ARCI STANDARDS FOR
HISTORICAL HORSE RACING GAMES
(ADOPTED - March 9, 2023)

Chapter 1
Introduction to Historic Horse Racing Games

Section 1.   Introduction. The Commission shall approve technical specifications for pari-mutuel wagering on a historic horse race, also known as "historic horse racing games". Historic horse racing games must meet the specifications set forth in these technical specifications as prescribed by the Commission.

Section 2.   Purpose of Technical Specifications. The purpose of these technical specifications are as follows:

(a)   To eliminate subjective criteria in analyzing and certifying historic horse racing game operation.

(b)   To only test those criteria that impact the credibility and integrity of historic horse racing games from both the revenue collection and player's perspective.

(c)   To create a standard that will ensure that historic horse racing games are fair, secure, and able to be audited and operated correctly.

(d)   To recognize that non-gaming testing (such as electrical testing) should not be incorporated into this standard, but left to appropriate test laboratories that specialize in that type of testing. Except where specifically identified in this standard, testing is not directed at health or safety matters. These matters are the responsibility of the manufacturer, purchaser, and permittee of the historic horse racing terminal.

(e)   To construct a standard that can be easily revised to allow for new technology.

(f)   To construct a standard that does not specify any particular design, method, or algorithm. The intent is to allow a wide range of methods to be used to conform to the standard, while at the same time, to encourage new methods to be developed.

Section 3.   No Limitation of Technology. One should be cautioned that this document must not be read in such a way that limits the use of future technology. This document should not be interpreted that if the technology is not mentioned, then it is not allowed. To the

contrary, the commission will review this document and make changes to incorporate minimum standards for any new and related technology.

Section 4.   Terminals used for Historic Horse Racing Games. At a minimum, a historic horse racing terminal used for historic horse racing utilizes a pari-mutuel system of wagering that affords an opportunity for the exercise of skill or judgment where the outcome is not completely controlled by chance alone, contains some form of activation to initiate the wagering process, and makes use of a suitable methodology for delivery of the outcome of a previously occurred race. The functions of a historic horse racing terminal may be logically separated into multiple parts or distributed among several physical and/or server components. The terms "historic horse racing terminal" and "machine" are used interchangeably throughout this document.

Chapter 2
Hardware / Machine Requirements

Section 1.   Introduction. This chapter sets forth the technical requirements for the key attributes of a historic horse racing terminal or machine used for historic horse racing games. All proprietary devices developed for historic horse racing games shall meet the applicable requirements within this chapter. Unless otherwise directed by the commission, this chapter does not apply to historic horse racing terminals that solely utilize unaltered commercial off-the-shelf (COTS) components, such as PCs or tablets. For historic horse racing terminals that utilize modified off-the-shelf (MOTS) components, sections of this chapter will apply only to the modifications made to the components unless otherwise directed by the commission.

Section 2.   Machine and Player Safety.

(a)   Physical Hazards. Electrical and mechanical parts and design principals of the historic horse racing terminal shall not subject a player to any physical hazards.

(b)   Environmental and Electrical Safety Testing. The independent gaming laboratory will not make any findings with regard to Electro-Magnetic Compatibility (EMC) or Radio Frequency Interference (RFI), as that is the responsibility of the manufacturer of the terminal, or those that purchase the terminal. Such EMC and RFI testing may be required under separate statute, regulation, law, or act and should be researched accordingly by those parties who manufacture or purchase said terminal. The independent gaming laboratory does not test for, is not liable for, nor makes any findings related to these matters. However, during the course of testing, the independent gaming laboratory may inspect for marks or symbols indicating that a historic horse racing terminal has undergone product safety or other compliance testing by some other party but that is outside the scope of the requirements defined by this technical standard.

Section 3. **Environmental Effects on Integrity.** This section on integrity is only applicable for a historic horse racing terminal which has locally stored critical NV memory and/or installed software which has the potential to influence the historic horse racing game.

(a)   Terminal Integrity. The independent gaming laboratory shall perform certain tests to determine whether or not an Electro-Static Discharge (ESD) or a power surge impacts the integrity of a historic horse racing terminal. ESD testing and power surge testing are intended to simulate techniques observed in the field that may be used in an attempt to disrupt the integrity of electronic historic horse racing terminals.

(b)   ESD Effects. Protection against ESD requires that the historic horse racing terminal's conductive cabinet be earthed in such a way that static discharge energy shall not permanently damage or permanently impact the normal operation of the electronics or other components within the historic horse racing terminal. Historic horse racing terminals may exhibit temporary disruption when subjected to a significant external ESD with a severity level of 27kV air discharge. The historic horse racing terminal shall exhibit a capacity to recover and complete any interrupted game without loss or corruption of any control information or critical data following any temporary disruption.

(c)   Power Surges. The historic horse racing terminal shall not be adversely affected, other than resets, by surges or dips of ± 10% of the supply voltage. It is acceptable for the historic horse racing terminal to reset provided no damage to the equipment or loss or corruption of data is experienced. Upon reset, the historic horse racing game must return to its previous state or return to a game completion state provided the game history and all credit and accounting meters reflect a completed game. Alternatively, the historic horse racing terminal may be equipped with an Uninterruptible Power Supply (UPS) or battery backup that, when detecting power loss, allows the completion of the current historic horse racing game before ceasing operations.

Section 4.   **Basic Hardware Requirements**

(a)   Identification Information. The historic horse racing terminal shall be identifiable by model number, manufacturer identification, and any other information required by the commission.

(b)   On/Off Switch. An on/off switch that controls the electrical current supplied to the machine shall be located in a place which is readily accessible within the interior of the historic horse racing terminal. The on/off positions of the switch shall be clearly labeled.

(c)   Printed Circuit Board (PCB) Identification. Each PCB shall be clearly identifiable by an alphanumeric identification and, when applicable, a revision number. If track cuts, patch wires, or other circuit alterations are introduced to the PCB, then a new revision number shall be assigned.

(d)   Machine Wiring. The historic horse racing terminal shall be designed so that power and data cables into and out of the terminal can be routed so that they are not accessible to the general public. Wires and cables that are routed into a logic area shall be securely fastened within the interior of the terminal using appropriate mechanical fasteners, plugs, sockets, connectors, etc. The independent gaming laboratory will make no determination as to whether the historic horse racing terminal installation conforms to local electrical codes, or to any other electrical testing standards, and practices.

(e)   Wired Communication Ports. Wired communication ports shall be clearly labeled and must be securely housed within the historic horse racing terminal to prevent unauthorized access to the ports or their associated cable connectors.

(f)   Charging Mechanisms. A historic horse racing terminal may support the use of an externally accessible charging mechanism, such as a Universal Serial Bus (USB) charging port, or some other analogous technology (e.g., cables, inductive chargers, etc.). The mechanism may be used to provide external power or charging access for an electronic device such as a smartphone, tablet, etc. If so equipped, the charging mechanism shall:

(i)   Be appropriately fused and/or electrically-protected;
(ii)   Not impact the integrity, proper operation, or outcome of the historic horse racing terminal; and

(iii)   Not allow any data transmission between the historic horse racing terminal and the charging mechanism.

Section 5.   Doors and Security. This section on doors and security is only applicable for a historic horse racing terminal which performs transactions using peripherals installed within the terminal and/or has locally stored critical NV memory and/or installed software which has the potential to influence the historic horse racing game.

(a)   Physical Security. The historic horse racing terminal shall be robust enough to resist forced entry into any secured doors, areas, or compartments. In the event that extreme force is applied to the cabinet materials causing a potential breach in machine security, evidence of tampering must be conspicuous. "Secured areas" or "secured compartments" shall include the logic area(s), external doors such as the main door or belly door, currency compartment doors such as a stacker door, peripheral access area(s), and/or other sensitive access areas of the historic horse racing terminal that can potentially impact historic horse racing game integrity such as top boxes, controllers, etc.

(b)   External Doors. The following requirements apply to the external doors into any secured areas or compartments:

(i)   External doors shall be manufactured of materials that are suitable for allowing only legitimate access to the inside of the historic horse racing terminal cabinet.

(ii)   External doors and their associated hinges shall be capable of withstanding determined and unauthorized efforts to gain access to the interior of the historic horse racing terminal and shall leave conspicuous evidence of tampering if such an attempt is made;

(iii)   The seal between the historic horse racing terminal cabinet and the external door shall be designed to resist the entry of objects. It shall not be possible to insert an object into the historic horse racing terminal that disables a door open sensor when the historic horse racing terminal's door is fully closed, without leaving conspicuous evidence of tampering; and

(iv)   All external doors shall be secure and support the installation of locks.

(c)   Logic Area. The logic area, unless housed in a secure server approved by the Commission, is a separately locked area of the historic horse racing terminal which houses electronic components that have the potential to influence the integrity of the historic horse racing game. There may be more than one (1) such logic area in a historic horse racing terminal.

(i)   Electronic components that are required to be housed in one (1) or more logic areas shall include:

(A)   A Central Processing Unit (CPU) or machine microprocessor(s);

(B)   Any Program Storage Device (PSD) that contains software that may affect the integrity of the historic horse racing game, including, but not limited to, game accounting, systems communication, historic horse race database, execution of game play, game display, security, etc.;

(C)   Any electronics associated with the control logic for door monitoring and/or access detection;

(D)   Any components that handle critical control program signature computation or verification;

(E)   Any components that manage encryption/decryption of critical data;

(F)   Any communication controller electronics, and/or components housing the PSD responsible for communications; and

(G)   Machine critical NV memory backup devices.

(ii)   Any exceptions to the above logic area requirements and components will be evaluated on a case-by-case basis.

(d)   Door Monitoring. All doors that provide access to secure areas of the historic horse racing terminal shall be monitored by door access detection software.

(i)   The detection system shall register a door as being open when the door is moved from its fully closed and locked position, provided power is supplied to the historic horse racing terminal.

