means an instrument that is redeemable for cash and is either issued by a gaming device or as a result of a communication from a gaming device to associated equipment that cannot be accepted by gaming devices for wagering purposes.
24. "Slot machine wagering voucher" means a printed wagering instrument that has a fixed dollar wagering value that can only be used to acquire an equivalent value of cashable credits or cash.

25. "System Based Game" is a gaming device comprised of a server or system part and client stations that, together, form a single integrated device where the system portion of the game determines the outcomes of the individual games conducted on the client stations and the client stations cannot operate independently from the system. Both the system portion and the clients of the system based gaming device will reside in a single gaming establishment.

26. "System Supported Game" is a gaming device comprised of a collection of conventional gaming devices or client stations connected to a system for the purpose of downloading control programs and other software resources to the conventional gaming device or client station on an intermittent basis. The system portion as well as the client stations are installed in a single gaming establishment. The client stations connected to the system are capable of operating independently from the system once the downloading process has been completed. This configuration encompasses cases where the system may take control of peripheral devices or associated equipment typically considered part of a conventional gaming device such as a bill validator or a printer. In a system supported game, game outcome is determined by the conventional gaming devices or client stations connected to the system and not by the system itself.

27. "Tilt condition" is a programmed error state for a gaming device. A tilt condition has occurred when the device detects an internal error, malfunction, or attempted cheating, and it disallows further play until the error is resolved.

28. "Wagering account" means an electronic ledger for a cashless wagering system patron deposit account wherein only the following types of transactions are recorded:

- (a) Deposits and withdrawals of cash or cash equivalents at a designated area of accountability;
- (b) Deposits initiated with a debit instrument;
- (c) Wagering account transfers to and from gaming devices;
- (d) Wagering account adjustments; and
- (e) Other transactions approved by the chairman.

29. "Wagering account transfer" means a transfer of funds between a cashless wagering system wagering account and a gaming device.

30. "Wagering instrument" means, as used in these standards, a representative of value, other than a chip or token, that is issued by a licensee and approved by the board for use in a cashless wagering system and includes slot machine coupons and slot machine wagering vouchers.

(Adopted: 9/89. Amended: 11/20/97; 5/03; 1/1/05, 11/17/05.)

STANDARD 1

INTEGRITY OF DEVICES

1.020 Electrical interference immunity.

1. A conventional gaming device or client must exhibit total immunity to human body electrostatic discharges on all player-exposed areas. For purposes of this standard, a human body discharge is considered to be an electrical potential of not greater than 20,000 volts DC discharged through a network with a series resistance of 150 to 1500 ohms shunted by a capacitance of 100 to 150 picofarads. The device must withstand this discharge repeated at one-second intervals. The power source for this human body equivalent is a high-impedance source such that, in effect, the energy available for a given discharge is limited to that contained in the shunt capacitor.

2. A gaming device may exhibit temporary disruption when subjected to electrostatic discharges of 20,000 to 27,000 volts DC through a network with a series resistance of 150 to 1500 ohms shunted by a capacitance of 100 to 150 picofarads, but must exhibit a capacity to recover and complete an interrupted play without loss or corruption of any stored or displayed information and without component failure.

3. Gaming device power supply filtering must be sufficient to prevent disruption of the device by repeated switching on and off of the AC power. The device must not exhibit disruption when a 1 microfarad capacitor, charged to plus or minus 680 volts DC is discharged between the hot and neutral AC supply lines, at any phase from zero to 360 degrees, with a repetition rate of 30 times per second.

4. The random number generator and random selection process must be impervious to influences from outside the device, including, but not limited to, electro-magnetic interference, electro-static interference, and radio frequency interference. A gaming device must use appropriate communication protocols to protect the random number generator and random selection process from influence by associated equipment which is conducting data communications with the gaming device.

(Adopted: 9/89. Amended: 11/05; 11/17/05.)

1.030 Coin acceptor and receiver.

1. Coin (or token) acceptors must be designed to accept designated coins or tokens and reject others. The coin receiver on a gaming device must be designed in a manner that minimizes the potential for use of cheating methods such as slugging, stringing or spooning.

2. Gaming devices which are configured to accept more than 20 coins or tokens for a single play must use a coin acceptor that accepts or rejects on the basis of metal composition of the coin or token unless the denomination of the coin or token is \$.05 or less.

3. A gaming device may not accept more than \$3,000 in coins or tokens before a wager must be made or play initiated.

(Adopted: 9/89. Amended: 11/20/97.)

1.035 Change vouchers or coupons.

1. A wagering instrument inserted into a gaming device that is less in amount than that gaming device's smallest denomination shall:

(a) Cause that gaming device to immediately reject the wagering instrument if that gaming device does not have an odd cents meter; or

(b) Allow for the additional accumulation of wagering credits if the gaming device has an odd cents meter.

2. A wagering instrument inserted into a gaming device that is greater in amount than that gaming device's smallest denomination and not evenly divisible by any of the gaming device's denominations shall:

(a) Cause that gaming device to immediately issue a change voucher or coupon if that gaming device does not have an odd cents meter and is equipped with a printer mechanism;

(b) Allow for the additional accumulation of wagering credits; or

(c) Cause that gaming device to immediately reject the wagering instrument if that gaming device is not equipped with a printer mechanism or if the printer mechanism is not functioning for any reason.

(Adopted: 5/03. Effective: 2/1/04.)

1.040 Hoppers. The hopper mechanism on gaming devices must be designed to detect jammed coins, extra coins paid out, hopper runaways, and hopper empty conditions. The device control program must monitor the hopper mechanism for these error conditions in all active game states that do not indicate error conditions.

(Adopted: 9/89.)

1.045 Printers.

1. Printer mechanisms on gaming devices must be designed to allow the gaming device to detect low paper, paper out, presentation error, printer failure, and paper jam conditions.

2. Printers must be mounted inside a lockable area of the gaming device.

(Adopted: 5/03. Amended: 1/1/05. Section (1) effective 2/1/04. Section (2) effective 1/1/05.)

1.050 Physical security.

1. A conventional gaming device must resist forced illegal entry and must retain evidence of any entry until properly cleared or until a new play is initiated. A gaming device must have a protective cover over the circuit boards that contain programs and circuitry used in the random selection process and control of the gaming device, including any electrically alterable program storage media. The cover must be designed to permit installation of a security locking mechanism by the manufacturer or end user of the gaming device.

2. A system supported game must:

(a) For the client portion of the system supported game, comply with Technical Standard 1.050(1).

(b) For the system portion of the system supported game, the server or system component must reside in a secure area where access is limited to authorized personnel. Logical access to the system supported game shall be logged on the server component and remotely on a logging device which resides outside the secure area and is not accessible to the individual accessing the secure area. Logged data shall include: time and date of the access and the identification of the accessing individual(s). The resulting logs shall be retained for a minimum of 90 days.

3. A system based game must:

(a) For the client portion of the system based game, comply with Technical Standard 1.050(1).

(b) For the system portion of the system based game, the server or system component must reside in a secure area where access is limited to authorized personnel. Logical access to the system based game must be logged automatically on the system component of the game and on

a computer or other logging device that resides outside the secure area and is not accessible to the individual(s) accessing the secure area. The logged data shall include the time, date, and the identity of the individual accessing the secure area. The resulting logs must be kept for a minimum of 90 days. Additionally, a dedicated video camera specifically installed to monitor access to the system based game must record all accesses to the secure area and the resulting video log must be retained for a period of at least 90 days.

