

**TECHNICAL STANDARDS FOR OPERATION, CONSTRUCTION AND TESTING OF CLASS  
III ELECTRONIC GAMING DEVICES (EGDS)**

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## TECHNICAL STANDARDS FOR OPERATION, CONSTRUCTION AND TESTING OF CLASS III ELECTRONIC GAMING DEVICES (EGDS)

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### PURPOSE

The purpose of these Technical Standards is to provide clear standards for testing by an independent lab and also to provide clear standards that the Kickapoo Tribe Gaming Commission (the "Tribal Gaming Commission") can use for the establishment of internal control standards for Class III EGDs. These Technical Standards shall control the construction, testing and operation of Class III EGDs in gaming facilities regulated by the Tribal Gaming Commission. For the avoidance of doubt, these Technical Standards do not control the construction, testing and operation of Class II EGDs. These Technical Standards shall be considered additional tribal gaming regulations within the meaning of Section 7 of the Compact. These Technical Standards shall remain in effect until the Tribal Gaming Commission proposes changes according to the procedures set forth in Section 7 of the Compact.

### DEFINITIONS

1. **Approved** a process of acceptance by a Tribal regulatory body of any component of the system that would have an effect on the integrity of any game and/or the system.
2. **Cash Out** the process by which a patron elects to and does receive coin, tokens, tickets or a combination thereof in payment for game credits remaining on an electronic gaming device (EGD) and the simultaneous reduction of credits shown on the EGD to zero.
3. **Communication Protocol** set of rules which define the processes for transmitting virtual messages in data communications.
4. **Communication Connection** means a physical hardware connection and does not include wireless or infrared communication equipment.
5. **Computerized Ticket Validation System** a hardware and software system, physically located within the gaming facility that maintains a ticket database for validation when tickets are presented for payment or for game credits. Each component of the computerized ticket validation system shall function as indicated by the communication protocol implemented.
6. **Coupon** a paper slip primarily used for promotional purposes, which may be of a cashable or non-cashable value.
7. **Program Storage Media** the device in which the game program resides as defined in Attachment A and whose operation is described in Section I.
8. **Distributor** means a person or business entity who obtains an electronic gaming device from a manufacturer and who intends to furnish it to the Tribe.
9. **Electronic Gaming Device (EGD)** means gaming equipment which is electric, electronic or mechanical, or a combination thereof, which plays a game which involves an element of prize, chance and consideration, and which is linked to a central computer for purposes of security, monitoring, and auditing. The EGD shall function as indicated by the communication protocol that is implemented.
10. **Game Credit** means the smallest unit of value that may be used to play a game on an EGD or that may be cashed out in US coin, ticket, or approved tokens.
11. **Kiosk** – means a self-service device located on the gaming floor that provides a means for payment of a ticket that has been validated and redeemed by the computer ticket validation system or provides a means for printing a ticket.
12. **Manufacturer** means a person or business entity who manufactures, produces, or assembles an EGD or a TITO system or any component thereof, and who intends to furnish it to a distributor or the Tribe.
13. **Redemption** means the process by which a ticket is presented by a patron for payment at a casino cage, or inserted into a kiosk or bill validator of an EGD, recognized by the computer ticket validation system as valid and the patron is paid in US currency and coin or by check the amount printed on the ticket, or, in the case of acceptance of the ticket in an EGD, game credits plus any residual in an amount equivalent to the amount printed on the ticket. The redemption process must be completed entirely prior to the award of a merchandise prize.
14. **Residual** means the value in dollars and cents remaining after an EGD registers the maximum game credits possible following insertion and redemption of a ticket, token(s) or US currency and/or coin.

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15. **Residual Ticket** a ticket printed in an amount remaining following the insertion and redemption of a ticket or the insertion and acceptance of US currency and/or coin or approved token into an EGD.
16. **Ticket/Voucher** an approved paper token printed by a ticket printer, in an EGD, kiosk or stand-alone printer. A ticket shall record the value of game credits at cashout or residual in dollars and cents in numerical form, the time of day it was printed, the date of printing showing the month, day and year, a gaming device number identifying the EGD or kiosk in which the ticket is printed, a unique validation number or barcode capable of being read by a ticket reader, and an identifier unique to the gaming facility such as a logo or name. Tickets will expire a maximum of 45 days from the date and time of issue and tickets shall so state the length of time until expiration or the expiration time and date.
17. **Ticket Reader** an optical device in an EGD or kiosk or at the cage capable of reading tickets and sending information to the computerized ticket validation system. Bill validators may incorporate this technology.
18. **Ticket Printer** a stand-alone device or device in an EGD or kiosk that is capable of printing an approved ticket based on instructions received from the EGD or kiosk which has received data from the computerized ticket validation system. In the case of a stand-alone ticket printer, the device shall be capable of printing an approved ticket based on instructions received directly from the computerized ticket validation system.
19. **Ticket In/Ticket Out (TITO)** a process by which an EGD has the ability to accept or dispense tickets as a means for payment of game credits or residuals and communicates with a computerized ticket validation system.
20. **Token** means an object of a design and substance approved in writing by the Tribal Gaming Commission. The object shall represent a value shown on the object and be capable of being inserted into an EGD which causes the appropriate number of game credits to register.
21. **Valid Ticket** means a ticket that has not been previously redeemed, has not expired, has not been voided and is not in an unredeemable state as determined by the computerized ticket validation system.
22. **Validation** The process that is used to verify the validity of a ticket that is presented for game credits or payment. When presented for game credits or payment, the ticket information is compared to the data stored on the computerized ticket validation system, based on the unique identifying number, for validation prior to registration of game credits or payment.

### HARDWARE REQUIREMENTS FOR ELECTRONIC GAMING DEVICES

1. **Physical Hazard** Electronic and mechanical parts and design principles of the electronic game of chance must not subject a player to physical hazards.
2. **Surge Protector** A surge protector must be installed on the line that feeds power to the EGD or the main electrical control panel box that supplies electrical current to an EGD.
3. **Non-Volatile (NV) Memory Requirements**
  - a. The EGD shall have the ability to retain data for all critical memory as defined herein and shall be capable of maintaining the accuracy of all information required for thirty (30) days after power is discontinued from the EGD.
  - b. For rechargeable battery types only, if the battery back-up is used as an “off-chip” battery source, it shall recharge itself to its full potential in a maximum of twenty four (24) hours. The shelf life shall be at least five (5) years;
  - c. Non-volatile memory that uses an off-chip back-up power source to retain its contents when the main power is switched off shall have a detection system which will provide a method for software to interpret and act upon a low battery condition before the battery reaches a level where it is no longer capable of maintain the memory in question; and
  - d. Clearing non-volatile memory shall require access to the locked logic area or other secure method provided that the method can be controlled by the regulatory body.
4. **On/Off Switch** An on/off switch that controls the electric current used in the operation of an EGD and any associated equipment must be located in a place which is readily accessible within the interior of the machine.
5. **Electro-Static interference** Protection against static discharges requires that the EGD’s conductive cabinets be grounded in such a way that static discharge energy shall not be permanently damage, or permanently inhibit the

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normal operation of the electronics or other components within the EGD. EGDs may exhibit temporary disruption when subjected to a significant electro-static discharge temporary disruption when subjected to a significant electro-static discharge greater than the human body discharge, but they shall exhibit a capacity to recover and complete any interrupted play without loss or corruption of any control or critical data information associated with the EGD. The test will be conducted with a severity level of a maximum of 27KV air discharge. It is the responsibility of the manufacturer to certify to an independent testing laboratory that an EGD can meet this standard.