(ii)   When any door that provides access to a secured area or secured compartment registers as open, the historic horse racing terminal shall cease play, display an appropriate error message, and disable credit acceptance. This error condition shall be communicated to an external system when such a compatible system and protocol is supported.

Section 6.   Displays and Player Interaction Devices.

(a)   Touch Screen Displays. All touch screen displays shall meet the following rules:

(i)   Touch screen displays shall be accurate, and if required by their design, shall support a calibration method to maintain that accuracy; alternatively, the display hardware may support automatic self-calibration.

(ii)   If applicable to design, a touch screen display shall be capable of being manually re-calibrated without access to the historic horse racing terminal cabinet other than opening the main door.

(b)   Mechanical Display Devices. If the historic horse racing terminal has microprocessor-controlled mechanical display devices which are used for displaying game outcomes, the following rules shall be observed:

(i)   Mechanical display devices shall have a sufficiently closed loop of control so as to enable the software to detect malfunctions such as a display component which is jammed, not moving freely, or manipulated from its final resting position.

(ii)   If the historic horse racing terminal detects a malfunction related to the operation of any related mechanical display device, it shall cease play, display an appropriate error message, and disable credit acceptance. This error condition shall be communicated to an external system when such a compatible system and protocol is supported.

(c)   Player Interaction Devices. A historic horse racing terminal may not incorporate any player interaction devices that impact game outcome.

(d)   Wireless Player Interaction Devices. Communication between a historic horse racing terminal and any wireless player interaction device, conducted using transmission technologies such as Near Field Communications (NFC), Bluetooth (BT), Wi-Fi, optical, etc., shall:

(i)   Utilize secure communication methods to prevent unauthorized access to sensitive data by unintended recipients;

(ii)   Employ a method to detect data corruption; upon detection of corruption, either correct the error, or terminate the communication while providing a suitable error message;

(iii)   Employ a method to prevent unauthorized modification of sensitive data that impacts game outcome or that represents secure player information; and

(iv)   Only be possible with authorized wireless player interaction devices.

Section 7.   Bill Validators and Stackers.

(a)   Bill Validators. Bill validators shall be constructed in a manner that ensures proper handling of inputs and that protects against vandalism, abuse, or fraudulent activity. In addition, bill validators shall meet the following rules:

(i)   A bill validator shall be electronically-based and configured to ensure that it detects the entry of valid bills vouchers, or coupons and provides a method to enable the historic horse racing terminal to interpret and act appropriately upon a valid or invalid input.

(ii)   Acceptance of any bills, vouchers, or coupons for crediting to the credit meter shall only be possible when the historic horse racing terminal is enabled for wagering. Other states, such as error conditions including door opens, shall cause the disabling of the bill validator.

(iii)   No credits are issued to the historic horse racing terminal prior to confirmation of bill, voucher, or coupon validity. Invalid bills, vouchers, or coupons must be rejected and shall be returned to the player.

(iv)   Credits shall only be registered when:

(A)   The bill, voucher, or coupon has passed the point where it is accepted and stacked; and

(B)   The bill validator has sent the "irrevocably stacked" message to the historic horse racing terminal.

(v)   Each valid bill, voucher, or coupon shall register on the credit meter the actual monetary value in local currency, or the appropriate number of credits received for the denomination being used.

(vi)   If registered directly as credits, the conversion rate shall be clearly stated, or be easily ascertainable from the historic horse racing terminal. For fractional credits, the historic horse racing terminal shall either:

(A)   Automatically issue a voucher or return funds that reflects any fractional credits; or

(B)   Post to the credit meter the entire amount inserted, and either display the current credit meter in local currency or inform the player that there are fractional credits stored on the terminal at an opportune time to avoid the possibility of the player walking away from the historic horse racing terminal without such knowledge.

(vii)   Each bill validator shall be designed to prevent use of cheating methods such as stringing, the insertion of foreign objects, and any other manipulation that may be deemed a cheating technique or that may impact game integrity. Appropriate correlating error conditions shall be generated, and the bill validator shall be disabled.

(viii)   A method for detection of counterfeiting must be implemented. Counterfeit bills shall be rejected with a high degree of accuracy.

(b)   Bill Validator Location. Bill validators shall be located in a secure area of the historic horse racing terminal but not within the logic area. Only the bill, voucher, or coupon insertion area shall be accessible to the player.

(c)   Bill Validator Error Conditions. The historic horse racing terminal and/or bill validator shall have the capability of detecting and displaying the error conditions listed below. If a malfunction is identified, the historic horse racing terminal shall display an appropriate error message or flash lights with respect to the bill validator itself, and disable the bill validator. This error condition shall be communicated to an external system when such a compatible system and protocol is supported. Bill validator error conditions shall include:

(i)   Stacker full; it is recommended that an explicit "stacker full" error message not be utilized since this may promote a security issue; rather, a message such as "Bill Validator Malfunction" or similar is suggested;

(ii)   Bill, voucher, or coupon jams; and

(iii)   Bill validator communication failure.

(d)   Bill Validator Self-Test. The bill validator shall perform a self-test during each power up. In the event of a self-test failure, the bill validator shall automatically disable itself until the error state has been cleared.

(e)   Bill Validator Communications. All bill validators shall communicate to the historic horse racing terminal using a bi-directional protocol.

(f)   Bill Validator Settings. It shall only be possible to conduct preventive maintenance, or perform the following changes or adjustments to bill validators in the field:

(i)   The selection of desired acceptance for bills, vouchers, or coupons and their limits;

(ii)   Changing of certified critical control program media or downloading of certified software;

(iii)   Adjustment of the bill validator for the tolerance level for accepting bills or notes of varying quality shall not be allowed external to the historic horse racing terminal. Adjustments of the tolerance level must only be allowed with adequate levels of security in place. This can be accomplished through lock and key, physical switch settings, or other accepted methods approved on a case-by-case basis;

(iv)   Maintenance, adjustment, and repair per approved factory procedures; and

(v)   Options that set the direction or orientation of acceptance.

(g)   Power Failures During Credit Acceptance. If a power failure occurs during acceptance of a bill, voucher, or coupon, the bill validator shall give proper credits or return the bill, voucher, or coupon. There may be a small window of time where power may fail and credit may not be given due to the timing of validating the bill, voucher, or coupon. However, in this case, the timing window shall be less than one (1) second.

(h)   Bill Validator Stacker. Each bill validator shall have a secure stacker and all accepted items shall be deposited into the secure stacker receptacle. The secure stacker and its receptacle must be attached to the historic horse racing terminal in such a manner so that they cannot be easily removed by physical force and shall meet the following rules:

(i)   The historic horse racing terminal shall have the ability to detect a stacker removed condition and cease play, provided power is supplied to the terminal; and

(ii)   There shall be a separate keyed lock to access the door immediately prior to accessing the cashbox/stacker assembly. This keyed lock shall be separate from the main door. In addition, a separate keyed lock shall be required to remove the bills from the stacker.

Section 8.   **Payments and Printers.**

(a)   Payments by the Historic Horse Racing Terminal. Available credits may be subtracted from the player's credit meter and collected from the historic horse racing terminal by the player pressing a collect or cash out button at any time other than during:

(i)   A game being played (subject to the applicable rules of the game);

(ii)   Any door open condition;

(iii)   Test/diagnostic mode;

(iv)   A credit meter or win meter increment, unless the entire amount is placed on the meters when the collect button is pressed prior to its removal to the credit meter; or

(v)   An error condition which prevents a valid cashout.

(b)   Cashout Limit Exceeded. If credits are collected, and the total credit value is greater than or equal to a specific limit, the historic horse racing terminal shall lock up until the credits have been paid, and the handpay condition is cleared by the attendant or via a system-based command.

(c)   Voucher or Coupon Issuance. Credit redemption to players shall only be accomplished by means of a voucher or coupon unless a handpay occurs. A voucher or coupon issued by the historic horse racing terminal shall contain the following information at a minimum, as applicable. Note that some of the following listed information may also be part of the validation number or barcode:

(i)   The date and time of issuance;

(ii)   Value of the voucher or coupon;

(iii)   Unique validation number (and which for a printed voucher or coupon, must appear on the leading edge of the voucher or coupon);

(iv)   Barcode or any machine-readable code representing the unique validation number. Multiple barcodes are allowed and may represent more than just the validation number;

(v)   Historic horse racing terminal ID which issued the voucher or coupon;

(vi)   Indication if the voucher or coupon is a "duplicate", assuming duplicate vouchers or coupons may be printed by the historic horse racing terminal;

(vii) Type of transaction or other method of differentiating voucher or coupon types, assuming multiple voucher or coupon types are available. Additionally, it is strongly recommended that whenever the voucher or coupon type is itself a non-cashable item and/or just a receipt, that the voucher or coupon explicitly states that it has "no cash value" or other equivalent wording;

(viii) For a printed voucher or coupon, it is permissible for the following information to be contained on the ticket stock itself, if not printed on the voucher or coupon:

(A) Establishment Name/Identifier; and

(B) Indication of an expiration period from date of issue, or date the voucher or coupon will expire.

(d) Printer Location. The printer shall be secured in a locked enclosure or sealed casing or be located within a locked area of the historic horse racing terminal outside of the logic area.

(e) Printer Error Conditions. A historic horse racing terminal that is equipped with a printer shall have the capability of detecting and displaying the error conditions listed below. If a malfunction is identified, the historic horse racing terminal shall display an appropriate error message or flash lights with respect to the printer itself, and disable the printer. This error condition shall be communicated to an external system when such a compatible system and protocol is supported. Once a printer error condition has been cleared, any unprinted voucher shall be generated or a suitable handpay shall be processed. Printer error conditions shall include:

(i) Out of paper/paper low; it is permissible for the historic horse racing terminal to not lock up for these conditions, however, there shall be a means for the attendant to be alerted;

(ii) Printer jam/failure; the printer shall be disabled; and

(iii) Printer disconnected; it is permissible for the historic horse racing terminal to detect this error condition when it tries to print.