(Adopted: 9/89. Amended: 11/20/97; 11/17/05.)

1.060 Communication with associated equipment.

1. Any gaming device which is capable of bidirectional communication with internal or external associated equipment must utilize a communication protocol which insures that erroneous data or signals will not adversely affect the operation of the device.

2. Any new or modified gaming device submitted for approval which is used with a progressive controller or any other associated equipment that is intended to signal a jackpot hit of any level must provide a complex signal consisting of at least eight logical transitions involving time and magnitude. The device may optionally provide an additional jackpot signal intended for use with older progressive equipment.

3. System supported and system based games may only communicate with equipment or programs external to the system supported or system based game through a secure interface. This interface will specifically not allow any external connection to directly access the internal components, software or data of the system supported or system based gaming device. The interface must:

- (a) Be based on a specific defined protocol or a specific set of defined commands and as a result of these commands, retrieve information for an external request;
- (b) Place data in an area sufficiently segregated from the system supported or based game software that is available to external requests or associated equipment; or
- (c) Be of a suitable design capable of supplying requested information while isolating the external request or equipment from the system supported or system based game internal components, software or data.

(Adopted: 9/89. Amended: 11/17/05.)

1.062 Communication between Client or Conventional Gaming Device and Servers or System Portions of a Gaming Device.

1. Software transferred between server and client or conventional gaming device portions of a system based or system supported game must be conducted using a method that securely links the client or clients to the server such that the software may only be used by authorized clients. In general, if certificates, keys or seeds are used they must not be hard coded, and must change automatically, over time, as a function of the communication.

2. Information related to player input, game outcome, financial transactions, and game recall information must be encrypted by a means approved by the Chairman.

(Adopted: 11/17/05.)

1.066 Remote access to gaming devices.

1. Remote access to a gaming device may only be conducted with the server or system portion of a system supported or system based game.

2. A system supported or system based game must be isolated from any remote access connection by at least two different firewalls. At least one of the firewalls must be a hardware implementation.

3. A system supported or system based game may only be accessed using a method that securely links the gaming device to the remote system requesting access. This secure link must uniquely identify the remote system requesting access as an entity authorized to conduct remote communications with the gaming device.

4. A system based or system supported game must provide a hardware or software mechanism that will sever the connection between the gaming device and the remote access terminal. This device must default to and must remain in the disconnected state unless specifically set to allow communications as a result of a command issued by the gaming device. Additionally, upon completion of the communications, the device must again sever the connection between the gaming device and the remote access terminal.

5. A system supported or system based game must log each remote access on the server or system part of the gaming device and on the secondary logging device. The log must include time and date of the access and a list of programs transferred or changed.

6. A system supported or system based game must not enable remote access unless the secondary logging device is operational and is communicating with the gaming device.

7. Software downloaded to a system based or system supported game must be initially stored in a separate area or partition of memory such that the software is sufficiently segregated from the system based or system supported gaming device's operating software as to be unable to affect the operation of the gaming device.

8. Software downloaded to a system supported or system based game must be completely authenticated prior to performing any operation on the software including, but not limited to, decrypting, extracting or uncompressing.

(Adopted: 11/17/05.)

1.070 Error conditions.

1. Gaming devices must detect and display the following conditions during idle states or game play. These conditions may be automatically cleared by the gaming device upon completion of a new play sequence.

- (a) Power reset.
- (b) Door open.
- (c) Door just closed.
- (d) Inappropriate coin-in if the inappropriate coin(s) in are not returned to the player.

2. Gaming devices must be capable of detecting and displaying the following error conditions which must disable game play and may only be cleared by an attendant:

- (a) Coin-in error (coin jam, reverse coin-in, etc.).
- (b) Coin-out error (coin jam, extra coin paid out, etc.).
- (c) Hopper empty or timed-out (Hopper failed to make payment).
- (d) Hopper runaway.
- (e) Low RAM battery (a designated battery replacement schedule may be used in lieu of a low battery detection scheme).

(f) Print failure, if the gaming device has no other means to make a payout. A replacement voucher may be printed once the failure condition has been cleared.

(g) **[Effective 2/1/04]** Printer mechanism paper jam. A paper jam condition must be monitored at all times during the print process.

(h) **[Effective 2/1/04]** Printer mechanism paper out, if the gaming device has no other means to make a payout.

(i) Program error (Defective program storage media).

(j) Reel spin error of any type including a mis-index condition for mechanical reels. The specific reel number must be identified. If a tilt occurs while the reel(s) are spinning the gaming device must spin the reel(s) at a slow speed.

(k) Removal of control program storage media.

(l) Uncorrectable RAM error (RAM defective or corrupted).

3. Gaming devices must be capable of detecting and displaying the following error conditions which must be cleared by an attendant. Game play may continue if an alternative method is available to complete the transaction or the condition does not prohibit the transaction from being completed.

(a) Hopper empty or timed-out (Hopper failed to make payment).

(b) **[Effective 2/1/04]** Printer mechanism low paper.

(c) Presentation error.

(d) Print failure.

(e) Printer mechanism paper out.

4. A description of device error codes and their meanings must be affixed inside the gaming device unless the displayed device error codes are self-explanatory.

(Adopted: 9/89. Amended: 5/03; 1/1/05. Effective: 9/89 except (2)(g), (2)(h) and (3)(b) as noted.)

1.080 Control program requirements.

1. All gaming devices which have control programs residing in one or more Conventional ROM Devices must employ a mechanism approved by the chairman to verify control programs and data. The mechanism used must detect at least 99.99 percent of all possible media failures. If these programs and data are to operate out of volatile RAM, the program that loads the RAM must reside on and operate from a Conventional ROM Device.

2. All gaming devices having control programs or data stored on memory devices other than Conventional ROM Devices must:

(a) Employ a mechanism approved by the chairman which verifies that all control program components, including data and graphic information, are authentic copies of the approved components. The chairman may require tests to verify that components used by Nevada licensees are approved components. The verification mechanism must have an error rate of less than 1 in 10 to the 38th power and must prevent the execution of any control program component

if any component is determined to be invalid. Any program component of the verification or initialization mechanism must be stored on a Conventional ROM Device that must be capable of being authenticated using a method approved by the chairman.

(b) Employ a mechanism approved by the chairman which tests unused or unallocated areas of any alterable media for unintended programs or data and tests the structure of the storage media for integrity. The mechanism must prevent further play of the gaming device if unexpected data or structural inconsistencies are found.

(c) Provide a mechanism for keeping a record, in a form approved by the chairman, anytime a control program component is added, removed, or altered on any alterable media. The record must contain a minimum of the last 10 modifications to the media and each record must contain the date and time of the action, identification of the component affected, the reason for the modification and any pertinent validation information.

(d) Provide, as a minimum, a two-stage mechanism for validating all program components on demand via a communication port and protocol approved by the chairman. The first stage of this mechanism must verify all control components. The second stage must be capable of completely authenticating all program components, including graphics and data components in a maximum of 20 minutes. The mechanism for extracting the authentication information must be stored on a Conventional ROM Device that must be capable of being authenticated by a method approved by the chairman.