6. **Approved Coin and Bill Acceptors** All paper currency acceptance devices shall be able to detect the entry of valid bills, coupons, tickets/vouchers, or other approved notes, as applicable, and provide a method to enable the EGD software to interpret and act appropriately upon a valid or invalid input. The paper currency acceptance device(s) shall be electronically based and be configured to ensure that they only accept valid bills of legal tender, coupons, tickets/vouchers, or other notes and must reject all other items. Rejected bills, ticket/vouches, coupons or other approved notes should be returned to the player. Ticket/vouchers are paper slips that are treated as a unit of currency, which may be redeemed for cash or exchanged for credits on the EGD. Coupons are paper slips primarily used for promotional purposes, which may be of a cashable or non-cashable value. The bill input system shall be constructed in a manner that protects against vandalism, abuse, or fraudulent activity. An EGD that uses a bill validator shall retain in its memory and display the last five (5) items accepted by the bill validator. (i.e. currency, ticket/vouchers, coupons, etc.) The bill validator recall log may be combined or maintained separately by item type. The bill validator recall log may be combined or maintained separately by item type. If Combined, the type of item accepted shall be recorded with the respective time stamp.
7. **EGD Wiring** The EGD shall be designed so that power and data cables into and out of the EGD can be routed so that they are not accessible to the general public.
8. **Tower Light** The EGD shall have a light located conspicuously on its top that automatically illuminates when a player has won an amount or is collecting credits that the EGD cannot automatically pay, an error condition has occurred (including Door-Open) or a Call Attendant condition has been initiated by the player. For EGDs such as the "bar-top-style" it is permissible for the tower light to be shared among other EGDs or be substituted by an audible alarm.
9. **Touch Screens** All video monitor touch screens shall meet the following rules:
  - a. Touch screens shall be accurate and once calibrated, shall maintain that accuracy for at least the manufacturer's recommended maintenance period;
  - b. A touch screen should be able to be re-calibrated without access to the EGD cabinet other than opening the main door; and
  - c. There shall be no hidden or undocumented buttons/touch points anywhere on the screen that affect game play and/or that impact the outcome of the game, except as provided for by the game rules,
10. **Mechanical or Electro-Mechanical Devices** If the EGD has mechanical or electro-mechanical devices which are used for displaying game outcomes the following rules shall be observed:
  - a. Electro-Mechanically controlled display devices (e.g. reels or wheels) shall have a sufficiently closed loop of control so as to enable the software to detect a malfunction and or any attempt to interfere with the current operation of that device. This requirement is designed to ensure that if a reel or wheel is not in the position it is supposed to be in, an error condition will be generated.
  - b. Mechanical assemblies (e.g. reels or wheels) shall have some mechanism that ensures the correct mounting of the assembly's artwork, if applicable;
  - c. Displays shall be constructed in such a way that winning symbol combinations match up with pay lines or other indicators; and
  - d. A mechanical assembly shall be so designed that it is not obstructed by any other components.
11. **Controlled Access Doors** shall be manufactured of materials that are suitable for allowing only legitimate access to the inside of the cabinet (i.e. locks, doors and their associated hinges) shall be capable of withstanding determined and unauthorized efforts to gain access to the inside of the EGD and shall leave evidence of tampering if such an entry is made; The seal between the cabinet and the door of a locked area shall be designed to resist the entry of objects; all external doors shall be locked and monitored by door access sensors, when

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opened shall cease game play (with the exception of a drop box door) disable all acceptance, and send an error condition, which at a minimum shall illuminate the tower light and send the error condition to the central monitoring computer system when applicable. It shall not be possible to insert a device into the EGD that will disable a door open sensor when the EGDs door is shut without leaving evidence of tampering; and the Sensor system shall register an external door as being open when the door is moved from its fully closed and locked position, provided power is supplied to the EGD.

### TICKET IN/TICKET OUT (TITO)

1. A **TITO system** shall consist of a computerized ticket validation system located in the gaming facility and ticket readers and ticket printers, each of which has a bi-directional communication connection to the computerized ticket validation system. An EGD must be equipped with a ticket reader and ticket printer to be part of a ticket in/ticket out system. The TITO system shall:
  - a. Not be permitted to instruct the ticket printer to print a ticket under circumstances which would require the completion of IRS form W2G.
  - b. Be capable of determining that a ticket is valid prior to acceptance and registering the appropriate game credits on an EGD or issuing cash or tokens.
  - c. Reject and return tickets that are not valid without registering game credits on an EGD or dispensing cash or tokens.
  - d. Generate a unique validation number, or authorize a unique validation number generated by an EGD, for each ticket issued.
  - e. Accept only tickets printed within the gaming facility by ticket printers and reject and return immediately any ticket inserted that is not affirmatively validated or any other coupon inserted without registering game credits on an EGD or dispensing cash or tokens.
  - f. On redemption of a valid ticket, the computerized ticket validation system must immediately mark the ticket's unique validation number as redeemed.
  - g. Not print a ticket without first issuing a unique validation number or issuing authorization for a generated validation number.
  - h. Print a ticket in the amount of the residual prior to permitting first play after a ticket, token(s) or cash is inserted in an EGD but after or contemporaneously with the registration of the maximum number of game credits possible, or print a ticket in the amount of the residual as a result of a patron's selection of cash out.
  - i. Maintain a communication connection with the central monitoring computer system such that tracking and auditing is done in the same manner as when a patron plays an EGD using cash.
  - j. Have all of the information required to be associated with a ticket recorded and stored by the computer ticket validation system.
  - k. Locate ticket readers and ticket printers in a locked area of the EGD or kiosk separated from the logic area and the drop box.
  - l. Provide that ticket printers have software mechanisms to interpret and act upon the following conditions:
    - i. Out of paper or paper low
    - ii. Printer jam/ failure
  - m. Allow payment of tickets only at the cage or kiosks.
2. **The ticket/voucher** shall contain the following printed information to be contained on the ticket stock itself:
  - a. Casino Name/Site identifier, it is permissible for this information to be contained on the ticket stock itself;
  - b. Machine number (or cashier/change booth location number), if ticket/voucher creation outside of the EGD is supported
  - c. Date and Time (24hr format which is understood by the local date/time format)
  - d. Alpha and numeric dollar amount of the ticket/voucher
  - e. Ticket/voucher sequence number
  - f. Validation number including a copy of the validation number on the leading edge of the ticket/voucher
  - g. Bar code or any machine readable code representing the validation number