Section 9.   Player Identification Components. A player identification component is software and/or hardware used with a historic horse racing terminal which supports a means for players to provide identification information and/or the source of funds for credit acceptance, and for the purpose of wagering account association or for the purpose of redemption. Wireless devices that are employed for player identification purposes are expected to also meet the requirements defined in the section entitled "Wireless Player Interaction Devices".

(a)   Player Identification Components. Player identification component shall be constructed in a manner that ensures proper handling of inputs and that protects against vandalism, abuse, or fraudulent activity. In addition, player identification components shall meet the following rules:

(i)   A player identification component shall be electronically-based and provide a method to enable the historic horse racing terminal to interpret and act appropriately upon a valid or invalid input.

(A)   Card readers shall be able to detect the use of a valid card. Invalid cards inserted into the reader must be rejected and shall be returned to the player.

(B)   Barcode readers shall be able to associate the barcode visible on a card, voucher, coupon, or an allowed software application on a player's device, as applicable, with data stored in an external database.

(C)   Biometric scanners shall be able to associate a player's physical characteristics (biometrics) with data stored in an external database.

(ii)   Acceptance of any player funds for crediting to the credit meter shall only be possible when the historic horse racing terminal is enabled for wagering. Other states, such as error conditions including door opens, shall cause the disabling of the bill validator.

(iii)   Each player identification component shall be designed to prevent manipulation that may be deemed a cheating technique or that may impact game integrity. Appropriate correlating error conditions shall be generated, and the player identification component shall be disabled;

(iv)   A method for detection of counterfeiting must be implemented.

(b)   Player Identification Component Location. Player identification component hardware shall be secured in a locked enclosure or sealed casing or located in a secure area of the historic horse racing terminal but not within the logic area. Only the areas of the component that require physical interaction shall be accessible to the player.

(c)   Player Identification Component Error Conditions. The historic horse racing terminal and/or player identification component shall have the capability of detecting and displaying an error condition related to a component malfunction or communication loss. If a malfunction is identified, the historic horse racing terminal shall display an appropriate error message or flash lights with respect to the player identification component itself, and disable the player identification component. This error condition shall be communicated to an external system when such a compatible system and protocol is supported.

Chapter 3
Software Requirements

Section 1.   Introduction. This chapter sets forth the requirements for game software. Game software refers to the software used to take part in historic horse racing games which, based on design, is downloaded to or installed on the historic horse racing terminal run in conjunction with an external system, or a combination of the two.

Section 2.   Critical Control Program Requirements

(a)   Software Identification. Critical control programs shall contain sufficient information to identify the software revision level.

(b)   Software Validation. It shall be possible to authenticate that all critical control programs within the game software are valid each time the software is loaded for use prior to being available for any wagering. Program verification mechanisms will be evaluated on a case-by-case basis and approved by the independent gaming laboratory based on industry-standard security practices.

(i)   With the exception of critical control programs residing in EPROM(s), the authentication mechanism shall employ a hash algorithm which produces a message digest of at least 128 bits. For EPROM(s), the mechanism shall use, at a minimum, a checksum; however, it is recommended that a Cyclic Redundancy Check (CRC) be used that is at least 16-bit. Other test methodologies shall be reviewed on a case-by-case basis.

(ii)   In the event of a failed authentication (i.e., program mismatch or authentication failure), the historic horse racing terminal shall immediately cease play and tilt, display an appropriate error message, and disable credit acceptance and redemption. This error condition shall be communicated to an external system when such a compatible system and protocol is supported. Additionally, the error condition shall require permittee intervention to clear, and shall not clear until the program data authenticates properly following the permittee intervention, or the software is replaced or repaired. Any critical control program that fails authentication shall not be loaded into critical NV memory.

(c)   Independent Software Verification. It shall be possible to perform an independent integrity check of the game software from an outside source. This verification is required for all critical control programs that affect the integrity of the historic horse racing game. The verification shall be accomplished by being authenticated by a third-party application run from the historic horse racing terminal and/or an external system, by allowing a third-party device to authenticate the media, or by allowing for removal of the media such that it can be verified externally. The independent gaming laboratory, prior to software certification, shall evaluate the integrity check method.

Section 3.   Critical Non-Volatile (NV) Memory. This section is not intended to preclude the use of alternate storage media types, such as hard disk drives, for the retention of

critical Non-Volatile (NV) memory. Such alternate storage media is still expected to maintain critical NV memory integrity in a manner consistent with the requirements in this section, as applicable to the specific storage technology implemented.

(a)   Contents of Critical NV Memory. Critical NV memory shall be used to store all data elements that are considered vital to the continued operation of the game software for the historical horse racing game. Critical NV memory may be maintained by the historic horse racing terminal and/or an external system. These data elements include, but are not limited to:

(i)   All electronic meters and logs defined in the "Electronic Meters and Logs" section of this standard;

(ii)   Current credits;

(iii)   Game history/recall data;

(iv)   Game configuration data (e.g., paytable, denomination, historic horse race database, pool parameters, etc.) and state of operations (e.g., current game play status, progress, etc.); and

(v)   Terminal configuration data (e.g., communications, etc.) and state of operations (e.g., error conditions, etc.).

(b)   Critical NV Memory Backup. A historic horse racing terminal whose operation relies on locally stored critical NV memory shall have a backup or archive capability, which allows the recovery of critical NV memory should a failure occur, that complies with the following:

(i)   The historic horse racing terminal shall have the ability to retain data for all critical NV memory as defined herein and shall be capable of maintaining the accuracy of all information required for thirty (30) days after power is disconnected from the historic horse racing terminal;

(ii)   For rechargeable battery types only, if the battery back-up is used as an 'off chip' battery source, it shall re-charge itself within twenty-four (24) hours. The shelf life shall be at least five (5) years;

(iii)   Critical NV 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 provides a method for software to interpret and display an appropriate error message upon a low battery condition before the battery reaches a level where it is no longer capable of maintaining the memory in question. This error condition shall be communicated to an external system when such a compatible system and protocol is supported.

(c)   Critical NV Memory Errors. Critical NV memory storage shall be maintained by a methodology that enables errors to be identified. This methodology may involve signatures, checksums, redundant copies, database error checks, and/or other method(s) approved by the commission.

(d)   Critical NV Memory Checks. Comprehensive checks of critical NV memory data elements shall be made upon historic horse racing terminal restart. NV memory that is not critical to historic horse racing game integrity is not required to be checked.

(e)   Unrecoverable Corruption of Critical NV Memory. An unrecoverable corruption of critical NV memory shall result in an error and the historic horse racing terminal shall immediately cease play and tilt, display an appropriate error message, and disable credit acceptance and redemption. The memory error shall not be cleared automatically. Additionally, the critical NV memory error shall cause any communication external to the historic horse racing terminal to cease. An unrecoverable critical NV memory error shall require a full NV memory clear performed by an authorized person.

(f)   Critical NV Memory Reset. Clearing NV memory shall require access to the locked logic area or other secure method, provided that the method has been accepted by, or can be controlled by, the commission.

(i)   Following the initiation of a critical NV memory reset procedure utilizing a certified NV memory clear method, the critical control program shall execute a routine which initializes critical NV memory to the default state. All memory locations as per the NV memory clear process shall be fully reset in all cases.

(ii)   The default game display immediately following an NV memory reset shall not correspond to the highest advertised award.

Section 4.   Configurations and Communications

(a)   Configuration Settings. Changes to any configuration settings for the historic horse racing game may only be performed by a secure method inaccessible to a player.

(i)   It shall not be possible to change a configuration setting that causes any obstruction or alteration to the electronic accounting meters without performing an NV memory clear. However, for games that keep the previous paytable's data in memory, an NV memory clear is not required; and

(ii)   No changes to the set of games, or to the paytable(s) offered to the player for selection, are permitted while there are credits on the player's credit meter, or while a game is in progress. However, specific protocol features are permitted which allow such changes to be made in a controlled fashion, as defined by the protocol.

(b)   Integrity of Protocol Communications. To support communications with an external system, the game software shall accurately function as indicated by the communications protocol that is implemented, and as required by the commission, including, but not limited to, protocol-based metering and remote verification of the critical control program, where supported. In addition, the following rules shall be met:

(i)   With the exception of 'disable' commands, communications shall not negatively impact player interaction on the historic horse racing terminal, including a player's access to all screen displays; and

(ii)   After a program interruption, any communications to an external device shall not begin until the program resumption routine, including any self-test, is completed successfully.

(c)   Protection of Sensitive Information. The game software shall not allow any information contained in communication to or from the historic horse racing terminal that is intended by the communication protocol to be protected, or which is of a sensitive nature, to be viewable through any display mechanism supported by the historic horse racing terminal. This includes, but is not limited to, validation numbers, secure PINs, player data, or secure seeds and keys.

(d)   Software Communication. Any game software which is capable of bidirectional communication with internal or external associated equipment, or other equipment, shall utilize a robust communication protocol which ensures that erroneous data or signals do not adversely affect the integrity or operation of historic horse racing games.

(e)   Loss of Communications. If communication between the historic horse racing terminal and an external system is lost, the game software shall display an appropriate error message. For historic horse racing games reliant on communications with an external system, the software shall additionally prevent further gaming operations and provide a means, such as a hand pay, for players to cash out credits indicated on the credit meter at the time communication was lost.

(f)   Connections to the Internet. Historic horse racing terminals may be designed to connect to, or otherwise communicate over, servers or networks via the internet. If the game software supports internet connection, the historic horse racing terminal shall:

(i)   Support adequate network security measures to ensure all data transmitted between the gaming network and the internet/public network is encrypted; and

(ii)   Ensure that any communication over the internet does not affect game play in any way.

Section 5.   Electronic Meters and Logs

(a)   Information Access. The electronic meters and logs shall only be accessible by an authorized person and shall have the ability to be displayed on demand using a secure means.