(e) If approved before July 1, 2004, receive a waiver from the chairman for any modification to the device if the full implementation of this section can not be met. The chairman may waive portions of this section if the manufacturer can demonstrate to the chairman's satisfaction that the imposition of the full standard would hinder the design of the device or pose a hardship due to limitations in the approved platform.

3. Any gaming device executing control programs from electrically erasable or volatile memory must employ a mechanism approved by the chairman that ensures the integrity of all control program components residing therein, including fixed data and graphic information and ensures that they are authentic copies of the approved components. Additionally, control program components, excluding graphics and sound components, must be fully verified at the time of loading into the electrically erasable or volatile memory and upon any significant event, including but not limited to game resets and power up. The mechanism must prevent further play of the gaming device if an invalid component is detected.

4. Unless otherwise approved by the chairman, any gaming device that allows the adding, removing, or alteration of any control program components through a data communication facility must employ a mechanism for:

(a) Preventing any change from taking place that would interrupt a game in progress or a game session; and

(b) Storing program changes including changes in graphics and sound information in a non-volatile device that may be verified using such means as prescribed by the chairman.

Any device, technique or network which may be used to accomplish the adding, removing, or alteration of any control program components may, at the chairman's discretion, be considered a gaming device that must receive separate commission approval.

5. Gaming devices with control programs or other security programs residing in conventional Read Only Memory (ROM) devices such as EPROM's or fusible-link PROM's must have the unused portions of the memory device that contains the program set to zero.

6. Gaming device control programs must check for any corruption of random access memory locations used for crucial gaming device functions including, but not limited to, information pertaining to the play and final outcome of the most recent game, the nine games prior to the most recent game, random number generator outcome, credits available for play, and any error states. These memory areas must be checked for corruption following game initiation but prior to display of the game outcome to the player. Detection of any corruption that cannot be corrected shall be deemed to be a game malfunction and must result in a tilt condition.

7. All gaming devices must have the capacity to display a complete play history for the most recent game played and nine games prior to the most recent game. Retention of play history for additional prior games is encouraged. The display must indicate the game outcome (or a representative equivalent), intermediate play steps (such as a hold and draw sequence or a double-down sequence), credits available, bets placed, credits or coins paid, and credits cashed out. Gaming devices offering games with a variable number of intermediate play steps per game may satisfy this requirement by providing the capability to display the last 50 play steps.

8. **[Effective 2/1/04]** All gaming devices must have the capacity to display a complete transaction history for the most recent transaction with a cashless wagering system, and the previous thirty-four transactions prior to the most recent transaction, that incremented any of the in-meters set forth in Technical Standard 2.040(1)(i) through (s) and that incremented any of the

out-meters set forth in Technical Standard 2.040(1)(i) through (s). Retention of transaction history for additional prior transactions is encouraged.

(Adopted: 9/89. Amended: 11/20/97; 5/03; 1/1/05; 11/17/05. Effective: 11/20/97 except (8) as noted.)

1.084 Control Program Requirements for System Supported Games.

1. Conventional gaming devices or clients that are considered part of a system supported gaming device containing control programs must comply with the requirements of Technical Standard 1.080.

2. Systems must be capable of verifying that all control programs contained on the server or system portion are authentic copies of approved components both automatically at least once every 24 hours and on demand. The method of validation must provide at least 128 bits of resolution or must be a bit-for-bit comparison and must prevent the execution of any control program component if the component is determined to be invalid. If an error(s) is detected, the system must provide a visual notification of the invalid program. Any program component of the verification mechanism must reside on and securely load from non-alterable media. A report shall be available which details the outcome of each automated execution of the validation mechanism and shall identify any invalid program components.

3. System supported games must provide for a secondary verification method based on a user input seed of at least 32 bits. The verification method will return a verification result of at least 32 bits corresponding to the control programs currently installed in the system or server portion of the device.

4. System supported games shall be configured such that the system administrator level access may not be achieved without the presence and participation of at least two individuals. This may include split passwords, dual keys or any other suitable method approved by the chairman.

5. System supported games must provide a log entry anytime an individual causes a software component to be added, removed or altered in the server or system portion of the device. Each log entry must contain the date and time of the action, identification of the component affected, the identification of the individual performing the modification, the reason for the modification and any pertinent validation information. This log must be maintained on the server or system portion of the device as well as on a computer or other logging device not accessible to the individual making the program modification that resides outside the secure area where the server or system component of the device resides. The record of the control program changes must be maintained for at least 90 days.

6. A log entry must be made on the conventional gaming device or client, on the server or system portion of the device and on a computer or other logging device residing outside of the secure area that houses the system supported game anytime a change is made to the software, to include control programs, data, graphics or sound information, in a connected conventional gaming device or client. Each log entry must contain the date and time of the action, identification of the component affected, the reason for the modification, and any pertinent validation information. This information must be retained on the server or system portion of the game and on the secondary logging device for a minimum of 90 days. The conventional gaming device or client station must retain the listed information for at least 100 downloads.

7. Conventional gaming devices or clients that form a part of a system supported game must employ a mechanism that ensures that software downloaded to the conventional gaming device or client from the server or system portion of the system supported game is authentic and is received completely and without modification.

8. The server or system portion of a system supported game must validate any software downloaded to a connected conventional gaming device or client. The validation information must support a resolution of at least 128 bits. The system supported game must support a command(s) that causes any conventional gaming device or client to validate any software downloaded from the server or system portion of the gaming device and must be able to disable the conventional gaming device or client if the validation response is incorrect. Additionally, if the validation response is not correct, a suitable tilt message must be displayed on the conventional gaming device or client station and a notification must be displayed on the server portion of the system supported game.

9. A system supported game must not alter any component of the system or server portion or the conventional gaming device or client portion of the device that would interrupt, or affect the function or operating parameters of a game in progress on any conventional gaming device or client station.

10. If a system supported game downloads software components to a conventional gaming device or client station, the downloaded software must be completely authenticated prior to performing any operation on the software including, but not limited to, decrypting, extracting or

uncompressing. The downloaded software may not be applied or made available for play until such time as the conventional gaming device or client has met the conditions for changing the active software.

11. A system supported game must provide a secure interface port through which the software on the system portion of the game may be authenticated and validated.

12. A system supported game must have the capacity to display a complete game play history for the most recent game and at the least 9 games prior to the most recent for each conventional gaming device or client station. The display of the play history for each individual client station or conventional gaming device must be available at the particular client station or conventional gaming device. The display must indicate the game outcome, intermediate play steps (such as a hold/draw sequence or individual bonus game choices), credits available, bets placed, credits or coins paid, and credits cashed out. Gaming devices offering games with a variable number of intermediate play steps per game may satisfy this requirement by providing the capability to display the last 50 play steps. The requirement to display game recall applies to all game programs currently installed on the conventional gaming device or client station.

(Adopted 11/17/05.)

1.086 Control Program Requirements for System Based Games.

1. Conventional games or clients that are considered part of a system based game containing control programs must comply with the requirements of Technical Standard 1.080.

2. System based games must be capable of verifying that all control programs contained on the server or system portion are authentic copies of approved components of the gaming device both automatically, at least once every 24 hours, and on demand. The method of validation must provide at least 128 bits of resolution or must be a bit-for-bit comparison and must prevent the execution of any control program component if the component is determined to be invalid and provide a visual notification of the invalid program. Any program component of the verification mechanism must reside on and securely load from non-alterable storage media. A report shall be available which details the outcome of each automated execution of the validation mechanism and shall identify any program components determined to be invalid.