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- h. Type of transaction or other method of differentiating ticket/voucher types assuming multiple ticket/voucher types are available. It is strongly recommended that whenever the ticket/voucher type is itself a non-cashable item and or just a receipt that the ticket explicitly expresses that it has no cash value.
  - i. Indication of an expiration period from date of issue or date and time ticket voucher will expire (24hr format is understood by the local date and time format) it is permissible for this information to be contained on the ticket stock itself.
  - j. If offline voucher issuance is supported, an offline authentication identifier must at a minimum, be printed on the immediate next line following the leading edge validation number on the ticket (not required for ticket/vouchers that are non-redeemable at an EGD). The offline authentication identifier must be derived by a hash, or other secure encryption method of at least 128 bits, that will uniquely identify the voucher, verify that the redeeming system was also the issuing system, and validate the amount of the voucher, the EGD must print at most one wagering instrument after the gaming device to system communications has been lost.
3. **The TITO system** shall endure that the information being communicated is accurate using industry appropriate security and verification methods.
  4. If **validation** is not possible through the computerized ticket validation system, human intervention using the issuing EGDs ticket history to validate the ticket is required.
  5. **The TITO system shall maintain** a history log of the last 25 tickets printed on each EGD.
  6. **The computerized ticket validation system** can be a separate computer from or a part of the Central Monitoring Computer System.
  7. **Kiosks may or may not be used with TITO.** Kiosks shall have local light or sound alarms that indicate malfunctioning ticket **readers**/bill validators or bill or coin dispensers and/or loss of communication with the computerized ticket validation system. A trouble alert signal must also be sent to Surveillance in the event of malfunctions or security events. The redemption function of the kiosk shall be disabled during any time communication is lost between the kiosk and the computerized ticket validation system.
  8. **Prior to redemption,** the EGD shall reject and return tickets inserted during any time in which the EGD is not communicating with the computerized ticket validation system.

### GAMING CENTRAL MONITORING COMPUTER SYSTEM

A Gaming Central Monitoring and Control System (MCS) is a game management system that continuously monitors each EGD and Kiosk via a defined communication protocol by either a dedicated line, dial-up system, or other secure transmission method. A MCS is primarily tasked to provide logging, searching and reporting of gaming significant events, collection of individual device financial and meter data reconciliation of meter data against hard and soft counts and system security. The MCS shall be approved by the independent gaming test laboratory. Each EGD and kiosk must be linked by a communication connection to a central computer system (Central Monitoring Computer System) with information contained therein accessible to the Tribal Gaming Commission personnel and the State Gaming Agency personnel for information and control programs related to security, monitoring and auditing. The central monitoring computer system shall function as indicated by the communication protocol that is implemented. The central computer system (Central Monitoring Computer System) shall compile and record, among other things, the following information in a form accessible for reports in aggregate as well as for each individual EGD:

#### **System Component Requirements**

1. **General Statement** Each EGD installed in the casino must have a device or facility (interface element) installed inside a secure area of the EGD, that provided for communication between the EGD and external Data collector.
2. **Metering Requirements** If not directly communicating with EGD meters, of sufficient length, to preclude the loss of information from meter rollovers, or a means to identify multiple rollovers as provided for the connected EGD. These electronic meters should be capable of being reviewed on demand, at the interface element level via an authorized access method.

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3. **Battery Backup Requirements-** The interface elements must retain the required information after a power loss for a period determined by the Tribal Gaming Commission. If this data is stored in volatile Ram, a battery backup must be installed with the interface element.
4. **Information Buffering-** If unable to communicate the required information to the MCS, the interface element must provide a means to preserve all mandatory meter and significant event information until such time as it can be communicated to the MCS. EGD operation may continue until critical data will be overwritten and lost.
5. **Comprehensive Checks-** Comprehensive checks of interface element critical memory shall be made during each power resumption this includes interface element restart.
  - a. Upon resumption, the integrity of all interface element critical memory shall be checked.
  - b. It is recommended that interface element critical memory is continuously monitored for corruption or with comprehensive checks occurring at the start of game play.
  - c. In addition, it is recommended that the control program (software that operates the interface elements functions) allow for the interface to continually ensure the integrity of all control program components residing in non-volatile memory.
6. **Address Requirements-** The interface element must allow for the association of an unique identification number to be used in conjunction with an EGD file on the MCS. This identification number will be used by the MCS to track all mandatory information of the associated EGD. Additionally, the MCS shall not allow for duplicate EGD file entry of this identification number.
7. **Configuration Access Requirements** The interface element setup/configuration menu(s) must not be available unless using an authorized access method.

### Server and Database Requirements

1. **General Statement** A MCS will possess a server(s) networked system or distributed system that direct overall operation and associated database(s) that stores all entered and collected system information.
2. **System Clock** A MCS must maintain an internal clock that reflects the current time (24hr format which is understood by the local date/time format) and the date that shall be used to provide the following:
  - a. Time Stamping of significant events
  - b. Reference clock for reporting
  - c. Time stamping of configuration changes
3. **Synchronization Feature** If multiple clocks are supported the MCS shall have a facility whereby it is able to update clocks in MCS components, whereby conflicting information could occur.
4. **Database Access** The MCS shall have no built-in facility whereby a casino user/operator can bypass system auditing to modify the database directly. Casino operators shall maintain secure access control.

### Work Station Requirements

1. **Jackpot/fill Functionality** A MCS system must have an application or facility that captures and processes every hand pay message from each EGD. Hand pay messages must be created for single wins (jackpots), progressive jackpots, and accumulated credit cash outs (canceled credits) which result in hand pays. A fill (deposit of pre-determined or otherwise properly authorized token amount in an EGDs hopper) is normally initiated from a hopper empty message while a credit (removal of excess tokens from an EGD) is normally user initiated. An allowable exception to fill initiation would be where the system provides preventative maintenance fill functionality, in which the traction may be initiated by the system or authorized user. Once captured, there must be adequate access controls to allow for authorization, alteration or deletion of any values prior to payment or execution.
2. **Tax Reporting Threshold** Every single win event hand pay message confirmed at this application by personnel of proper authorization, equal to or greater than the tax reporting threshold must advise the user of the need for a W2G (domestic players) or 1042 (foreign players) to be processed, either via the MCS or manually. This option must not be capable of being overridden. The keyed reset ability to return winnings from taxable event to an EGD shall require the user intervention to void the original jackpot slip that is generated.

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3. **Jackpot/Fill Slip Information** The following information is required for all slips generated with some/all fields to be completed by the MCS.
  - a. Type of Slip
  - b. Numeric Slip identifier (which increments per event)
  - c. Date and Time (shift if required)
  - d. EGD number
  - e. Denomination
  - f. Amount of fill
  - g. Amounts of jackpot, accumulated credit and additional pay
  - h. W2G indication; if applicable
  - i. Additional payout; if applicable
  - j. Amount to Patron
  - k. Total coins played and game outcome of award
  - l. Soft meter readings
  - m. Relevant signatures as required by the Tribal Gaming Commission
4. **Surveillance/Security Functionality** A MCS shall provide an interrogation program that enables on-line searching of the significant event log for the present and for the previous 14 days through archived data or restoration from backup where maintaining such data on a live database is deemed inappropriate. The interrogation program shall have the ability to perform a search based at least on the following:
  - a. Date and Time range
  - b. Unique interface element/EGD identification number
  - c. Significant event number/identifier
5. **EGD Management functionality** A MCS must have a master "Slot File" which is a database of every EGD in operation, including at minimum the following information for each entry. If the MCS retrieves any of these parameters directly from the EGD, sufficient controls must be in place to ensure accuracy of the information.
  - a. Unique interface element/location identification number
  - b. EGD identification number as assigned by the casino
  - c. Denomination of the EGD (the denomination may reflect an alternative value, in the case of a multi-denomination game)
  - d. Theoretical hold of the EGD
  - e. Control programs within the EGD
6. **Accounting Functionality** A MCS must have an application or facility that allows controlled access to all accounting financial information and shall be able to create all mandatory reports in the Reporting requirements section.
7. **Exclusions** Generally any system component not specified in this document that impacts revenue reporting must be submitted to an independent laboratory for testing.