(b)   Electronic Accounting Meters. Electronic accounting meters shall be at least ten (10) digits in length. These meters shall be maintained in credit units equal to the denomination, or in local currency. If the meter is being used in dollars and cents format, eight (8) digits must be used for the dollar amount and two (2) digits used for the cents amount. Historic horse racing games configured for multi-denomination wagering shall display the units in local currency. The meter must automatically roll over to zero once its maximum logical value has been reached. Meters shall be labeled so they can be clearly understood in accordance with their function. The required electronic accounting meters are as follows. In the event that the associated functions of the below meters are not supported (e.g., if a terminal does not accept vouchers for credits), then the associated meters are not required:

(i)   Total Wagered. The game software must have a meter that accumulates the total value of all credits wagered, whether the wagered amount results from the insertion of bills or otherwise, deduction from a credit meter or any other means;

(ii)   Total Won. The game software must have a meter that accumulates the total value of all winnings, including the credits are directly paid by the terminal, the credits paid by an attendant or any other means;

(iii)   Handpay. The game software must have a meter that accumulates the total value paid by an attendant resulting from an amount of which is not capable of being paid by the machine itself. For example, in the event of a printer malfunction where a valid voucher cannot be printed and winnings must be manually processed;

(iv)   Bill In. The game software shall have a meter that accumulates the total value of all bills accepted by the historic horse racing terminal;

(v)   Voucher In. The game software shall have a meter that accumulates the total value of all vouchers accepted by the historic horse racing terminal;

(vi)   Voucher Out. The game software shall have a meter that accumulates the total value of all vouchers issued by the historic horse racing terminal;

(vii)   Coupon In. The game software shall have a meter that accumulates the total value of all coupons accepted by the historic horse racing terminal;

(viii)   Coupon Out. The game software shall have a meter that accumulates the total value of all coupons issued by the historic horse racing terminal; and

(ix)   Other Meters. Game software that allows for additions to, or deductions from, the credit meter, that would not otherwise be metered under any of the above electronic accounting meters, must maintain sufficient meters to properly reconcile all such transactions.

(c)   Electronic Occurrence Meters. Occurrence meters shall be at least eight (8) digits in length, however, are not required to automatically roll over. Meters shall be labeled so they can be clearly understood in accordance with their function. The required electronic occurrence meters are as follows. In the event that the associated functions of the below meters are not supported (e.g., if a terminal does not contain external doors), then the associated meters are not required:

(i)   Games Played. The game software must have meters that accumulates the number of games played since game initialization (NV memory clear).

(ii)   Games Won. The game software must have meters that accumulates the number of games won since game initialization (NV memory clear).

(iii)   External Doors. The game software shall have meters that accumulate the number of times any external door (e.g., main or belly door, currency area with an external door, etc.) has been opened since the last NV memory clear, provided power is supplied to the historic horse racing terminal.

(iv)   Stacker Door. The game software shall have a meter that accumulates the number of times the stacker door has been opened since the last NV memory clear, provided power is supplied to the historic horse racing terminal;

(v)   Bill Denomination In. The game software shall have a specific occurrence meter for each denomination of all bills accepted by the historic horse racing terminal; and

(vi)   Vouchers and Coupons Accepted. The game software shall have a specific occurrence meter that records the number of all vouchers and coupons accepted by the historic horse racing terminal.

(d)   Transaction Log. There shall be the capacity to maintain a complete transaction log for at least the previous twenty-five (25) transactions that incremented any of the meters related to bills, vouchers, and coupons. It is acceptable for items accepted by the bill validator to be omitted from this log if there is a timestamped bill validator recall log maintained for last five (5) items accepted by the bill validator. The following information shall be maintained:

(i)   The type of transaction (bill in, voucher in, voucher out, etc.);

(ii)   The transaction value in local monetary units in numerical form;

(iii)   The time of day of the transaction, in twenty-four (24) hour format showing hours and minutes;

(iv)   The date of the transaction, in any recognized format, indicating the day, month, and year;

(v)   For voucher and coupon transactions, the validation number with the following conditions:

(A)   Where the log can be displayed from the historic horse racing terminal, only the last four (4) digits may be displayed for voucher-out and coupon-out transactions where the vouchers are yet to be redeemed;

(B)   Where the log can be displayed from an external system, at least the last four (4) digits shall be displayed for voucher-in and coupon-in transactions.

Chapter 4
Game Requirements

Section 1.   Introduction. This chapter sets forth technical requirements for the player interface, rules of play, game fairness, game selection, game outcome, related player displays and artwork, bonus games, game history recall, game modes, common features, and other historic horse racing game requirements.

Section 2.   Player Interface. The player interface is defined as the interface in which the player interacts with the historic horse racing game, including the touch screen(s), button panel(s), or other forms of player interaction devices.

(a)   Player Interface Rules. The player interface shall meet the following requirements:

(i)   Any resizing or overlay of the player interface windows shall be mapped accurately to reflect the revised display and touch points.

(ii)   All player-selectable touch points or buttons represented on the player interface that impact wagering and/or the integrity or outcome of the game shall be clearly labeled according to their function and shall operate in accordance with applicable game rules.

(iii)   There shall be no hidden or undocumented touch points or buttons anywhere on the player interface that affect wagering and/or that impact the integrity or outcome of the game, except as provided for by the game rules.

(iv)   Simultaneous or sequential activation of various player interaction devices comprising a player interface shall not cause game malfunctions and must not lead to results that are contrary to a historic horse racing game's design intent.

(b)   Selection of Historic Horse Racing Game Theme. When a historical horse racing terminal offers multiple game themes for play, the following requirements apply to the selection of a specific historic horse racing game on the player interface:

(i)   The player shall be clearly informed of all game themes and denominations available for wagering.

(ii)   The player shall be made aware of which game theme and denomination has been selected for play and is being played.

(iii)   The player shall not be forced to place a wager just by selecting a game theme, unless the game screen clearly indicates the game selection is unchangeable. If not disclosed, the player shall be able to return to the main menu or game selection screen prior to committing a wager.

(iv)   The default game display upon entering game play mode from a main menu or game selection screen, shall not correspond to the highest advertised award unless that was the outcome of the last game play on that specific game theme.

(c)   Game Play Requirements. The following requirements apply to game play:

(i)   Amounts wagered or committed at the start of a game shall be subtracted from the player's credit meter. A wager shall not be accepted that could cause the player to have a negative credit meter balance.

(ii)   A game shall be considered complete when all funds wagers are lost or refunded or when the final transfer to the player's credit meter takes place. The value of every award at the end of a game is added to the player's credit meter, except for handpays.

(iii)   If the award(s) from a single game is in excess of any jurisdictional limit, including a taxation limit, that is defined/configured in the game software, the game shall cease play, display an appropriate message, and require attendant intervention to resolve player payment. It is permissible to provide a mechanism to accrue taxable winnings to a separate meter, however, this meter must not support any direct payments to wager. When the amount on the meter is collected by the player, the game must still lock up as per the defined/configured limit required by the commission.

(iv)   It shall not be possible to start a new game within the same player interface window before the current game is completed and the funds available for wagering and the game history have been updated unless the action to start a new game terminates the current game in an orderly manner.

(v)   This standard is not intended to preclude or prohibit designs that allow the simultaneous play of multiple games themes on a historic horse racing terminal. Where multiple game themes are accessible simultaneously, players may play more than one game at

a time in separate player interface windows. However, in such a case, metering and applicable limits shall be enforced against each available game, as it is played, and all other requirements within this chapter shall continue to apply to these multiple game-in-play designs.

(d)   Credit Meter. With the exception of when the player is viewing an informational screen such as a menu or help screen item, the credit meter shall be displayed to the player unless a tilt condition or malfunction exists that impacts its proper display. Additionally, the credit meter shall conform to the following requirements:

(i)   The credit meter shall be visible to the player at any time a wager may be placed, at any time credit acceptance or credit redemption is allowed, or at any time the meter is actively being incremented or decremented.

(ii)   The credit meter shall be displayed in credits or local currency format. If the game's credit meter allows for toggling between credits and currency, this functionality shall be easily understood by the player. The credit meter shall clearly indicate whether credits or currency are currently being displayed.

(iii)   If the current local currency amount is not an even multiple of the denomination for a game, or the credit amount has a fractional value, the credits displayed for that game may be displayed and played as a truncated amount, (i.e., fractional part removed). However, the fractional credit amount shall be made available to the player when the truncated credit balance is zero.

(e)   Wagering Information to be displayed. In addition to the credit meter, a historic horse racing game shall display or otherwise make available the following information, with the exception of when the player is viewing an informational screen such as a menu or help screen:

(i)   Denomination being played (if applicable);

(ii)   Current wager amount and placement of all active wagers, or sufficient display information to otherwise derive these parameters;

(iii)   Any player wager options that occur prior to game initiation;

(iv)   For the last completed game, the following information until the next game starts, wager options are modified, or the player exits the game and/or cashes out:

(A)   Accurate representation of the wager outcome; and

(B)   Amount won.

(f)   Game Interruption and Resumption. After a program interruption, a historic horse racing game 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 prior to play of the game. Where no player input is required to complete the game, it is acceptable for the terminal to return to a game completion state, provided the game history and all credit and accounting meters reflect a completed game.

Section 3.   **Historic Horse Racing Game Requirements.** The only wagering permitted on historic horse racing games shall be under the pari-mutuel system of wagering where individual wagers are gathered into pari-mutuel pools. Pari-mutuel wagering on historical horse races shall only be conducted through the use of a Historic Horse Racing Totalizator or other similar equipment.

(a)   Game Information and Rules of Play. The following requirements apply to the historic horse racing game information, artwork, paytables, and help screens including any written, graphical, and auditory information provided to the player by the historic horse racing terminal:

(i)   Player interface and player interaction device usage instructions, paytable information, and rules of play shall be complete and unambiguous and shall not be misleading or unfair to the player.

(ii)   Help screen information shall be accessible by a player without the need for credits on the terminal or commitment of a historic horse race wager. This information shall include descriptions of unique game features, extended play, free games, handicapping methodology, countdown timers, symbol transformations, etc.