3. System based games must provide for a secondary verification method based on a user input seed of at least 32 bits. The verification method will return a verification result of at least 32 bits corresponding to the control programs currently installed in the system or server portion of the device as well as the client or conventional portion of the gaming device.

4. System based games shall be configured such that system administrator level access may not be achieved without the presence and participation of at least two individuals. This may include split passwords, dual keys or any other suitable method approved by the chairman.

5. System based games must provide a log entry anytime an individual causes a software component to be added, removed or altered in the server or system portion of the device. Each log entry must contain the date and time of the action, identification of the component affected, identification of the individual performing the modification, the reason for the modification and any pertinent validation information. This log must be maintained on the server or system portion of the device as well as on a computer or other logging device, not accessible to the individual making the program modification, that resides outside the secure area where the server or system component of the device resides. The record of the control program changes must be maintained for at least 90 days.

6. System based games must provide a log entry on the server or system portion of the device and on a computer or other logging device residing outside of the secure area that houses the server or system portion of the device anytime the server or system portion of the game causes a change in the software to include control programs, data, graphics or sound information in the connected conventional gaming device or client. The record must contain the date and time of the action, identification of the component affected, the reason for the modification, and any pertinent validation information, and must be maintained for a minimum of 90 days.

7. Conventional gaming devices or clients that form a part of a system based game must employ a mechanism that ensures that any software downloaded to the conventional gaming device or client from the server or system portion of the system based game is authentic, and is received completely and without modification.

8. The server or system portion of a system based game must validate any software downloaded to a connected conventional gaming device or client. The validation information must support a minimum resolution of at least 128 bits. The system based game must support a command(s) that causes any conventional gaming device or client to validate any software downloaded from the server or system portion of the gaming device and must be able to disable the conventional gaming device or client if the validation response is incorrect. Additionally, if the validation response is not correct a suitable tilt message must be displayed on the conventional

gaming device or client station and a notification must be displayed on the server portion of the system based game.

9. System based games must have the capacity to display a complete play history for the most recent game played and at least 34 games prior to the most recent game for each client station connected to the system based game. The display must indicate the game outcome (or a representative equivalent), intermediate play steps (such as hold and draw sequence or a double-down sequence), credits available, bets placed, credits or coins paid, and credits cashed out. Gaming devices offering games with a variable number of intermediate play steps per game may satisfy this requirement by providing the capability to display the last 50 play steps. The capability to initiate game recall must be available at the client for recall of information specifically associated with the particular client station initiating the game recall. The capacity to initiate game recall for any and all clients that make up the system based game must be available from the system or server portion of the system based gaming device. The requirement to display game recall applies to all game programs currently installed on the server portion of the system based game.

10. All system based games must have the capacity to display a complete transaction history for transactions with a cashless wagering system to include the most recent and the previous thirty-four transactions prior to the most recent transaction for each client station and the previous 99 transactions for the overall gaming device, that incremented any of the in-meters set forth in Technical Standard 2.040(1) (i) through (s) and that incremented any of the out-meters set forth in Technical Standard 2.040(1) (i) through (s). The capability to initiate transaction history must be available at the client or conventional gaming device for the transaction history specifically associated with the particular client station initiating the history information request. The capacity to initiate a display of a transaction history for any and all clients or conventional gaming devices that make up the system based game must be available from the system or server portion of the system based game.

11. A system based game must not alter any component of the system or server portion or the conventional gaming device or client portion of the device that would interrupt, or affect the function or operating parameters of a game in progress at any conventional gaming device or client station.

12. If a system based game downloads software components to a conventional gaming device or client station, the downloaded software must be authenticated immediately upon receipt by the conventional gaming device or client station. The downloaded software may not be applied or made available for play until such time as the conventional gaming device or client has successfully authenticated the downloaded software, and has met the conditions for changing the active software.

13. A system based game must provide a secure interface port through which the software on the system and client portions of the game may be authenticated and validated.

(Adopted: 11/17/05.)

1.090 Bonus or Extended Game Features. All gaming devices which offer a bonus game or extended feature which requires player selection or interaction are prohibited from automatically making selections or initiating games or features unless the gaming device meets the requirements of (1) or (2) and explains the mechanism for auto-initiation or selection on the device glass or video display.

1. The patron is presented with a choice and specifically acknowledges his intent to have the gaming device auto-initiate the bonus or extended play feature by means of a button press or other physical/machine interaction.

2. The bonus or extended feature provides only one choice to the patron i.e., press button to spin wheel. In this case, the device may auto initiate the bonus or extended feature after a time out period of at least 2 minutes.

(Adopted: 12/04. Effective: 1/1/05.)

1.100 Reel strips.

1. Given a physical reel strip of length L units containing N physical stops, each blank space must occupy a minimum of $(L/N) \times 0.4$ units. These blank symbols must be completely free of any portion of any adjacent symbol.

2. All non-blank and blank symbols must be centered in their respective space allocation.
(Adopted: 12/04. Effective: 1/1/05.)

1.110 Safety.

1. A gaming device must not present a mechanical, electrical or fire hazard when used in its intended mode of operation.
2. The power supply used in a gaming device must be designed to minimize leakage current in the event of intentional or inadvertent disconnection of the AC power ground. Leakage currents of greater than 1.0 milliamperes may be considered hazardous. The power supply must be appropriately fused or protected by circuit breakers.
(Adopted: 9/89. Amended: 1/1/05.)

1.120 System Based Game Configuration.

1. A system based game, with more than 64 client stations, must be configured such that a failure of any single part or piece of equipment or a failure of the system based game's automated software validation will not result in a cessation of operation of the system based game.
2. A system based game, with more than 64 client stations, must be configured such that a failure of any single part or piece of equipment will not result in more than 50% of the associated client stations being disabled.
3. A system based game must be configured such that a failure of any single part or piece of equipment will not result in any stored information regarding game recall, cashless wagering transaction history, or game performance and accounting being lost or destroyed.
4. A client must be rendered unplayable if communications from the server or system portion of the gaming device is lost. However, in the case of clients that have lost communications with the server, the client must provide a means, such as a hand pay, for patrons to cash out credits indicated on the system based gaming device at the time the communications was lost.
(Adopted: 11/17/05.)

1.130 Requirements for downloading software to a conventional gaming device or client station from a system supported game.

1. Prior to any software being added or removed from a conventional gaming device or client station comprising a part of a system supported game that would result in the loss of accounting meter information, a complete set of meter information to include all meters required by Technical Standard 2.040 must be successfully communicated to a slot accounting system.
2. Software may not be added onto or removed from a conventional gaming device or client station if an error or tilt condition exists on the conventional gaming device or client station.
(Adopted: 11/17/05.)

1.135 Requirements for downloading software to a conventional gaming device or client station from a system based game.

1. Prior to any software being added or removed from a system based game that would result in the loss of accounting meter information, a complete set of meter information to include all the meters required by Technical Standard 2.040 for all the client stations as well as the system must be successfully communicated to a slot accounting system.
2. Software may not be removed from a system based game if the particular software being removed is being served to a client station that is in an error or tilt condition.
(Adopted: 11/17/05.)

1.140 Conditions for changing active software on a conventional gaming device or client station that is part of a system supported or system based game.