### System Requirements Communication Protocol

1. **General Statement** The System must support a defined communication protocol and function indicated by the communication protocol. A MCS must provide for the following:
  - a. All critical data communicated shall be protocol based and or incorporate an error detection and correction scheme to ensure an accuracy of ninety-nine (99%) or better of messages received.
  - b. All critical data communication that may affect revenue and is unsecured either in transmission or implantation shall employ encryption. The encryption algorithm shall employ variable keys, or similar methodology to preserve secure communication.
  - c. All communication perform within the system in its entirety must accurately function as indicated by the communication protocol that is implemented.



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## Significant Events

1. **General Statement** Significant events are generated by an EGD and sent via the interface element to the MCS utilizing an approved communication protocol. Each event must be stored in a database(s) which includes the following:
  - a. Date and time which the event occurred
  - b. Identity of the EGD that generated the event
  - c. A unique number/code that defines the event
  - d. A brief text that describes the event in the local language
2. **Significant Events** The following significant events must be collected from the EGD and transmitted to the system for storage:
  - a. Power resets or failure
  - b. Hand pay conditions
  - c. Door openings
  - d. Coin or token-in errors
  - e. Bill (item) validator errors
  - f. EGD low ram battery error
  - g. Reel spin error
  - h. Coin or token-out error
  - i. Printer error
3. **Priority Events** The following significant events must be conveyed to the MCS where a mechanism must exist for timely notification (it is permissible for the following significant events to be sent to the system as a generic error code) in cases where the EGD is unable to distinguish the specifics of the event:
  - a. Loss of communication with interface element
  - b. Loss of communication with EGD
  - c. Memory corruption of the interface element, if storing critical information
  - d. Ram corruption of the EGD

## Meters

1. **General Statement** Metering information is generated on a Gaming Device and collected by the interface element and sent to the MCS via communication protocol. This information may be either read directly from the EGD or relayed using a delta function. Metering information on the MCS shall be labeled so they can be clearly understood in accordance to their function.
2. **Required Meters** The following metering information must be communicated from the EGD and stored on the system in units equal to the denomination of the EGD or in dollars and cents:
  - a. Coin in
  - b. Coin out
  - c. Total coin drop (coins-dropped or total value of all coins, bills and ticket/vouchers dropped)
  - d. Attendant paid jackpots (hand-pays)
  - e. Attendant paid cancelled credits (if supported on the EGD)
  - f. Physical coin in
  - g. Physical coin out
  - h. Bills in (total monetary value of bills accepted)
  - i. Ticket/vouchers out
  - j. Machine paid external bonus payout
  - k. Attendant paid external bonus payout
  - l. Attendant paid progressive payout
  - m. Machine paid progressive payout
  - n. Ticket/voucher in (total monetary value of all ticket/vouchers accepted)
3. **Clearing Meters** an interface element should not have a mechanism whereby an unauthorized user can cause the loss of stored accounting meter information.

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## Reporting Requirements

1. **General Statement** Significant event and metering information is stored on the MCS in a database and accounting reports are subsequently generated by querying the stored information.
2. **Required Reports** Reports will be generated on a schedule determined by the Tribal Gaming Commission, which typically consists of daily, monthly, yearly period, and life to date reports generated from stored database information. These reports at minimum will consist of the following:
  - a. Net win/revenue reports for each EGD
  - b. Drop comparison reports for each medium dropped (examples=coins, bills) with dollar and percent variances for each medium and aggregate for each type
  - c. Metered vs Actual jackpot comparison report with the dollar and percent variances for each aggregate
  - d. Theoretical hold vs actual hold comparison with variances
  - e. Significant event log for each EGD
  - f. Other reports as required by the Tribal Gaming Commission

## Security Requirements

1. **Access Control** The MCS must support either a hierarchical role structure whereby user and password define program or individual menu item access or login program device security based strictly on use and password or PIN. In addition, the MCS shall not permit the alteration of any significant log information communicated from the EGD. Additionally there must be a provision for system administrator notification and user lockout or audit trail entry after a set number of unsuccessful login attempts.
2. **Data Alteration** The MCS shall not permit the alteration of any accounting or significant event log information that was properly communicated from the EGD without properly approved access controls. In the event financial data is changed an automated audit log must be capable of being produced to document:
  - a. Data element altered
  - b. Data element value prior to alteration
  - c. Data element value after alteration
  - d. Time and date of alteration
  - e. Personnel that performed alteration (user login)

## Additional System Features

1. **EGD program verifications** If supported a MCS may provide this redundant functionality to check EGD game software. Although the overhead involved can potentially impede EGD and MCS operation the following information must be reviewed for validity prior to implementation:
  - a. Software signature algorithm(s)
  - b. Data communications error check algorithm(s)
2. **Flash Download requirements** If supported a MCS may utilize FLASH technology to update interface element software if all the following requirements are met:
  - a. Flash download functionality must be at a minimum password protected and should be at a supervisor level. The MCS can continue to locate and verify versions currently running but it cannot load code that is not currently running on the system without user intervention.
  - b. A flash audit log report must record the time/date of a flash download and some provision must be made to associate this log with which version(s) of code was downloaded and the user who initiated the download.
  - c. All modifications to the download executable or flash file(s) must be submitted to an independent test laboratory for approval. At this time the independent test laboratory will perform a flash download to the system existing at the test laboratory and verify operation. The test laboratory will then assign signatures to any relevant executable code and flash file(s) that can be verified by an authorized employee of the Tribal Gaming Commission. Additionally all flash files must be available to the Tribal Gaming Commission to verify the signature.

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3. **Remote Access Requirements** If supported, A MCS may utilize password controlled remote access to a MCS as long as the following requirements are met:
  - a. A remote access user activity log is maintained depicting logon name, time/date, duration, activity while logged in.
  - b. No unauthorized remote user administration functionality (adding users, changing permissions, etc.)
  - c. No unauthorized access to database other than information retrieval using existing functions.
  - d. No unauthorized access to operating system.
  - e. If remote access is to be continuous then a network filter (firewall) should be installed to protect access.
4. **Verification of System Software** System software components/modules shall be verifiable by a secure means (as defined in Gaming Central Monitoring Computer Systems) at the system level denoting program ID and version. The system shall have the ability to allow for an independent integrity check of the components/modules from an outside source and is required for all control programs that may affect the integrity of the system. This must be accomplished by being authenticated by a third party device, which may be embedded within the system software or having an interface port for a third-party device to authenticate the media. This integrity check will provide a means for field verification of the system components/module to identify and validate the program/files. A test laboratory, prior to system approval, shall approve the integrity check method.