(iii)   Minimum, maximum, and other available wagers shall be stated within, or be able to be deduced from, the artwork, with adequate instruction for any available wager option.

(iv)   Paytable information shall include all possible winning outcomes and combinations, along with their corresponding payouts, for any available wager options.

(v)   The artwork shall clearly indicate whether awards are designated in credits, currency, or some other unit.

(vi)   For artwork that contains game instructions explicitly advertising a credit award, it shall be possible to win the advertised award/prize from a single game, or series of games enabled by an initiating game, when including features, bonuses, or other game options, or the artwork must clearly specify the criteria necessary to win the advertised award/prize.

(vii)   The game shall reflect any change in award value, which may occur during the course of play. This may be accomplished with a digital display in a conspicuous location of the player interface. The game shall clearly state the criteria for which any prize value is modified.

(viii)   Game instructions that are presented aurally shall also be presented in written form within the artwork.

(ix)   Game instructions shall be rendered in a color that contrasts with the background color to ensure that all instructions are clearly visible/readable.

(x)   All game symbols/objects shall be clearly displayed to the player and must not be misleading.

(xi)   The artwork shall contain textual and/or graphical information to clearly explain the order in which symbols are to appear, in order for a prize to be awarded or a feature to be triggered, including numbers to indicate how many correct symbols/objects each pattern corresponds to.

(xii)   The game shall not advertise 'upcoming wins', for example, "big payout coming soon".

(xiii)   The artwork shall disclose any restrictive features of game play, such as any play duration limits, maximum win values, etc. which are implemented as an element of game design.

(xiv)   A disclaimer stating "Malfunction Voids all Pays" or some equivalent verbiage shall be clearly displayed on the historic horse racing terminal.

(b)   Betting Explanation. The historic horse racing game shall prominently disclose a general explanation of pari-mutuel wagering offered on historic horse racing games and provide an explanation of each pari-mutuel pool offered and its approximate odds/payouts. This disclosure must be prominently displayed on the historic horse racing terminal prior to placing a wager.

(c)   Multi-Wager Games. The following requirements shall apply to historic horse racing games where multiple, independent wagers can simultaneously be applied towards advertised awards:

(i)   Each individual wager placed shall be clearly indicated so that the player is in no doubt as to which wagers have been made and the credits bet per wager;

(ii)   The winning amount for each separate wager, and total winning amount, shall be displayed on the game screen; and

(iii)   Each winning award obtained shall be displayed to the player in a way that clearly associates the award to the appropriate wager. Where there are wins associated with multiple wagers, each winning wager may be indicated in turn. In cases where there is a multitude of wager information to convey, a summary screen may suffice. Any exceptions will be reviewed by the independent gaming laboratory on a case-by-case basis.

(d)   Historic Horse Race Rules Display. The following requirements do not preclude a historic horse racing game from displaying its wager and outcome as part of an entertaining display, provided the underlying wager and outcome functions according to the pari-mutuel pool specifications provided by the permittee to the commission:

(i)   The player shall be able to view information on all available historic horse races and wager types prior to placing a wager. The description of each wager type shall include all available betting options for that wager type.

(ii)   It shall not be possible to ascertain the outcome of the historic horse racing game prior to its commencement. Prior to the player making their wager selections, the game shall not display any information that would allow the player to identify the historic horse race(s) on which they are wagering, including the location of the race(s), the date on which the race(s) were run, the names of the participants in the race(s).

(iii)   The display shall make available true and accurate past performance information on the historic horse race(s) to the player in data or graphical form prior to making their wager selections. The information shall be current as of the day the historic horse race(s) were actually run and shall not misrepresent the capabilities of any participants.

(iv)   For scheduled historic horse racing games, a countdown of the time remaining to place a wager in that race shall be displayed to the player. It shall not be possible to place wagers on the race once this time has passed.

(v)   If a wager involves combining races, such combinations shall be clearly explained to the player.

(vi)   The rules available to the player must clearly state the means by which a winning wager is determined.

(vii)   If awards are to be paid for combinations involving participants other than solely the first-place finisher, the order of the participants that can be involved with these awards shall be clearly shown on the screen (e.g., result 8-4-7).

(viii) The rules for any exotic wagering options (e.g., perfecta, trifecta, quinella, etc.), and the expected payouts, shall be clearly explained in the artwork.

(e)   Auto-Handicapping Features. Historic horse racing games may support a feature that offers auto-handicapping to a player provided that it conforms to the following requirements:

(i)   The auto-handicapping method shall not employ a RGN.

(ii)   The auto-handicapping method shall be clearly described to the player that it is available and what options exist for selection;

(iii)   The auto-handicapping shall not be misleading or inaccurate;

(iv)   The auto-handicapping feature shall allow the player the option of using the feature, and shall not force the player to use the feature; and

(v)   The availability and content of auto-handicapping shall remain consistent unless otherwise disclosed and shall not adapt in a way that disadvantages the player based upon prior game play or game events.

Section 4.   Game Fairness Requirements

(a)   Game Fairness. The following requirements shall apply to the fairness of the historic horse racing game:

(i)   Games shall preclude the use of random elements to determine the outcome of a wager other than the selection of a race or races from a database of races, when all wagers and prizes are pari-mutuel in nature, and when it does not include any interest of the permittee.

(ii)   Games shall not include any hidden source code that can be leveraged by a player to circumvent the rules of play and/or the intended behaviors of game design; and

(iii)   The final outcome of each game shall be displayed for a sufficient length of time that permits a player a reasonable opportunity to verify the outcome of the game; this requirement shall not preclude an option for the player to bypass the outcome display.

(b)   Outcome Randomization. The outcome of any historic horse racing game shall be derived from the result of one or more races chosen at random from a historic horse race database. To this end, a Random Number Generator (RNG) may be utilized as follows:

(i)   The independent gaming laboratory shall review source code pertaining to random number generation that plays a role in the game to ensure that:

(A)   The RNG may only select one or more races for a game or a series of games.

(B)   The selection of one or more races by an RNG are, to the best extent possible, statistically independent, unpredictable, and conform to the desired random distribution.

(C)   All RNG generation is unbiased, such that knowledge of the numbers chosen in one draw do not provide information on numbers that may be chosen in a future draw.

(D)   The RNG does not discard or modify selections based on previous selections, except where intended by game design (e.g., without-replacement functionality).

(ii)   The independent gaming laboratory shall choose appropriate statistical tests on a case-by-case basis, depending on the RNG under review and its usage within the game. The applied tests shall be evaluated, collectively, at a 99% confidence level, which may include any one or more of the following:

(A)   Total Distribution or Chi-square test;

(B)   Overlaps test;

(C)   Coupon Collector's test;

(D)   Runs test;

(E)   Interplay Correlation test;

(F)   Serial Correlation test; and

(G)   Duplicates test.

(c)   Race Selection Process. Determination of game outcome in historic horse racing games shall not be influenced, affected, or controlled by anything other than the race(s) selected by an approved RNG, in accordance with the following requirements:

(i)   When making calls to the RNG, the game shall not limit the races available for selection, except as provided for by game design.

(ii)   After selection of the race(s), the game shall not display a "near miss" where it makes a variable secondary decision which affects the result shown to the player.

(iii)   Selections of race(s) for each game or series of games shall be independent and shall not correlate with any other race(s) within the same game, or race(s) within previous games or series of games.

(iv)   Any associated equipment used in conjunction with a historic horse racing terminal shall not influence or modify the behaviors of the game's RNG and/or random selection process, except as authorized, or intended by design.

(d)   Historic Horse Race Outcome Display. After a player finalizes their wager selections:

(i)   The game shall display the official results of the race(s) and a replay of the race(s), or a portion thereof, whether by digital, animated or graphical depiction or by way of a video recording or by other depictions of the race(s) approved by the commission. The replay of the race(s) shall be of a size and quality that allows the player to reasonably view and determine the outcome of the race(s).

(ii)   The identity of the race(s) shall be made available to the player in a manner that is clear and not open to misinterpretation by the player. Each participant in the race(s) shall be unique in appearance.

(e)   Wager and Payout Requirements. Each historic horse racing pari-mutuel pool shall have a method of establishing and funding a seed pool or value which is used to ensure patrons receive a minimum prize amount.

(i)   After the applicable takeout has been deducted from the wager, the remaining amount shall be apportioned to one or more pools.

(ii)   A payout to a winning player shall be paid from money wagered by players and shall not exceed the amount available in the applicable pari-mutuel pool and any seed amount associated with the specific pari-mutuel pool.

(iii)   Each winning wager must have a minimum prize amount, which shall be made available to patrons.

(f)   Takeout Percentage. A historic horse racing game shall support the ability for the commission or permittee to securely examine the actual takeout percentage on-demand, via a direct interface with the metering or accounting of the historic horse racing terminal, and/or via secure communications with an external system.

Section 5.   Bonus/Feature Game Requirements

(a)   Bonus/Feature Games. Historic horse racing games which offer one or more bonus/feature games shall meet the following requirements:

(i)   Bonus/feature games must be based on the outcome of the historic race(s) used in a historic horse race wager;

(ii)   If a bonus/feature game requires obtaining several achievements towards the activation of a feature, or the awarding of a bonus prize, the number of achievements needed to trigger the feature, or win the bonus prize, shall be indicated, along with the number collected at any point;

(iii)   Bonus/feature games shall not require extra payment to continue;

(iv)   The bonus/feature game shall make it clear to the player that they are in a bonus or feature mode; and

(v)   If a bonus/feature game consists of multiple events or games, then a counter shall be maintained and displayed to the player to indicate the number of games initially awarded and then the number of games remaining during the bonus or feature mode, or alternatively, the number of games that have been played.