1. Active software consists of all the games currently available for immediate play by the patron on the conventional gaming device or client station. For this section, immediate play means games that do not require additional software or a change in game configuration such as denomination, maximum wager, payback percentage, etc. prior to the patron being able to initiate play.
2. The conventional gaming device or client station must be in the idle mode with no errors or tilts, no play and no credits on the machine for at least 4 minutes. After this time, the conventional gaming device or client station must be disabled and rendered unplayable for at least 4 minutes. During the time the machine is disabled a message must be displayed on a video screen or other appropriate display device notifying the patron that the game configuration has been changed.
3. If the change in the active software is the direct result of a player request, the delay requirements of section 2 of this technical standard may be ignored. However, the active software may not be changed if an error or tilt exists on the conventional gaming device or client station.

(Adopted: 11/17/05.)

STANDARD 2

PROPER ACCOUNTING FOR GAMING DEVICES

2.010 Changes to payout percentage.

1. The theoretical payback percentage of a gaming device must not be capable of being changed without making a hardware or software change in the device except as provided for in Technical Standard 1. For purposes of this standard, the addition of an attendant-paid bonus, a progressive jackpot, or a change in rate of progression of an existing progressive jackpot is not considered to be a change in the theoretical payback of the gaming device.

2. Notwithstanding subsection 1, draw poker type gaming devices may have switch selectable or menu selectable top award values so long as the selectable range does not alter the payback percentage of the device by more than 1 percent with typical field play.

(Adopted: 9/89. Amended: 11/17/05.)

2.020 Accounting of inappropriate coin-ins. Inappropriate coins-in must be returned to the player by activation of the hopper or credited toward the next play of the gaming device. The gaming device control program must be capable of handling rapidly fed coins so that the occurrences of inappropriate coins-in are minimized.

(Adopted: 9/89.)

2.030 Payouts from the hopper.

1. All coins or tokens paid from the hopper mechanism must be properly accounted for by the gaming device, including those paid as extra coins during a hopper malfunction.

2. Hopper pay limits must be designed to permit compliance by gaming establishments with published IRS Regulations.

(Adopted: 9/89.)

2.040 Meters for conventional gaming devices, system supported and system based games.

1. All gaming devices must be equipped with electronic digital storage meters of at least 10 digits capable of displaying the information listed in this section on demand. These meters, listed below, must accumulate the following information in units equal to the denomination of the device or in dollars and cents. Devices configured for multi-denomination play must display the required information in dollars and cents.

(a) Coin In. The machine must have a meter specifically labeled "Coin In" that accumulates the total value of all wagers, whether the wagered amount results from the insertion of coins, tokens, currency, deduction from a credit meter or any other means. This meter shall:

(1) Not include subsequent wagers of intermediate winnings accumulated during game play sequence such as those acquired from "double up" games;

(2) For multi-game and multi-denomination/multi-game gaming devices, provide the information necessary, on a per payable basis, to calculate a weighted average theoretical payback percentage; and

(3) For gaming devices which are considered slot machines and which contain paytables with a difference in theoretical payback percentage which exceeds 4 percent between wager categories, maintain and display coin in meters and the associated theoretical payback percentage, for each wager category with a different theoretical payback percentage, and calculate a weighted average theoretical payback percentage for that payable;

(b) Coin Out. The machine must have a meter specifically labeled "Coin Out" that accumulates the total value of all amounts directly paid by the machine as a result of winning wagers, whether the payout is made from the hopper, to a credit meter or by any other means. This meter will not record amounts awarded as the result of an external bonusing system or a progressive payout;

(c) Coin Drop. The machine must have a meter specifically labeled "Coin Drop" that accumulates the total value of coins or tokens diverted to the drop;

(d) Attendant Paid Jackpots. The machine must have a meter specifically labeled "Attendant Paid Jackpots" that accumulates the total value of credits paid by an attendant resulting from a single winning alignment or combination, the amount of which is not capable of being paid by the machine itself. This does not include progressive amounts or amounts awarded as a result of an external bonusing system. This meter is only to include awards resulting from a specifically identified amount listed in the manufacturer's par sheet;

(e) Attendant Paid Cancelled Credits. The machine must have a meter specifically labeled "Attendant Paid Cancelled Credits" that accumulates the total value paid by an attendant resulting from a player initiated cash-out that exceeds the physical or configured capability of the machine to make the proper payout amount;

(f) Physical Coin In. The machine must have a meter specifically labeled "Physical Coin In" that accumulates the total value of coins or tokens inserted into the machine;

(g) Physical Coin Out. The machine must have a meter specifically labeled "Physical Coin Out" that accumulates the value of all coins or tokens physically paid by the machine;

(h) Bill In. The machine must have a meter specifically labeled "Bill In" that accumulates the total value of currency accepted. Additionally, the machine must have a specific meter for each denomination of currency accepted that records the number of bills accepted of each denomination;

(i) Voucher In. The machine must have a meter specifically labeled "Voucher In" that accumulates the total value of all slot machine wagering vouchers accepted by the machine;

(j) Voucher Out. The machine must have a meter specifically labeled "Voucher Out" that accumulates the total value of all slot machine wagering vouchers and payout receipts issued by the machine;

(k) Electronic Funds Transfer In (EFT In). The machine must have a meter specifically labeled "EFT In" that accumulates the total value of cashable credits electronically transferred from a financial institution to the machine through a cashless wagering system;

(l) Wagering Account Transfer In (WAT In). The machine must have a meter specifically labeled "WAT In" that accumulates the total value of cashable credits electronically transferred to the machine from a wagering account by means of an external connection between the machine and a cashless wagering system;

(m) Wagering Account Transfer Out (WAT Out). The machine must have a meter specifically labeled "WAT Out" that accumulates the total value of cashable credits electronically transferred from the machine to a wagering account by means of an external connection between the machine and a cashless wagering system;

(n) Non-Cashable Electronic Promotion In. The machine must have a meter specifically labeled "Non-Cashable Electronic Promotion In" that accumulates the total value of non-cashable credits electronically transferred to the machine from a promotional account by means of an external connection between the machine and a cashless wagering system;

(o) Cashable Electronic Promotion In. The machine must have a meter specifically labeled "Cashable Electronic Promotion In" that accumulates the total value of cashable credits electronically transferred to the machine from a promotional account by means of an external connection between the machine and a cashless wagering system;

(p) Non-Cashable Electronic Promotion Out. The machine must have a meter specifically labeled "Non-Cashable Electronic Promotion Out" that accumulates the total value of non-cashable credits electronically transferred from the machine to a promotional account by means of an external connection between the machine and a cashless wagering system;

(q) Cashable Electronic Promotion Out. The machine must have a meter specifically labeled "Cashable Electronic Promotion Out" that accumulates the total value of cashable credits electronically transferred from the machine to a promotional account by means of an external connection between the machine and a cashless wagering system;

(r) Coupon Promotion In. The machine must have a meter specifically labeled "Coupon Promotion In" that accumulates the total value of all slot machine coupons accepted by the machine;

(s) Coupon Promotion Out. The machine must have a meter specifically labeled "Coupon Promotion Out" that accumulates the total value of all slot machine coupons issued by the machine;

(t) Machine Paid External Bonus Payout. The machine must have a meter specifically labeled "Machine Paid External Bonus Payout" that accumulates the total value of additional amounts awarded as a result of an external bonusing system and paid by the slot machine;