Note: If the authentication program is contained within the system software, the manufacturer must receive approval from the test laboratory prior to submission.

### 5. Backups and Recovery

**General Statement** The MCS shall have sufficient redundancy and modularity so that if any single component or part of a component fails, gaming can continue. There shall be redundant copies of each file or system database or both on the MCS with open support for backups and restoration.

**Recovery Requirements** In the Event of a catastrophic failure when the MCS cannot be restarted in any other way, it shall be possible to reload the system recommended to consist of at least the following information:

- a. Significant events
- b. Accounting information
- c. Auditing information
- d. Specific site information such as slot file, employee file, progressive set-up, etc.
- e. If voucher issuance is supported, all information utilized in the voucher redemption process including information specific to the redemption of offline voucher is applicable.

### CABINET SECURITY FOR EGDS AND KIOSKS

1. **Surveillance Notification** The surveillance department shall be notified prior to opening the cash or ticket compartments of EGDs or redemption kiosks.
2. **Locks** The cabinet or interior area of the EGD or redemption kiosk shall be locked and not readily accessible.
3. **Repairs and Service** An authorized agent or employee of the Tribe may open the gaming cabinet to effect repairs and service.
4. **Secure Electronic Components**
  - a. Logic Boards and program storage media and other logic control components, which directly affect the outcome of the game, shall be located in a separate compartment within the EGD and that compartment shall be locked and sealed with serialized security tape and with a different key or combination than that used for the main cabinet door and cash compartment. The Tribal Gaming Commission shall control this key. The compartment may only be opened in the presence of a authorized Tribal Gaming Commission employee.
  - b. After software verification and upon installation of program storage media in the appropriate component in an EGD, a Tribal Gaming Commission employee shall affix or cause to be affixed to said appropriate component of each EGD a strip of security tape, capable of evidencing the removal of the program storage media if the program storage media is removed from the original location in the EGD. The security tape shall

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be secured and available only to the Tribal Gaming Commission employee. The Tribal Gaming Commission shall maintain accurate and complete records of the identification number of each program storage media installed in each EGD.

- c. Serialized security tape shall be identifiable to the Tribal Gaming Commission and available only to Tribal Gaming Commissioners or Inspectors.
5. **Machine Records** The Tribal Gaming Commission shall maintain an accurate and complete record of each EGD including the identification number of the EGD and the identification number of each piece of program storage media when installed to the logic board witnessed by Tribal Gaming Commission employee.
6. **MEAL Cards** For all entries into the EGDs and redemption kiosks a written record must be made on a machine entry authorization log (MEAL) card indicating the time, date and purpose for entering said machine and identifying the person entering the machine using a legible approved signature. Recurring standard drop process procedures do not require MEAL Card entry.
7. **Secure Cash Compartment** The coins and currency compartment as well as the compartment in which tickets are collected shall be locked separately from the main cabinet area, and secured with a different key or combination than that used for the main cabinet door, except that a separate cash compartment shall not be required for coins or tokens necessary to pay prizes in a machine which pays prizes through a drop hopper as permitted in this section. Keys to gain access to drop the acceptor compartment must be different from those to gain access to the contents of the acceptor compartment. Coin drop, bill acceptor and ticket compartment keys must be kept in a secure location. Except as provided in this section, the compartment in which the inserted coins, tokens, bills, and tickets are deposited shall be locked at all times. The Tribal Gaming Commissioner or Inspector must be present coin drop, bill acceptor, and ticket compartments in the gaming cabinet are opened for the purpose of collecting the accumulated cash and tickets.
8. **Configuration Setting** It shall not be possible to change a configuration setting that causes an obstruction to the electronic accounting meters without a RAM clear. Clearing non-volatile memory shall only be able to be undertaken by accessing the locked logic area. Any change to the denomination must be done by a secure means, which includes access to the locked logic area. An Authorized Tribal Gaming Commission employee shall monitor denomination changes.
9. **Machine Identification** A non-removable plate shall be affixed to each EGD and redemption kiosk. This plate shall have at a minimum inscribed upon it the machine's serial number, model number, and the name of the manufacturer. All EGDs and redemption kiosks shall also have a label with a location/asset number prominently displayed unique to the gaming location. The Tribal Gaming Commission may require affixing other certificate plates, tags or decals.

### WIDE AREA PROGRESSIVES

Operation as Part of a Wide-Area Progressive Network the hardware requirements of the Technical Standards shall not be construed to prevent the operation of the EGD as part of a wide area progressive network with an aggregate prize or prizes, provided:

1. An EGD capable of bi-directional communication with internal or external associated equipment must utilize communication protocol which insures that erroneous data or signals will not adversely affect the operation of the game. The operation of the local network must be approved by the independent gaming test laboratory, and
2. Where the wide-area progressive network links the Tribe's EGDs to tribal games of chance on other Indian reservations within the State of Kansas or outside the State of Kansas, each Tribe participating in the wide-area progressive network shall have in force a Class III gaming compact in the state in which participating EGDs are located authorizing such gaming as part of a wide-area progressive network.

### SOFTWARE REQUIREMENTS FOR ELECTRONIC GAMING DEVICES

1. **Randomness Testing** Each EGD must have a microprocessor based random number generator that will determine the occurrence of the specific card, symbol, number, or stop position to be displayed. A selection process will be considered random if it meets all the following requirements:

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- a. Chi-square Analysis Each card, symbol, number or stop position which is wholly or partially determinative of the outcome of the game satisfies the 99 percent confidence limit using the standard chi-square analysis.
  - b. Runs Test Each card, symbol, number or stop position does not as a significant statistic produce predictable patterns of game elements or occurrences. Each card, symbol, number or stop position will be considered random if it meets the 99 percent confidence level with regard to the “runs test” or any generally accepted pattern testing statistic.
  - c. Correlation Analysis each card, symbol, number or stop position is independently chosen without regard to any other card, symbol, number or stop position, drawn within that game play. Each card, symbol, number or stop position is considered random if it meets the 99 percent confidence level using standard correlation analysis.
  - d. Serial Correlation Analysis each card, symbol, number or stop position is independently chosen without reference to the same card, symbol, number or stop position, in the previous game. Each card, symbol, number or stop position is considered random if it meets the 99 percent confidence level using standard serial correlation analysis.
2. **Live Game Correlation** Unless clearly indicated otherwise on the payglass, where EGDs plays a game that is recognizable simulation of a live casino game, the same probabilities associated with the live game shall be evident in the simulated game. EGDs that are representative of live gambling games must fairly and accurately depict the play of the live game.
3. **Software Requirements for Percentage Payout.** Each EGD must meet the following minimum theoretical percentage payout during the expected lifetime of the game:
- a. EGDs shall pay out a minimum of 80 percent of the amount wagered. The theoretical payout percentage will be determined using standard methods of probability theory.
  - b. Merchandise Prizes The cash value of a ticket redeemed to claim a merchandise prize shall be included in computing the minimum theoretical percentage payout and in computing theoretical and actual hold percentage. No merchandise prize may be awarded without first offering the patron, the cash value of the ticket redeemed, or the value of the jackpot in cash and receiving a written declination of the offer or, in the alternative, using plain signage to inform patrons whether cash is available in lieu of a merchandise prize and, if so, the amount of cash available in lieu of a merchandise prize at the option of the patron.
  - c. Each EGD must have a probability of obtaining the maximum payout, of the highest advertised award, which is greater than 1 in 50,000,000 for each play.
  - d. EGDs and kiosks must not be operated in any mode which would violate any provisions of these Technical Standards.
4. **Bonus Games** Games that have awards calculated that occur from game play within the base game’s cycle (e.g. bonus features, including free games) shall meet the following:
- a. The game shall display clearly to the player which game rules apply to the current game state. These rules shall be made available to the player prior to the start of the bonus game versus during the bonus game.
  - b. The game shall clearly display to the player possible win amount ranges, multiplier ranges, etc. that can be obtained from the bonus play.
  - c. A game which offers a bonus game, other than those that occur randomly, shall display to the player sufficient information to indicate the current status towards the triggering of the next bonus game.
  - d. If the game requires obtaining several events/symbols toward a feature, the number of events/symbols needed to trigger the bonus shall be indicated along with the number of events/symbols collected at any point.
  - e. The game shall not adjust the likelihood of a bonus occurring, based on the history of prizes obtained in previous games (i.e. games shall not adapt their theoretical return to the player based on past payouts).
  - f. If a game’s bonus is triggered after accruing a certain number of events/symbols or combination of events/symbols of a different kind over multiple games, the probability of obtaining like events/symbols shall not deteriorate as the game progresses (e.g. for identical events/symbols it is not permitted that the last few events/symbols needed are more difficult to obtain than the previous events/symbols of that kind).