(b)   Player Selection or Interaction in Bonus/Feature Games. Bonus/feature games which require player selection or interaction are prohibited from automatically making selections or initiating games or features, unless the historic horse racing game explains the mechanism for automatic initiation or selection in the artwork:

Section 6.   Alternative Game Modes

(a)   Test/Diagnostic Mode. Test/diagnostic mode (sometimes called demonstration or audit mode) allows an attendant to view historic horse racing game play mechanics or execute other auditing and/or diagnostic functions supported by the machine. If test/diagnostic mode is supported, the following rules shall apply:

(i)   Entry to test/diagnostic mode shall only be possible using a secure means that is not accessible to the player.

(ii)   If the historic horse racing terminal is in a test/diagnostic mode, any test or diagnostic that incorporates credits entering or leaving the terminal shall be completed prior to the resumption of normal game play operation.

(iii)   If the terminal is in a test/diagnostic mode, the historic horse racing terminal shall clearly indicate that it is in this mode, not normal game play.
(iv)   When exiting from test/diagnostic mode, the terminal shall return to the original state it was in when the test/diagnostic mode was entered.

(v)   Any credits on the historic horse racing terminal that were accrued during the test/diagnostic mode shall be automatically cleared when the mode is exited.

(b)   Attract Mode. This mode enables the historic horse racing terminal to advertise historic horse racing game play to a potential player. If the historic horse racing terminal supports an attract mode, the following rules apply:

(i)   A historic horse racing terminal shall only enter attract mode when in an idle state and with no credits on the terminal;

(ii)   Attract mode shall accurately reflect an available configuration for the game; and

(iii)   Attract mode shall terminate automatically when any door is opened, or when any player input or credit acceptance device is activated.

(c)   Free Play Mode. Free play mode allows a player to participate in a historic horse racing game without placing a wager. If the game supports a free play mode of operation, the following requirements apply:

(i)   Free play games shall accurately represent the normal operation of a paid game. Games played in free play mode shall not mislead the player about the likelihood of winning any awards available in the wagered version of the game;

(ii)   Free play mode shall be prominently displayed so a player knows at all times if/when this mode is active;

(iii)   Free play mode shall not increment the credit meter or any accounting meters. Specific meters are permissible for this mode provided the meters clearly indicate as such;

(iv)   Free play mode shall be terminated whenever the player opts to exit this mode, or when the free play game(s) are concluded; and

(v)   When free play mode is exited, the game shall return to its previous state.

Section 7.   Game History Recall

(a)   Number of Last Games Required. Information on at least the last ten (10) historic horse racing games played on the historic horse racing terminal shall be retrievable using a secure method that is not available to the player.

(b)   Last Play Information Required. Game recall shall consist of graphical, textual, or video content, or some combination of these options, so long as the full and accurate reconstruction of game outcome is possible. It is allowable to display values in currency in place of credits. Game recall shall display the following information as applicable:

(i)   Date and time stamp;

(ii)   The denomination played for the game, if a multi-denomination game type;

(iii)   The display associated with the final outcome of the game, either graphically or via a clear text description;

(iv)   The credit meter value at the start of play and/or at the end of play;

(v)   Paytable identification, unless discernible from other screens or attendant menus;

(vi)   Total amount wagered;

(vii)   Total amount won;

(viii)   Total amount collected after the end of a game, unless discernible from other screens or attendant menus;

(ix)   The results of any player choices involved in the wager selection;

(x)   The results from the historic horse races used to determine the outcome of the wager; and

(xi)   The results of at least the last fifty (50) of the intermediate game phases, such as bonus/feature games.

Chapter 5
Totalizator Requirements

Section 1.   Introduction. If the Historic Horse Racing Totalizator is comprised of multiple computer systems at various sites, the system as a whole and all communication between its components shall conform to the applicable technical requirements within this document. The requirements of this chapter do not apply to any system components used solely for live racing.

Section 2.   System Clock Requirements

(a)   System Clock. The Historic Horse Racing Totalizator shall maintain an internal clock that reflects the current date and time that shall be used to provide for the following:

(i)   Time stamping of all transactions and games;

(ii)   Time stamping of significant events; and

(iii)   Reference clock for reporting.

(b)   Time Synchronization. The Historic Horse Racing Totalizator shall be equipped with a mechanism to ensure the time and dates between all connected devices and components that comprise the system are synchronized and set correctly.

Section 3.   Control Program Requirements

(a)   Control Program Self-Verification. The Historic Horse Racing Totalizator System shall be capable of verifying that all critical control program components contained on the system are authentic copies of the approved components of the system on demand using a method approved by the commission. The critical control program authentication mechanism shall:

(i)   Employ a cryptographic hash algorithm which produces a message digest of at least 128 bits. Other test methodologies may be approved by the commission on a case-by-case basis.

(ii)   Include all critical control program components which may affect historic horse racing operations, including but not limited to executables, libraries, gaming or system configurations, operating system files, components that control required system reporting, and database elements that affect system operations; and

(iii)   Provide an indication of the authentication failure if any critical control program component is determined to be invalid.

(b)   Control Program Independent Verification. Each critical control program component of the Historic Horse Racing Totalizator shall have a method to be verified via an independent third-party verification procedure. The third-party verification process shall operate independently of any process or security software within the system. The independent gaming laboratory, prior to system approval, shall evaluate the integrity check method.

Section 4.   System Functionality

(a)   Software Security and Integrity. The Historic Horse Racing Totalizator shall not be capable of altering any component on any connected historic horse racing terminal that would interrupt, or affect the functions, race selection, or configurable options of a game in progress on any terminal connected to the Historic Horse Racing Totalizator; provided however, that a Historic Horse Racing Totalizator may suspend a game theme or disable a historic horse racing terminal at any time if there is a valid reason to do so.

(b)   Address Requirements. The historic horse racing terminal shall allow for the association of a unique ID to be used in conjunction with a Historic Horse Racing Totalizator. This historic horse racing terminal ID will be used by the system to track all mandatory information of the associated terminal. Additionally, the system shall not allow for duplicate entries of the historic horse racing terminal ID.

Section 5.   Information to be Maintained

(a)   Data Retention and Time Stamping. The Historic Horse Racing Totalizator and/or an external system shall be capable of maintaining and backing up all recorded data as discussed within this section:

(i)   The system clock shall be used for all time stamping.

(ii)   The system shall provide a mechanism to export the data for the purposes of data analysis and auditing/verification (e.g., CSV, XLS files).

(b)   Terminal Information. For each individual historic horse racing terminal, the information to be maintained and backed up by the Historic Horse Racing Totalizator and/or an external system shall include, as applicable:

(i)   Historic horse racing terminal ID;

(ii)   Metering information listed within the "Electronic Accounting Meters" section of this document;

(iii)   Game configuration data (e.g., paytable, denomination, historic horse race database, pool parameters, etc.) and state of operations (e.g., current game play status, progress, etc.); and

(iv)   Terminal configuration data (e.g., communications, etc.) and state of operations (e.g., error conditions, etc.)

(c)   Significant Event Information. Significant event information to be maintained and backed up by the Historic Horse Racing Totalizator and/or an external system shall include, as applicable:

(i)   Program error or authentication mismatch;

(ii)   Significant periods of unavailability of any critical component of the system (any length of time transactions cannot be successfully completed for any user);

(iii)   Large wins, as defined by the commission, (single and aggregate over defined time period);

(iv)   Large credit acceptance transactions, as defined by the commission, (single and aggregate over defined time period);

(v)   Large credit redemption transactions, as defined by the commission, (single and aggregate over defined time period);

(vi)   System voids, overrides, and corrections;

(vii)   Changes to live data files occurring outside of normal program and operating system execution;

(viii)   Changes that are made to the download data library, including the addition, changing or deletion of software, where supported;

(ix)   Changes to policies and parameters for operating systems, databases, networks, and applications (e.g., audit settings, password complexity settings, system security levels, manual updates to databases, etc.);

(x)   Changes to date/time on master time server;

(xi)   Changes to historical horse racing game parameters or historical horse race database;

(xii)   Irrecoverable loss of sensitive information;

(xiii)   Any other activity requiring user intervention and occurring outside of the normal scope of system operation; and

(xiv)   Other significant or unusual events as deemed applicable by the commission.

(d)   User Access Information. For each user account, the information to be maintained and backed up by the Historic Horse Racing Totalizator and/or an external system shall include:

(i)   Employee name and title or position;

(ii)   User identification;

(iii)   Full list and description of functions that each group or user account may execute;

(iv)   The date and time the account was created;

(v)   The date and time of last access, including IP Address;

(vi)   The date and time of last password change;

(vii)   The date and time the account was disabled/deactivated;

(viii)   Group membership of user account (if applicable); and

(ix)   The current status of the user account (e.g., active, inactive, closed, suspended, etc.).

Section 6.   Reporting Requirements

(a)   General Reporting Requirements. The Historic Horse Racing Totalizator and/or an external system shall be capable of generating the information needed to compile reports as required by the commission. In addition to meeting the requirements in the section above for "Data Retention and Time Stamping", the following requirements shall apply for required reports:

(i)   The system shall be able to provide the reporting information on demand, on a daily basis, and for other intervals required by the commission (e.g., month-to-date (MTD), year-to-date (YTD), life- to-date (LTD), etc.).

(ii)   Each required report shall contain:

(A)   The site or permittee's name (or other identifier), name of manufacturer, the title of report,   the selected interval and the date/time the report was generated;

(B)   An indication of "No   Activity"   or similar   message if   no information appears for the   period specified; and

(C)   Labeled fields which can be clearly understood in accordance with their function.

(iii)   In addition to the reports outlined in this section, the commission may also require other reports utilizing the information stored under the "Information to be Maintained" section of this document.

(b)   Historic Horse Racing Activity Reports. The Historic Horse Racing Totalizator and/or an external system shall be able to provide the following information needed to compile one or more reports on historic horse racing activity, as applicable:

(i)   Current values of each pari-mutuel pool and daily net pool change;

(ii)   Total amounts wagered for all pools;

(iii)   Total amounts won by players for all pools;

(iv)   Total takeout withheld for all pools; and

(v)   Total breakage for all pools.