(u) Attendant Paid External Bonus Payout. The machine must have a meter specifically labeled "Attendant Paid External Bonus Payout" that accumulates the total value of amounts awarded as a result of an external bonusing system paid by an attendant;

(v) Attendant Paid Progressive Payout. The machine must have a meter specifically labeled "Attendant Paid Progressive Payout" that accumulates the total value of credits paid by an attendant as a result of progressive awards that are not capable of being paid by the machine itself;

(w) Machine Paid Progressive Payout. The machine must have a meter specifically labeled "Machine Paid Progressive Payout" that accumulates the total value of credits paid as a result of progressive awards paid directly by the machine. This meter does not include awards paid as a result of an external bonusing system; and

- (x) Such other meters as may be required by the chairman.
2. Gaming devices that are unable to comply with the full requirements of Technical Standard 2.040(1) shall:
- (a) For gaming devices that are unable to display the specific meter labels required, use a legend to indicate what information a specific meter accumulates.
- (b) For gaming devices that are unable to incorporate meters (i) through (w) due to undue hardship on the gaming device manufacturer, not be required to incorporate such meters if this requirement is waived by the chairman.
3. All gaming devices must be equipped with a device, mechanism or method which retains the value of all the required meters in 2.040(1) in the event of power loss to the device.
4. Gaming devices must have electronically stored meters of at least 8 digits that record the number of games played:
- (a) Since power reset;
- (b) Since door close; and
- (c) Since game initialization (RAM clear).
- The gaming device must provide the means for on-demand display of the stored information.
5. Unless a tilt condition or other malfunction exists, gaming devices must have meters in units equal to the denomination of the current game selection, in dollars and cents or in other units approved by the chairman, continuously displaying to a player the following information as it pertains to the current play or monetary transaction:
- (a) The coins or credits wagered;
- (b) The coins or credits won, if applicable;
- (c) The coins paid by the hopper for a credit cash-out or a direct pay from a winning outcome; and
- (d) The credits available for wagering, if applicable.
6. Electronically stored meter information required by this section must be preserved for a minimum of 72 hours after a power loss to the gaming device.
- (Adopted: 9/89. Amended: 11/20/97; 5/03; 1/1/05. Effective: 2/1/04.)

2.045 Meters for system based games.

1. Client stations must be able to display meters complying with the requirements of Regulation 2.040 that correspond to the play associated with the particular client station available, on demand, at each client station.
2. System portions of system based games must store, must be able to display and must be able to send to a slot accounting system, meter information that complies with the requirements of Regulation 2.040 that are associated with the play of each individual client station as well as for the system based game in its entirety.
- (Adopted: 11/17/05.)

2.050 Credit play requirements.

1. Cashable credits may be accumulated from wins, approved currency acceptors, electronic funds transfers, wagering account transfers, or any other transfers of cashable credits. Cashable credits may be accumulated directly from coin or token acceptance if the gaming device uses a coin/token acceptor that accepts or rejects on the basis of the metallic composition of the coins being used. The aggregate total of cashable credits accumulated from coin and currency must be less than or equal to \$3,000.
2. The maximum number of credits from currency that may be applied to any wager on a gaming device must be less than or equal to \$3,000, except that repeated double-down (double or nothing) bets are allowed up to the ultimate lock-up level of the device.
3. Wagering credits available for play must be wagered in the following order:
- (a) Non-cashable credits;
- (b) Cashable credits given away by a licensee; and
- (c) All other credits.
- (Adopted: 9/89. Amended: 11/20/97; 5/03. Effective: 2/1/04.)

2.060 Award cards. Award cards must be clearly identified and must be displayed at all times the device is available for play or be readily available for display on the device on demand by the player. Award cards must accurately state the award that will be paid through any combination of dispensed coin, credit awards, printed tickets, attendant pays, or electronic funds transfer when the player obtains a specific win. The award card must clearly indicate whether awards are designated in denominational units, dollars and cents, or some other unit. All award cards present on a gaming device must reflect any change in award value which may occur in the course of play.

(Adopted: 9/89. Amended: 11/20/97.)

2.070 Jackpot Odds. If the odds of hitting any advertised jackpot that is offered by a gaming device exceeds 100 million to one, the odds of the advertised jackpot must be prominently displayed on the award glass or video display.
(Adopted: 12/04. Effective 1/1/05.)

STANDARD 3

INTEGRITY OF AND PROPER ACCOUNTING FOR ON-LINE SLOT SYSTEMS

3.010 Communication security. The on-line slot system shall include secured communication as follows:

1. All communications that initiate a gaming device pay command shall employ some form of encryption that has been approved by the chairman.
2. All data communication shall incorporate an error detection and correction scheme approved by the Chairman to ensure the data is transmitted and received accurately.
(Adopted: 5/03. Effective: 8/22/04.)

3.020 Error conditions. The on-line slot system shall be capable of detecting and displaying certain conditions. These conditions shall be recorded on an error log that may be displayed or printed on demand, and shall archive the conditions for a minimum of thirty days. The conditions include but are not limited to:

1. Power reset or failure of a gaming device or any component of the on-line slot system.
2. Communication loss between a gaming device and any component of the on-line slot system.
(Adopted: 5/03. Effective: 8/22/04.)

3.030 Program access control. The on-line slot system shall be capable of restricting or limiting access to any and all program components by a method approved by the chairman.
(Adopted: 5/03. Effective: 8/22/04.)

3.040 Data access control. The on-line slot system shall not permit the alteration of any accounting or event log information that was properly communicated from the gaming device unless documented, secure access controls are provided.
(Adopted: 5/03. Effective: 8/22/04.)

3.050 On-line system clock.

1. The on-line slot system shall maintain an internal clock that accurately reflects the current time (in hours, minutes and seconds) and date that shall be used to provide for the following:
 - (a) Time stamping of significant events;
 - (b) Reference clock for reporting; and
 - (c) Time stamping of configuration changes.
2. If multiple clocks are used, then a means shall be provided that will update all clocks in devices attached to the system, including the gaming devices, at least once in each 24-hour period.
(Adopted: 5/03. Effective: 8/22/04.)

3.060 On-line slot system integrity.

1. The on-line slot system shall be designed so that no single failure of any system component will cause the cessation of system operation. Alternatively, each gaming establishment must provide for back-up components or systems using a plan approved by the chairman.
2. The database shall be stored on redundant media so that no single failure of any portion of the system would cause the loss or corruption of data.
(Adopted: 5/03. Effective: 8/22/04.)

3.070 Interface with gaming device.

1. Each gaming device interfaced with an on-line slot system using an interface component shall have the interface component either installed inside a secure area of the gaming device or shall employ a secure communication method between the gaming device and the interface component.

2. The interface component shall send information to the on-line slot system via a communication protocol approved by the chairman.

3. A system shall be designed such that communications that access gaming device components, including but not limited to, bill validators,oppers and printers, may only access those components through a processor that has been approved using the standards and criteria for a gaming device.

(Adopted: 5/03. Effective: 8/22/04.)

3.080 Clearing meters. An interface component shall have a mechanism whereby an error will not cause the loss of stored accounting meter information.

(Adopted: 5/03. Effective: 8/22/04.)

3.090 Meter backup requirements. Data recorded by electronic meters shall be preserved after a power loss to an interface component and shall be maintained for a period of at least seventy-two (72) hours.

(Adopted: 5/03. Effective: 8/22/04.)