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- g. The game shall make it clear to the player that they are in this mode to avoid the possibility of the player walking away from the gaming device not knowing the game is in a bonus mode.
  - h. Bonus game awards are part of the game cycle with predetermined award values. Bonus play award contributions to the program payout percentages are calculated consistent with awards of the regular game cycle. Specifically, if the cycle for bonus play awards is different from the base game cycle, then the bonus play awards, occurring within the base game's cycle, will be calculated as part of the games payout.
  - i. The game shall display the rules of play for the bonus game awards, the rewards associated with each bonus play award, and the character combination that will result in the specific payouts. For bonus play awards achieved by obtaining specific game results, the progress of the award shall be displayed.
- 5. Player section or interaction in Bonus Games** 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 listed immediately below and explains the mechanism for auto initiation or selection on the device glass or video display.
- a. 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.
  - b. 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 two (2) minutes.
  - c. The bonus or extended feature is offered as part of community play that involves two or more patrons and where the delay of an offered selection or game initiation will directly impact the ability for other patrons to continue initiating a community based bonus or extended feature. Prior to automatically making selections or initiating a community bonus or feature the patron must be made aware of the time remaining in which they must make their selection or initiate play.
- 6. Extra Credits wagered during bonus games** If a bonus feature game requires extra credits to be wagered during the bonus and the game accumulates all winning from the trigger and the feature to a temporary "win" meter rather than directly to the credit meter the game shall:
- a. Provide a means where winning on the temporary meter can be bet (via the credit meter) to allow for instances where the player has an insufficient credit meter balance to complete the feature;
  - b. Transfer all credits on the temporary meter to the credit meter upon completion of the feature.
  - c. Not exceed the max bet limit, if one is set.
  - d. Provide the player an opportunity NOT to participate.
- 7. Mystery Awards** It is acceptable for games to offer a "mystery award" (an award that is not tied to any specific symbol combination) however, the game must indicate the maximum amount the player could potentially win. If the minimum amount that could potentially be awarded is not displayed, it will be assumed to be "0". In addition, both a minimum and maximum amount must be displayed for any mystery award if the method to receive the award involves strategy or skill. This would include methods where the value of the payable is used in order to make decisions that could increase the return to the player. (e.g. video poker).
- 8. Tournaments** A tournament is an organized event that permits a player to engage in competitive play against other players.
- a. Tournament program, An EGD may be equipped with a certified program which allows for tournament mode play. The tournament option shall default to disabled. If tournament is an option, it shall be enabled by a Tribal Gaming Commission approved and controlled method requiring manual intervention and/or total replacement of the logic board with a certified tournament board.
  - b. Tournament software, No EGD while enabled for tournament play shall accept credits from any source, nor pay out credits in anyway, but shall utilize credit points only. Tournament credits shall have no value. These EGDs shall not increment any mechanical or electro-mechanical meters unless they are meters designed exclusively for use with tournament software and shall not communicate any tournament-related accounting information to the system.

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- c. Tournament EGD settings, All EGDs used in single tournament shall utilize the same electronics and machine settings as other EGDs involved in the tournament, including reel speed settings.
9. **Software Requirements for continuation after game malfunction** Each game must be capable of continuing the current game with all current game features after a game malfunction is cleared. This provision does not apply if the game is rendered totally inoperable; however, the current game credits wagered and all player remaining game credits active prior to the malfunction must be returned to the player.
10. **Metering an EGD must have electronic meters** The EGD accounting meters shall be at least eight digits in length. If the meter is being used in dollars and cents, at least eight digits must be used for the dollar amount. The meter must roll over to zero upon the next occurrence, any time the meter is eight digits or higher and after 99,999,999 has been reached or any other value that is logical. The EGD control program must provide the means for on-demand display of the electronic meters via a key switch on the exterior of the EGD/ The required electronic meters are as follows:
- a. Amounts Wagered, The total wagered expressed in US dollars and cents.
  - b. Amounts Won, Total won expressed in US dollars and cents.
  - c. Total Dropped, The total of all coins and tokens diverted to the drop plus all bills and tickets inserted into and accepted by the bill validator.
  - d. Jackpot Meter, The total amount paid out by an attendant from redeemed awards, cash or cash value of merchandise from a single event.
  - e. Canceled Credit Meter Cumulative, Amounts paid by an attendant following the removal of registered game credits on an EGD exclusive of amounts required to be recorded by the Jackpot Meter in these standards.
  - f. Bills In (total monetary value of all bills accepted).
  - g. Items In (total value of all items accepted to include currency, coin, tokens, tickets).
  - h. Individual Bill Meters (total number of each bill accepted per denomination).
  - i. The number of games played.
  - j. The number of times the front cabinet door was opened.
  - k. The number of times the drop door was opened, including the mechanism which holds the currency and/or tickets within the EGD.
11. **No Automatic Clearing of Accounting Meters** No EGD may have a mechanism by which an error will cause the electronic accounting meters to automatically clear. All meter readings must be recorded and dated in the presence of an authorized Tribal Gaming Commission employee both before and after the electronic accounting meter is cleared.
12. **Display of Information** The required game display information shall be kept under glass, another transparent substance or generated video medium and at no time may stickers or other removable devices be placed in any manner anywhere on the machine's face.
13. **Rules Display** Each EGD shall have the following information displayed on the video screen and/or permanently affixed on the game itself in a location conspicuous to the player:
- a. The rules of the game prior to each game being played;
  - b. The maximum and minimum wagers, amount of game credits which may be won for each winning hand or combination of numbers or symbols;
  - c. The game credits the player has accumulated for additional play or redemption.
  - d. Payglass/Video display, Payglass or video displays shall be clearly identified and shall accurately state the rules of the game and the award that will be paid to the player when the player obtains a specific win.
  - e. The payglass or video display shall clearly indicate whether awards are designated in credits, currency or some other unit.
  - f. The EGD shall reflect any change in award value, which may occur in the course of play. This may be accomplished with a digital display in a conspicuous location of the EGD and the game must clearly indicate as such.
  - g. All payable information, rules of play and help screen information should be able to be accessed by a player, prior to them committing to a bet. This includes unique game features, extended play, free spins, double-up, take-a-risk, auto play, countdown timers, symbol transformations, and community style bonus awards.