(c)   Taxable Win Reports. The Historic Horse Racing Totalizator and/or an external system shall be able to provide the following information needed to compile one or more reports on taxable wins, as applicable:

(i)   Time and date of win;

(ii)   Historic horse racing terminal ID;

(iii)   Amount wagered resulting in taxable win;

(iv)   Taxable amount won;

(v)   Withholding amount; and

(vi)   Identification of user(s) who processed and/or confirmed the win.

(d)   Significant Events and Alterations Reports. The Historic Horse Racing Totalizator and/or an external system shall be able to provide the following information needed to compile one or more reports for each significant event or alteration, as applicable:

(i)   The date and time of the significant event or alteration;

(ii)   Event/component identification;

(iii)   Identification of user(s) who performed and/or authorized the significant event or alteration;

(iv)   Reason/description of the significant event or alteration, including data or parameter altered;

(v)   Data or parameter value before alteration; and

(vi)   Data or parameter value after alteration.

Section 7.   Technical Security Controls. The integrity and accuracy of the operation of a Historic Horse Racing Totalizator is highly dependent upon operational procedures, configurations, and the production environment's network infrastructure. In addition to the testing and certification of Historic Horse Racing Totalizator components, the commission may elect to require a periodic technical security audit be conducted, using the scope outlined within this section.

(a)   Physical Location of Components. The Historic Horse Racing Totalizator components shall be housed in a secure environment which shall:

(i)   Have sufficient protection against alteration, tampering or unauthorized access; and

(ii)   Be equipped with a surveillance system which provides sufficient coverage with video retrieval for at least 90 days.

(b)   Logical Access Control. The Historic Horse Racing Totalizator shall be logically secured against unauthorized access by authentication credentials, such as passwords, multi-factor authentication, digital certificates, PINs, biometrics, and other access methods allowed by the commission (e.g., magnetic swipe, proximity cards, embedded chip cards). The number of users that have the requisite permissions to adjust critical parameters shall be limited. At a minimum, the system shall limit access as follows:

(i)   The Historic Horse Racing Totalizator must have multiple security access levels to control and restrict different classes of access to the system;

(ii)   Access accounts for each level in the system must be unique and only one user per account is permitted;

(iii)   Program and data files in the system must only be accessible with passwords that are securely maintained by the manufacturer, distributor and licensed historic horse racing permittee;

(iv)   Storage of passwords in the system must be in an encrypted, nonreversible form; and

(v)   A report must be available that will list all permitted users on the system.

(c)   Data Alteration. The alteration of any accounting, reporting or historic horse racing data shall not be permitted without supervised access controls. In the event any data is changed, the following information shall be documented or logged:

(i)   Unique ID number for the alteration;

(ii)   Data element altered;

(iii)   Data element value prior to alteration;

(iv)   Data element value after alteration;

(v)   Time and date of alteration; and

(vi)   Personnel that performed alteration (user identification).

(d)   Storage Medium Backup. Audit logs, system databases, and any other pertinent sensitive data specified in the under the section entitled "Information to be Maintained" shall be stored using reasonable protection methods for a period of three years or as otherwise specified by the commission. The Historic Horse Racing Totalizator shall be designed to protect the integrity of this data in the event of a failure. Redundant copies of this data shall be kept on the system with open support for backups and restoration, so that no single failure of any portion of the system would cause the loss or corruption of data.

(i)   Server-stored information shall be backed up no less often than once per day to an offsite storage facility.

(ii)   Offsite storage may include storage through a cloud service provider if approved by the commission.

(iii)   The server and offsite backup storage shall be accessible to the commission and subject to third-party checks and validation.

(e)   Recovery Requirements. In the event of a catastrophic failure when the Historic Horse Racing Totalizator cannot be restarted in any other way, it shall be possible to restore the system from the last backup point and fully recover. The contents of that backup shall contain the following critical information including, but not limited to:

(i)   The recorded information specified under the "Information to be Maintained" section;

(ii)   Specific site or venue information such as configuration, security accounts, etc.;

(iii)   Current system encryption keys; and

(iv)   Any other system parameters, modifications, reconfiguration (including participating sites or venues), additions, merges, deletions, adjustments and parameter changes.

(f)   Uninterruptible Power Supply (UPS) Support. All Historic Horse Racing Totalizator components shall be provided with adequate primary power and shall have an Uninterruptible Power Supply (UPS) with sufficient capacity to permit a graceful shut- down and that retains all pertinent sensitive information during a power loss. The system may be a component of a network that is supported by a network-wide UPS provided that the system is included as a component protected by the UPS. There shall be a surge protection system in use if not incorporated into the UPS itself.

(g)   Communication Requirements. Each component of the Historic Horse Racing Totalizator and/or the external system shall function as indicated by a documented secure communication protocol.

(i)   All protocols shall use communication techniques that have proper error detection and recovery mechanisms, which are designed to prevent intrusion, interference, eavesdropping and tampering. Any alternative implementations will be reviewed on a case-by-case basis and approved by the commission.

(ii)   All data communications critical to historic horse racing shall employ encryption and authentication. The encryption method shall use different encryption keys so that encryption algorithms can be changed or replaced as soon as practical. Other methodologies shall be reviewed on a case-by-case basis. As a minimum, 128-bit encryption key length is required unless a lesser amount can be demonstrated to be adequate to and approved by the commission.

(iii)   Communications on the secure network shall only be possible between approved critical components that have been enrolled and authenticated as valid on the network. No unauthorized communications to components and/or access points shall be allowed.

(iv)   After a system interruption or shutdown, communication with all components necessary for system operation shall not be established and authenticated until the program resumption routine, including any self-tests, are completed successfully.

(h)   Remote Access Security. Remote access is defined as any access from outside the system or system network including any access from other networks within the same site or venue. Remote access security will be reviewed on a case-by-case basis, in conjunction with the implementation of the current technology and approval from the commission. Remote access shall:

(i)   Be performed via a secured method, such as a multi-factor authentication process;

(ii)   Have the option to be disabled;

(iii)   Accept only the remote connections permissible by the firewall application and system settings;

(iv)   Be limited to only the application functions necessary for users to perform their job duties:

(A)   No unauthorized remote user administration functionality (adding users, changing permissions, etc.) is permitted; and

(B)   Unauthorized access to the operating system or to any database other than information retrieval using existing functions is prohibited.

(v)   Be recorded in an activity log, indicating:

(A)   Identification of user(s) who performed and/or authorized the remote access;

(B)   Remote IP Addresses, Port Numbers, Protocols, and where possible, MAC Addresses;

(C)   Time and date the connection was made and duration of connection; and

(D)   Activity while logged in, including the specific areas accessed and changes made.

Chapter 6
Glossary of Key Terms

Access Control – The process of granting or denying specific requests for obtaining and using sensitive information and related services specific to a system; and to enter specific physical facilities which houses critical network or system infrastructure.

Advertised Award – A term describing a prize that can be awarded by a historic horse racing game and which is explicitly advertised to the player in the game artwork.

Algorithm – A finite set of unambiguous instructions performed in a prescribed sequence to achieve a goal, especially a mathematical rule or procedure used to compute a desired result. Algorithms are the basis for most computer programming.

Alternative Game Mode – Any mode of a historic horse racing terminal other than the normal mode of game play. This includes modes such as attract, test/diagnostic, and free play.

Artwork – The graphics, thematic art, helpscreens, and other textual information that is shown to a player by way of a historic horse racing game's payglass and/or video display(s).

Attract Mode - Visual and/or audible options intended to attract players when the machine is in the idle mode (i.e., no active credits or gameplay).

Authentication – Verifying the identity of a user, process, software package, or device, often as a prerequisite to allowing access to resources in a system.

Backup – A copy of files and programs made to facilitate recovery if necessary.

Barcode – An optical machine-readable representation of data. A good example is a barcode found on printed vouchers.

Barcode Reader – A player identification component that is capable of reading or interpreting a barcode. This may extend to some smartphones or other electronic devices that can execute an application to read a barcode.

Bill In - The total value of all bills accepted by a bill validator.

Bill Validator – A credit acceptance device that is capable of accepting bills and vouchers in exchange for credits on the credit meter.

Biometrics – A biological identification input, such as fingerprints or retina patterns.

Bluetooth - A low power, short-range wireless communications protocol utilized for the interconnection of cellular phones, computers, and other electronic devices, including historic horse racing terminals. Bluetooth connections typically operate over distances of 10 meters or less and rely upon short-wavelength radio waves to transmit data over the air.

Card Reader – A player identification component that reads data embedded on a magnetic strip, or stored in an integrated circuit chip, for player identification.

CFast, CompactFast - A variant of a Compact Flash based on a serial ATA interface rather than the parallel ATA used by CF Cards.

CF Card, Compact Flash - A small removable mass storage device that relies on flash memory technology. A CF card is a storage technology that does not require a battery to retain data indefinitely.

Communications Technology – Any method used, and the components employed, to facilitate the transmission and receipt of information, including transmission and reception by systems using wire, wireless, cable, radio, microwave, light, fiber optics, satellite or computer data networks, including the Internet and intranets.

Coupon – A printed or virtual ticket that is used primarily for promotional purposes and which can be redeemed for cashable or non-cashable credits. A virtual coupon is an electronic token exchanged between an allowed electronic device such as a smartphone and the historic horse racing terminal which is used for credit insertion and redemption.

Coupon In/Out - The total value of all coupons accepted or issued by the device.

CPU, Central Processing Unit – An electronic component of a historic horse racing terminal, more commonly called the processor, which consists of a control unit and arithmetic logic unit and which is located on a circuit board housed within the secure logic area of the historic horse racing terminal. The CPU performs arithmetic and logic functions and decodes and executes game program instructions.

CRC, Cyclic Redundancy Check – A software algorithm used to verify the accuracy of data during its transmission, storage, or retrieval. The algorithm is used to validate or check the data for possible corruption or unauthorized changes.

Credit Meter - A meter which maintains the credits or cash available to the player for the commitment of a wager.