3.100 Address requirements. Interface components shall allow for the configuration of a unique identification number to be used in conjunction with the gaming device file in the on-line slot system. This identification number will be used by the on-line slot system to track all mandatory information of the associated gaming device.

(Adopted: 5/03. Effective: 8/22/04.)

3.110 Required meters. The on-line slot metering system shall be equipped to read specific values of or store the information accumulated by the electronic digital storage meters in the gaming device. The following meter information is stored in units equal to the denomination of the device or in dollars and cents:

1. Coin in.
2. Coin out.
3. Coin drop.
4. Attendant paid jackpots.
5. Attendant paid cancelled credits.
6. Physical coin in.
7. Physical coin out.
8. Bill in.
9. Voucher out (for the metering of payout receipts).
10. Machine paid external bonus payout.
11. Attendant paid external bonus payout.
12. Attendant paid progressive payout.
13. Machine paid progressive payout.

Note 1: System meters shall be referred to with the above terms and shall accumulate the information as required by Technical Standard 2.040.

Note 2: The system shall maintain payable coin-in and theoretical payback percentage information provided by the gaming device for each multi-game or multi-denomination/multi-game slot machine.

Note 3: The system shall maintain payable coin-in and weighted average theoretical payback percentage information provided by each gaming device which is considered a slot machine and which contains paytables with a difference in theoretical payback percentage which exceeds 4 percent between wager categories.

(Adopted: 5/03. Effective: 8/22/04.)

3.120 Recording of meter information. An on-line slot metering system must have a mechanism in place to record all required meters, as specified by Technical Standard 3.110, on demand and at the time a drop box (coin or currency) is removed.

(Adopted: 5/03. Effective: 8/22/04.)

3.130 Payout receipts. Systems that issue a printed payout receipt shall:

1. Include on all payout receipts:
 - (a) Licensee name, city and state;

- (b) Gaming device number;
 - (c) Date and time of issuance;
 - (d) Alpha and numeric dollar amount;
 - (e) Sequence number; and
 - (f) Expiration period or date when receipt will expire, if applicable.
2. Only allow the printing of a payout receipt upon a communication initiated by a gaming device.
 3. Provide for on-line, real-time validation of payout receipts.
 4. Be incapable of authorizing payment on a payout receipt that has been previously paid, voided, or that is unissued.
 5. For payout receipts printed at a gaming device, not allow an expiration period of less than thirty days.
- (Adopted: 5/03. Effective: 8/22/04.)

3.140 Documentation required of on-line slot metering systems. Documentation generated by an on-line slot metering system indicating information by slot machine, by denomination and in total, shall be available on a day, month, year-to-date basis and for at least a previous two-year cumulative basis. The system shall be designed so that documentation may be created daily or on demand and includes, at a minimum:

1. For each document:
 - (a) Document title;
 - (b) Version number of the current system software;
 - (c) Date or time period of activity; and
 - (d) Date and time the document was generated.

Note: Documents that compare metered amounts to actual amounts shall include a dollar variance and a percentage variance. The percentage variance is the dollar variance divided by the metered amount.

2. Slot machine performance including:

- (a) By machine:
 - (1) Denomination or an indication that the machine is a multi-denomination machine;
 - (2) Slot machine number and game type;
 - (3) Coin in;
 - (4) Metered or actual drop (system configurable);
 - (5) Actual jackpot payout slips issued;
 - (6) Actual fill slips issued;
 - (7) Win;
 - (8) Theoretical hold percentage;
 - (9) Actual hold percentage;
 - (10) Percentage variance (theoretical hold vs. actual hold); and
 - (11) Projected dollar variance (i.e., coin in times the percentage variance).
- (b) By denomination and in total:
 - (1) Weighted average theoretical hold (i.e., floor par);
 - (2) Combined actual hold percentage (all win divided by all coin in);
 - (3) Percentage variance (floor par vs. combined actual hold percentage); and
 - (4) Projected dollar variance (i.e., total coin in times the percentage variance).

Note 1: Floor pars are the sum of the theoretical hold percentages of all machines within a denomination weighted by coin in contribution.

Note 2: Drop, fills, jackpot payouts, and win figures may need adjustment to determine the true slot machine performance.

Note 3: The system shall compute accurate theoretical hold percentages, based on coin-in contribution, for each multi-game or multi-denomination/multi-game slot machine.

Note 4: The system shall compute accurate theoretical hold percentages for each gaming device which is considered a slot machine and which contains paytables with a difference in theoretical payback percentage which exceeds 4 percent between wager categories.

3. Meter drop vs. actual drop for each drop type (coin and bills), by machine and in total.

4. Meter attendant paid jackpots, cancelled credits, progressive payouts and external bonus payouts (in total) vs. actual attendant paid jackpots, cancelled credits, progressive payouts and external bonus payouts (in total).

Note: The system must produce a report (by machine and in total) that compares each type of attendant pay for those machines that have variances.

5. Meter fills vs. actual fills.

Note: Meter fills equal "Meter physical coin in" - "Meter physical coin out" - "Meter coin drop".

6. Meter machine paid and attendant paid external bonus payouts vs. external bonusing system machine paid and attendant paid external bonus payouts.

7. Meter voucher out vs. system payout receipts issued.
8. System payout receipts redeemed, by cashiering station, by shift.
9. System payout receipts issued, to include date issued, amount, sequence number and identification of gaming device where issued.
10. System payout receipt liabilities, by date issued and receipt sequence number.
11. Meter win vs. actual taxable win.
Note: "Meter win" equals "meter coin in" (-) "meter coin out" (-) "meter machine paid progressive payout" (-) "meter machine paid external bonus payout" (-) "total of meters accumulating attendant payouts" (excluding attendant paid cancelled credits).
12. Exception report. In the event data or parameters are changed, an exception report shall be produced to document:
 - (a) Data or parameter altered;
 - (b) Data or parameter value prior to alteration;
 - (c) Data or parameter value after alteration;
 - (d) Date and time of alteration; and
 - (e) Identification of user that performed alteration.
13. By machine, a report of all required meter amounts read and recorded by the on-line slot system.
(Adopted: 5/03. Effective: 8/22/04.)

3.150 Additional requirements for cashless wagering systems. In addition to those requirements set forth for on-line slot metering systems, and except for those requirements described in Technical Standards 3.110 through 3.140, all cashless wagering systems submitted for approval shall:

1. Prevent the direct wagering at a gaming device or an electronic funds transfer to a gaming device through the use of a credit card.
2. In the event of debit instrument transactions, execute such transactions in accordance with all applicable state and federal electronic funds transfer requirements or wagering account transfer requirements including receipting and fee disclosure requirements. Additionally, for electronic funds transfers, the cashless wagering system must provide for a configurable daily transfer limit which must not exceed \$1,000 per day per debit instrument.
3. Employ some form of data encryption that has been approved by the chairman for all data that is transmitted to or from a gaming device. This standard does not apply to data that is transmitted between a gaming device and a gaming device interface component.
4. Provide a secure method for patron access to wagering accounts and promotional accounts.
5. For all patron initiated transactions, assign to each transaction a unique identifier of at least eight digits that includes the gaming device designation.
6. Be equipped to read and store the specific values indicated on the electronic digital storage meters in the gaming device, as applicable to the system. The following gaming device meter information is stored in units equal to the denomination of the device or in dollars and cents:
 - (a) Voucher in.
 - (b) Voucher out (for the metering of slot machine wagering vouchers and payout receipts).
 - (c) Electronic funds transfer in (EFT In).
 - (d) Wagering account transfer in (WAT In).
 - (e) Wagering account transfer out (WAT Out).
 - (f) Cashable electronic promotion in.
 - (g) Cashable electronic promotion out.
 - (h) Non-cashable electronic promotion in.
 - (i) Non-cashable electronic promotion out.
 - (j) Coupon promotion in.
 - (k) Coupon promotion out.