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- h. Payglass or video displays shall not be certified if the information is inaccurate.
  - i. Upcoming wins, The game shall not advertise “upcoming wins” for example three (3) times pay coming soon. Notwithstanding the foregoing a game may display such advertising if it is mathematically demonstrable that an award occurrence is up-coming and if the player is shown a graphical representation in the form of a progress indicator it must accurately depict the current progress towards such an award.
  - j. Bonus feature information. Each game which offers a feature such as free games or fever mode must display the number of featured games that are remaining during each game.
  - k. Multiple decks of cards. Any games which utilize multiple decks of cards, shall alert the player as to the number of card decks in play.
- 14. Last Play Recall** Last play information shall provide all information required to fully reconstruct the last five plays and shall reflect bonus rounds. Each EGD shall record the denominations of the last five bills accepted.
- 15. Software Verification** The EGD shall have the ability to allow for an independent integrity check of the device’s software from an outside source. This must be accomplished by being authenticated by a third-party device, which may be embedded within the game software or having an interface port for a third-party device to authenticate the media. If the authentication program is contained within the game software, the manufacturer must receive written approval from the test laboratory prior to submission. This integrity check will provide a means for field testing the software to identify and validate the program. The test laboratory, prior to device approval, shall approve the integrity check method.

### TESTING OF ELECTRONIC GAMING DEVICES

- 1. Testing and Approval of Electronic Gaming Devices** No EGDs or kiosks shall be purchased, leased or otherwise acquired by the gaming operation unless:
- a. The EGD or kiosk, or a prototype thereof, has been tested, approved, or certified by a gaming test laboratory as meeting the requirements and standards as set forth herein and of the Compact. For purposes of these standards and the Compact, a gaming test laboratory is a laboratory agreed upon by the Tribal Gaming Commission and State Gaming Agency as competent and qualified to conduct scientific tests and evaluations of EGDs and related equipment. Any laboratory must be agreed to and designated in writing by the Tribal Gaming Commission and State Gaming Agency before conducting scientific test and evaluations of EGDs and related equipment.
- 2. Testing of EGDs** If required by the gaming test laboratory, the Tribal Gaming Commission shall require the manufacturer or distributor to transport not more than two working models of the EGDs or kiosks and related equipment to a location designated by the laboratory for testing, examination, and analysis. In addition, the manufacturer or distributor shall supply copies of EGD illustrations, schematics, block diagrams, circuit analyses, technical and operation manuals, program object and source codes, hexadecimal dumps (the compiled computer program represented in base-16 format), and any other information requested by the gaming laboratory. The gaming operation shall require the manufacturer or distributor to pay for any and all costs for the transportation, testing, examination, and analysis. The testing, examination, and analysis may include the entire dismantling of the EGD and related equipment and some tests may result in damage or destruction to one or more electronic components of the devices. If required by the laboratory, the gaming operation must require the manufacturer to provide specialized equipment or the services of an independent technical expert to assist the testing, examination and analysis.
- 3. Report of Test Results** At the conclusion of each test, the laboratory shall provide to the Tribal Gaming Commission and the State Gaming Agency, a report that contains findings, conclusions, and a determination that the EGD or kiosk and related equipment conforms or fails to conform to the hardware and software requirements of these standards and standards of the Compact. If modifications can be made which would bring the EGD or kiosk or related equipment into compliance, the report may contain recommendations for such modifications. A report from the laboratory stating that the machine is an eligible electronic gaming device under the terms of the Compact and that it meets the technical standards defined herein shall constitute authority for the machine to be shipped to the gaming operation’s Class III gaming facility.



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4. **Modifications of Approved Electronic Gaming Devices** No modification to the assembly or operational functions of any EGD or kiosk or related equipment may be made after testing and installation unless a gaming test laboratory certifies to the Tribal Gaming Commission and the State Gaming Agency that the modified EGD conforms to the standards of the Compact and these standards. Any proposed modifications shall be subject to the requirements of the paragraphs above, before the modification may be implemented.

### PROGRAM STORAGE DEVICE REQUIREMENTS

1. **Requirements for Program Storage Devices** All Program Storage Devices, including (I.e. EPROMs, DVD, CD-ROM, Compact Flash) and any other type of Program Storage Devices shall:
- Be clearly marked with sufficient information to identify the software and revision level of the information stored in the devices and shall only be accessible with access to the locked logic department.
  - Perform an integrity check (authentication) of the Critical Files or Program Code that operate the Player Terminal during:
    - Any power-up; and
    - The first time the files or program code is loaded for use (even if only partially loaded).

NOTE: RAM and PSD space that is not critical to machine security (e.g., video or sound ROM) are not required to be validated, although GLI recommends a method be in place for the files to be tested for corruption. If any of the video or sound files contain payout amounts or other information needed by the player, the files or program storage must have a secure method of verification, see also software verification.

- The program residing in the Player Terminal shall be contained in a storage medium that cannot be altered through use of the circuitry or programming of the Player Terminal itself.
  - Is housed within a locked logic compartment; and
  - Meets the Software Verification requirements of these technical standards.
2. **Write Once (Non-Writeable) Program Storage** For Program Storage Devices that is written to once (i.e. EPROM, CD), the following rules shall be met CD-ROM specific based Program Storage shall:
- Not be re-writeable disk; and
  - The "Session" shall be closed to prevent any further writing.
  - Non-EPROM specific (including CD-ROM) Program Storage shall meet the following rules;
    - The software shall provide a mechanism for the detection of unauthorized and corrupt software elements, upon any access and subsequently prevent the execution of usage of those elements by the EGD.
    - The mechanism must employ a hashing algorithm which produces a message digest output of at least 128 bits.
    - In the event of a failed authentication, after the EGD has been powered up, the EGD should immediately enter an error condition and display an appropriate error. This error shall require operator intervention to clear and shall not clear until; the data authenticates properly, following the operator intervention, or the media is replaced and corrected and the EGDs memory is cleared.
3. **Writable Program Storage** The program residing in the Player Terminal that is capable of being erased and reprogrammed without being removed from the Player Terminal, bill changer or other equipment related device shall meet the below requirements.
- Re-programmable Program Storage shall only write to alterable storage media containing data files, and programs that are not critical to the basic operation of the game, such as marketing information. Notwithstanding the foregoing, such device may write to media containing critical data files, and programs provided the gaming equipment:
    - logs all information that is added, deleted or modified be stored on the media,
    - verifies the validity of all data, files and programs which reside on the media,
    - contains appropriate security to prevent unauthorized modifications; and

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- iv. does not allow game play while the media containing the critical data, files, and programs are in a modifiable state.