Critical Component – Any sub-system for which failure or compromise can lead to loss of player entitlements, government revenue or unauthorized access to data used for generating reports for the Commission.

Critical Control Program – A software program that controls historic horse racing game behaviors relative to any applicable technical standard and/or regulatory requirement.

Critical Non-Volatile (NV) Memory – Memory used to store all data that is considered vital to the continued operation of the historic horse racing terminal including, but not limited to, data elements such as electronic accounting and metering, current credits, configuration data, game recall, error conditions, last normal game and machine state, paytable information, etc.

EMC, Electromagnetic Compatibility - The principal in which any electronic or electrical appliance should be able to operate without causing, or being affected by, electromagnetic interference.

EMI, Electromagnetic Interference - Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics and electrical equipment.

EPROM, Erasable Programmable Read-Only Memory - A memory chip that holds its content without power and can be erased using ultraviolet light, or reprogrammed external to the historic horse racing terminal using a special tool.

ESD, Electro-Static Discharge - The release of static electricity when two objects come into contact. It is the sudden flow of electricity between two electrically charged objects caused by contact, an electrical short, or a dielectric breakdown.

Firmware - Programs stored permanently in read-only memory (ROM).

Encryption – The conversion of data into a form, called a ciphertext, which cannot be easily understood by unauthorized people.

Encryption Key – A cryptographic key that has been encrypted in order to disguise the value of the underlying plaintext.

Firewall – A component of a computer system or network that is designed to block unauthorized access or traffic while still permitting outward communication.

Free Play Mode – A historic horse racing terminal mode that allows a player to participate in a game without placing a wager, principally for the purpose of learning or understanding game play mechanics.

Group Membership – A method of organizing user accounts into a single unit (by job position) whereby access to system functions may be modified at the unit level and the changes take effect for all user accounts assigned to the unit.

Hash Algorithm - A function that converts a data string into a numeric string output of fixed length.

Historic Horse Race Database – A database of actual historic horse races which includes participant names, race location, race date, and finishing order. Each race must have concluded with official results and without scratches, disqualifications, or dead-heat finishes.

Historic Horse Racing Game – A game played in exchange for consideration of cash, credit or other thing of value on a fixed, commercial electrical historic horse racing terminal in which the outcome of the game is derived from the result of one or more races chosen at random from a historic horse race databases.

Historic Horse Racing Totalizator – The hardware, software, firmware, communications technology, other equipment, as well as permittee procedures implemented in order to allow wagering on historical horse races, and, if supported, the corresponding equipment related to the display of the wager outcomes, and other similar information necessary to facilitate player participation. The system provides the player with the means to place and manage wagers. The system provides the permittee with the means to review historic horse racing terminals, disable games, generate various wagering/financial transaction reports and set any configurable parameters.

Historic Horse Racing Terminal (aka, machine, device) – An electronic or electro-mechanical device that at a minimum will utilize a pari-mutuel system of wagering that affords an opportunity for the exercise of skill or judgment where the outcome is not completely controlled by chance alone, contains some form of activation to initiate the wagering process, and makes use of a suitable methodology for delivery of the outcome of a previously occurred race.

Idle Mode – A historic horse racing terminal mode that exists when the machine is not being played and no credits exist on the credit meter.

Internet – An interconnected system of networks that connects computers around the world via TCP/IP.

IP Address, *Internet Protocol Address* – A unique number for a computer that is used to determine where messages transmitted on the Internet should be delivered. The IP address is analogous to a house number for ordinary postal mail.

Key – A value used to control cryptographic operations, such as decryption, encryption, signature generation or signature verification.

Logic Area / Logic Box - A separately locked area of a historic horse racing terminal which houses electronic components that have the potential to influence the integrity of the historic horse racing game. This area contains the main processor board and other critical components. It is a sealed, secured box or enclosure within the machine that houses the critical control program(s) for the device.

MAC, *Message Authentication Code* – A cryptographic checksum on data that uses a symmetric key to detect both accidental and intentional modifications of the data.

Message Authentication – A security measure designed to establish the authenticity of a message by means of an authenticator within the transmission derived from certain predetermined elements of the message itself.

MI, Magnetic Interference - Any magnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics and electrical equipment.

Microprocessor - A component that incorporates the functions of a computer's central processing unit (CPU) on a single integrated circuit (IC), or at most a few integrated circuits.

Multi-Factor Authentication – A type of authentication which uses two or more of the following to verify a user's identity: Information known only to the user (e.g., a password, pattern or answers to challenge questions); An item possessed by a user (e.g., an electronic token, physical token or an identification card); A user's biometric data (e.g., fingerprints, facial or voice recognition).

Multi-Wager Game – A game where multiple, independent wagers can simultaneously be applied towards advertised awards.

NFC, Near Field Communication - A short-range wireless connectivity standard that uses magnetic field induction to enable communication between devices when they are touched together, or brought within a few centimeters of each other.

Participant – The horses and jockeys that rode the horses in the races.

Password – A string of characters (letters, numbers, and other symbols) used to authenticate an identity or to verify access authorization.

Paytable - A term used to describe the mathematical behavior of a game based upon the data from the manufacturer's PAR sheet, inclusive of the return percentage, and reflective of all possible payouts/awards.

Perfecta (aka "Exacta") – A wager in which the player picks the first and second place finishers in a competition in the correct order.

Peripheral – An internal or external device connected to a machine that supports credit acceptance, credit issuance, player interaction, or other specialized function(s).

Permittee – A person or entity that operates a Historic Horse Racing Totalizator, using both the technological capabilities of the Historic Horse Racing Totalizator as well as their own internal procedures.

PIN, Personal Identification Number - A numerical code associated with an individual and which allows secure access to a domain, account, network, system, etc.

Player Identification Component – An electronic device which provides a means for players to enter their secure identification information. Examples include a card reader, a barcode reader, or a biometric scanner.

Player interface – The interface in which the player interacts with the historic horse racing game, including the touch screen(s), button panel(s), or other forms of player interaction devices.

Player Interaction Device – An internal or external device that connects to a machine and that registers various types of player inputs allowing the player to interact with the machine. Several examples include touch screens, button panels, joysticks, handheld controllers, camera systems, etc. The player interaction device may be hard-wired or wireless. A "smart" player interaction device supports two-way communications with the machine. For the purpose of this technical standard, a traditional electromechanical button panel is excluded from this definition.

Printer – A peripheral that prints vouchers and/or coupons.

Program Storage Device (PSD) - The physical storage media or electronic device that contains critical control programs or executable software that operates the historic horse racing terminal. Types of PSDs include, but are not limited to, EPROMs, Compact Flash and CFast cards, optical disks, hard drives, solid state drives, and USB drives.

Protocol - A set of rules and conventions that specifies information exchange between devices, through a network or other media.

Quinella – A wager in which the first two places in a competition shall be predicted, but not necessarily in the finishing order.

RNG, Random Number Generator - A computational or physical device, algorithm, or system designed to produce numbers in a manner indistinguishable from random selection.

ROM, Read Only Memory – The electronic component used for storage of non-volatile information in a historic horse racing terminal. The term includes Programmable ROM (PROM) and Erasable Programmable ROM (EPROM).

Secure Areas or Secure Compartments – Sensitive areas of a historic horse racing terminal such as the logic area, external doors such as the main door or belly door, cash compartments such as a stacker, peripheral access area(s), and/or other sensitive access areas of the historic horse racing terminal that can potentially impact historic horse racing game integrity such as top boxes, controllers, etc.

Secure Communication Protocol – A communication protocol that provides the appropriate confidentiality, authentication and content integrity protection.

Sensitive Information – Information such as validation numbers, secure PINs, player data, validation numbers, authentication credentials, PINs, passwords, secure seeds and keys, and other data that must be handled in a secure manner.

Server – A running instance of software that is capable of accepting requests from clients, and the computer that executes such software. Servers operate within a Client-Server Architecture, in which "servers" are computer programs running to serve the requests of other programs ("clients"). In this case the "server" could be the Historic Horse Racing Totalizator and the "clients" would be the historic horse racing terminals.

Source Code – A text listing of commands to be compiled or assembled into an executable computer program.

Stacker – An electromechanical bill validator component that loads bills or vouchers into a locked container for secure storage within the historic horse racing terminal.

Takeout – An amount retained and not distributed by the permittee from the total amount wagered on historic horse racing.

TCP/IP, *Transmission Control Protocol/Internet Protocol* – The suite of communications protocols used to connect hosts on the Internet.

Test/Diagnostic Mode – A secure mode of a historic horse racing terminal that allows an attendant or permittee to view game play mechanics or execute other auditing and/or diagnostic

functions supported by the machine, or that permits secure access to various audit menus that display information related to configuration settings, performance, recall, logs, or accounting and metering information.

Time Stamp – A record of the current value of the Historic Horse Racing Totalizator date and time which is added to a message at the time the message is created.

Tilt – An error in historic horse racing terminal operation that halts or suspends play and/or that generates some intelligent fault message.

Trifecta – A wager in which a player wins by selecting the first three finishers of a competition in the correct order of finish.

Touch Screen – A video display device that also acts as a player input device by using electrical touch point locations on the display screen.

Unauthorized Access – A person gains logical or physical access without permission to a network, system, application, data, or other resource.

USB, Universal Serial Bus - An industry standard interface that defines the cables, connectors and communications protocols used for connection, communication, and power supply between computers and electronic devices. Often used to reference the type of port or a flash type storage device using this interface technology.

Voucher - A printed or virtual ticket issued by a historic horse racing terminal which can be redeemed for cash or used to subsequently establish credits on a device. A virtual voucher is an electronic token exchanged between an allowed electronic device such as a smartphone and the historic horse racing terminal which is used for credit insertion and redemption.
Voucher In/Out - The total value of all vouchers accepted or issued by the device.

Wager - Any commitment of credits or money by the player to participate in a historic horse racing game.

Wi-Fi - The standard wireless local area network (WLAN) technology for connecting computers and electronic dev