Note: System meters shall be referred to with the above terms and shall accumulate applicable system generated information as well as information stored on gaming device meters as required by Technical Standard 2.040.

7. Have a mechanism in place to record all required meters, as specified by Technical Standard 3.150(6), at the time a drop box (coin or currency) is removed and at any time specified by the end user.
8. Prevent an expiration period of less than thirty days for slot machine wagering vouchers.
9. Include on all slot machine wagering vouchers and coupons:
 - (a) Licensee name, city and state;
 - (b) Gaming device number or printer station number, as applicable;
 - (c) Date and time of issuance;
 - (d) Alpha and numeric dollar amount;
 - (e) Sequence number;

- (f) Validation number;
 - (g) Second printing of validation number on the leading edge of the voucher or coupon;
 - (h) Unique identifier (e.g., bar code);
 - (i) Transaction type or other acceptable method of differentiating ticket types; and
 - (j) Expiration period or date when voucher or coupon will expire, if applicable.
10. Cause a relevant, informative message to be displayed whenever any player-initiated wagering account transfer or electronic funds transfer is being processed.
 11. In the event communications between the system and a gaming device are lost, allow no more than one wagering instrument to be printed.
 12. Require all electronic funds transfers to be recorded by the system.
 13. Provide for on-line, real-time validation of wagering instruments or debit instruments, as applicable.
 14. Be incapable of authorizing payment on a wagering instrument that has been previously paid, voided, or that is unissued, and the system shall display the status of the instrument.
 15. Prevent the removal or erasure of events and transactions from any communication device until that information has been successfully transferred and acknowledged by the communication device next in succession.
 16. Be designed to prevent unauthorized changes to cashless wagering system programs and databases.
 17. Require the end user to initiate any remote access and shall only allow remote access by the system's licensed manufacturer from that manufacturer's place of business.
- (Adopted: 5/03. Effective: 8/22/04.)

3.160 Documentation Required of Cashless Wagering Systems. Documentation generated by a cashless wagering system shall be available on a day, month, year-to-date basis and for at least a previous two-year cumulative basis. The system shall be designed so that documentation may be created daily or on demand and includes, at a minimum:

1. For each document:
 - (a) Document title;
 - (b) Version number of the current system software;
 - (c) Date or time period of activity; and
 - (d) Date and time the document was generated.
2. Wagering instrument issuances by date and identification of gaming device where issued, by gaming device.
3. Wagering instrument redemptions by date and means of redemption (e.g., gaming device, cashier station, kiosk, etc.).
4. Wagering instrument liabilities by date issued and by instrument sequence number.
5. Wagering instruments expired by date issued, sequence number and identification of gaming device where issued.
6. Wagering instruments voided by date issued, instrument sequence number and identification of gaming device where issued.
7. Debit instrument (i.e., wagering account) activity and balances, by patron and gaming device and shall include the date and time of each transfer to or from each gaming device.
8. Vouchers and coupons counted in the count room, by gaming device and by type of instrument.
9. Gaming device meter EFT in vs. system EFT in.
10. Gaming device meter WAT in vs. system WAT in.
11. Gaming device meter WAT out vs. system WAT out.
12. System promotional account activity and balances, by patron or by promotion, as applicable.
13. System wagering account activity (deposits, transfers to and from gaming devices, withdrawals, adjustments) and balances, by wagering account.
14. Gaming device meter cashable electronic promotion in vs. system cashable electronic promotion in.
15. Gaming device meter cashable electronic promotion out vs. system cashable electronic promotion out.
16. Gaming device meter non-cashable electronic promotion in vs. system non-cashable electronic promotion in.
17. Gaming device meter non-cashable electronic promotion out vs. system non-cashable electronic promotion out.
18. Gaming device meter voucher in vs. system voucher in forms accepted.
19. System voucher in vs. vouchers counted in the count room, by gaming device.
20. Gaming device meter voucher out vs. system voucher out forms issued.

21. Gaming device meter coupon promotion in vs. system coupon promotion in forms accepted.

22. System coupon promotion in vs. coupons counted in the count room, by gaming device.

23. Gaming device meter coupon promotion out vs. system coupon promotion out forms issued.

24. Slot machine performance report, as set forth in Technical Standard 3.140(2), that properly includes the wagering activity recorded on the gaming device meters set forth in Technical Standard 3.150(6), if the cashless wagering system is integrated with an on-line slot metering system.

25. For each individual adjustment made to a cashless wagering account or a promotional account, a summary of the adjustment to include:

(a) Patron name and account number, or specific promotion, as applicable;

(b) Amount of, and explanation for, the adjustment; and

(c) Identification of the user completing and/or authorizing the adjustment.

26. All cashiering activities (e.g., log on, redemptions, deposits/withdrawals and adjustments to wagering accounts, log off, etc.), by cashier.

27. All exceptions to include:

(a) Date and time of exception;

(b) Gaming device number or user identification number and terminal location where the exception occurred; and

(c) A description of the exception or a unique code that identifies the exception.

(Adopted: 5/03. Effective: 8/22/04.)

3.170 Waiver provisions. Upon a showing of good cause, the chairman may waive any of the requirements of Technical Standard 3.

(Adopted: 5/03. Effective: 8/22/04.)

STANDARD 4

MOBILE GAMING SYSTEMS

4.010 User Authorization.

1. Mobile gaming systems must employ a mechanism approved by the chairman which is capable of verifying that the mobile communications device is being operated by an authorized person.

2. The mechanism used to verify that the mobile communications device is being operated by an authorized person must be capable of being initiated both on demand and on a regular basis.

3. Authorization information transmitted by the mobile communications device to the mobile gaming system for identification purposes must be collected at the time of the request from the mobile gaming system and may not be stored on the mobile communications device.

4. The chairman, in his/her sole and absolute discretion, may waive the requirements of this section for mobile communications devices that cannot be reasonably moved by a patron.

(Adopted: 3/06.)

4.020 Mobile Communications Device Communication with a Mobile Gaming System.

1. Communication between a mobile communications device and a mobile gaming system must be conducted using a method that securely links the mobile communications device to the mobile gaming system and authenticates both the mobile communications device and mobile gaming system as authorized to communicate over that link.

2. Mobile gaming system components which interface mobile communications devices must sufficiently isolate the mobile communications devices from the server portion of the mobile gaming system.

3. A mobile communications device must be designed or programmed such that it may only communicate with authorized mobile gaming systems.

(Adopted: 3/06.)

4.030 Location Restrictions. Mobile gaming systems must be designed to restrict the gaming operation of the mobile communications device to public areas as defined by Regulation 5.220.

(Adopted: 3/06.)

4.040 Mobile Communications Device Volume. Mobile communications devices must be capable of adjusting and/or muting the volume on the device.

(Adopted: 3/06.)

End – Technical Standards