NOTE: If the program storage does not comply with any of the above requirements and is a Hard Disk, the media is permissible provided a write-protected drive is used. SCSI Devices are preferred as they provide a write protect jumper which can be sealed in place by the regulating body. Any other type of drive will have the write line cut and verified in the field and any other means of write protection will be examined on a case-by-case basis.

#### 4. Critical RAM Requirements

- a. Comprehensive Memory Checks Comprehensive checks of Critical Memory shall be made during each Player Terminal restart (e.g. power-up cycle). The Player Terminal Control Programs shall test for possible corruption of Critical Memory. Test methodology shall detect 99.99 percent of all possible failures.
- b. Unrecoverable Critical Memory An uncorrectable corruption of RAM shall result in a RAM error. The RAM should not be cleared automatically, but shall require a full RAM clear (RAM Reset) performed by an authorized person.
- c. Function of RAM Reset Following the initiation of a RAM reset procedure (utilizing a certified RAM clear method), each bit in RAM must be set to the default state. For games that allow for partial RAM clears, the methodology in doing so must be accurate and the game must validate the un-cleared portions of RAM.

#### CONFORMITY TO TECHNICAL STANDARDS

1. The Tribal Gaming Commission shall require the manufacturer or distributor to certify, in writing, that, upon installation, each EGD or kiosk.
2. Conforms precisely to the exact specifications of the EGD or kiosk or prototypes tested and approved by the gaming test laboratory.
3. Operates and plays in accordance with the technical standards set forth in these provisions.

#### GAMES WITH SKILL

1. **General Statement** A game with skill contains one or more elements in its design which can be leveraged by a player to impact the return percentage. Skill means the human attributes of a player such as knowledge, dexterity, visual recognition, logic, memory, reaction, strength, agility, athleticism, hand-to-eye coordination, numerical and/or lexical ability, or any other ability or expertise relevant to game play and outcome.

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

2. **Display for Games with Skill** A game with skill shall conform to applicable display requirements found in related sections of this standard for “Game Information and Rules of Play”, “Information to be Displayed”, and “Game Fairness”. In addition, the supplemental requirements defined within this section shall apply to games with skill to ensure player fairness and clarity with respect to player notification.
3. **Disclosure for Games with Skill** Any game with skill where there is a potential for the style or method of play to result in the game falling below the minimum theoretical return of 80% shall prominently disclose that the outcome is affected by player skill. This disclosure must be prominently displayed on the gaming device prior to committing a wager. This requirement shall not apply to traditional casino games (e.g., poker, blackjack, etc.).
4. **Player Versus Player (PVP) Advantage Feature** A game with skill may contain a feature that allows a player or players to gain an advantage over other players, provided that the gaming device:
  - a. Clearly describes to all players that the feature is available and the advantage it offers;
  - b. Discloses the method for obtaining the feature, including any required wager; and

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- c. Provides players with sufficient information to make an informed decision, prior to game play, as to whether or not to compete against another player(s) who may possess such a feature.
  5. **Virtual Opponent** Games with skill may offer a player the opportunity to compete against a virtual opponent provided that the gaming device:
    - a. Clearly and prominently discloses when a virtual opponent is participating; and
    - b. Prevents the virtual opponent from utilizing privileged information of the live player upon which a decision is made, unless otherwise disclosed to the player.
  6. **Outcome for Games with Skill** Except as otherwise disclosed to the player, once a game with skill is initiated, no function of the gaming device related to game outcome shall be altered during play. Additionally, in the event that available pay tables or rules of play change between games, notice of the change shall be prominently displayed to the player through the game artwork. An example of the latter case might be the use of an identifier to change the pay tables available to the player during the course of play.
  7. **Actual Return Percentage for Games with Skill** A game with skill shall support the ability for the regulatory body or operator to securely examine the actual return percentage on demand, via a direct interface with the metering/accounting of the gaming device, and/or via secure communications with an external system.
  8. **Odds for Skill-Based Awards** Each advertised skill-based award shall be available to be achieved by a player. For skill-based awards that incorporate an element of chance, the opportunity to achieve the advertised award shall occur at least once in every 100 million games. However, an allowance shall be made for any such advertised award that exceeds this odds requirement, provided that the game artwork prominently displays the actual odds of that award to the player.
  9. **Player Advice Features** A game containing a skill element may support a feature that offers advice, hints, or suggestions to a player. An illustrative example might be a trivia game that provides hints, clues, or other player assistance in making a selection. A game with skill may support player advice features provided that it conforms to the following requirements:
    - a. The player advice feature shall clearly describe to the player that it is available and what options exist for selection
    - b. Any player advice that is offered to the player for purchase shall clearly disclose the cost and benefit
    - c. The player advice shall not be misleading or inaccurate, and must reflect the rules of play for the game, while noting that the game rules may change as a function of the advice offered, providing any such changes are disclosed to the player prior to acceptance of the advice
    - d. The game design shall prevent access to any "information store" such that data related to the skill element is not readily available through software tampering (for example, a trivia game shall prevent access to an answers database)
    - e. The player advice feature shall allow the player the option of accepting the advice, and must not force the player to accept the assistance unless it reflects the only possible option for the player to pursue at the time
    - f. The availability and content of player advice shall remain consistent unless otherwise disclosed and must not adapt in a way that disadvantages the player based upon prior game play or game events.
- NOTE: It is recommended that the gaming device support a secure option to enable or disable player advice to accommodate regulatory bodies that may either allow or prohibit this type of feature.
10. **Peripheral Devices** Used with Games Containing Skill- If unique peripherals (e.g., joysticks, game controllers, camera systems, sound systems, motion sensors, image sensors, accelerometers, etc.) are employed by the gaming device to support skill, then the game must provide adequate and clear instruction on their purpose, usage, and effect.
  11. **Game Recall for Games with Skill** Games with skill shall maintain all information necessary to adequately reconstruct the last ten (10) gaming sessions, consistent with recall requirements stated within the section entitled "Last Play Information Required". A "gaming session" is defined as the period of time commencing when a player initiates a game or series of games on a gaming device by committing a wager, and ending at the time of a final game outcome for that game or series of games and coincident with the opportunity for the player to retrieve their credit balance. Some combination of text, logs, video, graphics, screen captures, or other means (e.g., "flight recorder" mechanism) shall be used to reconstruct the game outcome and/or player actions,

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provided that game history recall is sufficient to reconstruct game play. Additionally, for any game with skill that offers player advice, game recall shall reflect that information.

12. **Interruption and Resumption for Games with Skill** After a program interruption, a game with skill shall recover to the state it was in before the interruption, unless the game artwork clearly discloses any superseding terms and conditions for game recovery. This disclosure must be available to the player prior to play of the game.

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**Approval and Signature Sheet**

The preceding Technical Standards for Electronic Gaming Devices (EGDs) and all Attachments are approved as indicated below.

*Kala Loomis*

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Kala Loomis, Executive Director  
Kansas State Gaming Agency

Date: 11/23/2020

*Rhoda Cadue*  
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Rhoda Cadue, Chairperson  
Kickapoo Tribe Gaming Commission

Date: 11-30-2020