



GLI-LGS LIVE GAMING STUDIO **GUIDE**

FOR LIVE GAMING ORGANIZATIONS

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Contents

1. INTRODUCTION	4
1.1. Purpose and Scope	4
1.2. Standards Consulted	4
1.3. Necessity	4
2. ASSESSMENT	4
2.1. Initial LGS Assessment	4
2.2. Annual LGS Assessment	4
2.3. Gaming Security Assessment	5
3. CERTIFICATION	5
3.1. Components Certification	5
3.2. Game Certification	5
4. CONTROLS	5
4.1. Live Game Functionality and Features	6
4.1.1. Remote Player Information and Transparency	6
4.1.2. Live Transmission Delays and Interruptions	6
4.1.3. Prohibition on Real-Time Player Advantage Information	6
4.1.4. Remote Player Instruction Handling	6
4.1.5. Surrogate Players	7
4.1.6. Comingling of Remote Players with On-Premises Players	7
4.1.7. Physical Player Chips or Tokens	7
4.1.8. Tipping Functionality	7
4.1.9. Tampering and Interference	8
4.2. Security of the Live Gaming Studio	8
4.2.1. Security Policies and Procedures	8
4.2.2. Security Requirements Based on Operating Environment	8
4.2.3. Regulatory Body Access	8
4.3. Surveillance System	9
4.3.1. Surveillance Equipment and Control Rooms	9
4.3.2. Surveillance System Power Loss	9
4.3.3. Active Monitoring Surveillance	9
4.3.4. Continuous Recording of Games	9
4.3.5. Recording Procedures	9
4.3.6. Surveillance Training	10
4.3.7. Surveillance Reporting	10
4.3.8. Inspections and Malfunctions	10
4.3.9. Surveillance Logs	10
4.4. Live Gaming Consumables	10
4.4.1. Consumable Specifications and Approval	10
4.4.2. Consumable Storage and Access	10
4.4.3. Consumable Inventory Maintenance	10
4.4.4. Consumable Audit Trail and Storage	10
4.4.5. Consumable Inspections	11
4.4.6. Consumable Disposal	11
4.5. Live Gaming Equipment	11
4.5.1. Equipment Specifications and Approval	11
4.5.2. Equipment Change Management	11
4.5.3. Equipment Shipping and Receiving	11
4.5.4. Equipment Installation Location	11
4.5.5. Equipment Software Signature Verification	12
4.5.6. Equipment Access	12
4.5.7. Equipment Maintenance	12
4.5.8. Equipment Malfunctions and Replacement	12
4.5.9. Equipment Removal or Retirement	13
4.5.10. Equipment Destruction	13
4.6. Simulcast Control Servers	13
4.6.1. Simulcast Recording	13
4.6.2. Game Outcome Access	13
4.6.3. Game Results	13
4.6.4. Voiding Mechanism	13
4.7. Specialized Devices	13
4.7.1. Game Outcome Data	13

4.7.2. Automated Recognition	14
4.8. Physical Randomness Devices	14
4.8.1. Device Randomness	14
4.8.2. Durability Inspections	14
4.8.3. Data Digitization and Transmission	14
4.8.4. Data Integrity and Discrepancy Resolution	14
4.8.5. Operating Procedures	14
4.8.6. Randomness Monitoring	15
4.9. Live Game Procedures	15
4.9.1. Game Procedures and Review	15
4.9.2. Player Monitoring	15
4.9.3. Anomalous Events during Live Games	15
4.9.4. Card Shuffling	15
4.9.5. Tamper-Proof Devices	15
4.9.6. Operational Variations	15
4.9.7. Live Game Logs	16
4.10. Personnel Training, Scheduling and Performance Reviews	16
4.10.1. Personnel Hiring and Termination	16
4.10.2. Personnel Background Checks	16
4.10.3. Personnel Training	16
4.10.4. Personnel Scheduling	16
4.10.5. Personnel Records	16
4.10.6. Personnel Organizational Chart	16
4.10.7. Personnel Supervision	16
4.10.8. Personnel Duties Segregation	17

1. INTRODUCTION

1.1. Purpose and Scope

The goal of this document is to set forth procedures and practices for the industry with regard to implementation and assessment of a Live Gaming Studio (LGS Assessment), where wagers are placed through a Live Gaming Platform on live games conducted by a gaming attendant (e.g., dealer, croupier, etc.) and/or other live gaming equipment in a Live Gaming Studio. This includes, but is not limited to live drawings, live card games, live table games, live keno games, live bingo games, and live play of gaming devices or other games as allowed by the regulatory body.

Guidance provided by this document is meant to clarify the following for Independent Test Laboratories or Live Gaming Organizations, such as operators, suppliers, vendors, etc.:

- a. Minimum regulatory framework for live games based on existing technology and industry best practices to safeguard the interest of the player and ensure gaming integrity;
- b. Guidelines for conducting LGS Assessments to ensure that it is adherence to the in scope applicable laws, regulations, and industry standards; and
- c. Minimum uniform procedures, format, and archival requirements for all information to be captured by a Live Gaming Organization.

1.2. Standards Consulted

GLI acknowledges and thanks the regulatory bodies and other industry participants who have assembled rules, regulations, technical standards, and other documents which have been influential in the development of this document.

1.3. Necessity

An LGS Assessment is necessary to ensure the integrity, fairness, and regulatory compliance of live gaming operations by verifying that all live gaming products, live games, and operational procedures function as intended and are resistant to manipulation, error, or unauthorized influence. Such assessments provide independent assurance that live game outcomes are properly generated, transmitted, and displayed in accordance with approved rules, that surveillance and control measures are effective, and that all components of the Live Gaming Studio, including gaming attendants, cameras, streaming infrastructure, and supporting systems, operate within established technical and procedural standards. This is critical to maintaining player trust, safeguarding operator accountability, and meeting jurisdictional requirements for transparency, security, and responsible gaming.

2. ASSESSMENT

2.1. Initial LGS Assessment

The Live Gaming Studio shall be fully evaluated against this document, as well as the rules and regulations of all jurisdictions operating therein and accompanied by a formal evaluation report from an Independent Test Laboratory within ninety days of commencing live gaming operations within that jurisdiction unless the regulatory body has advised otherwise. Any requested postponement of the LGS Assessment, along with an updated schedule, shall be authorized by the regulatory body.

NOTE: It is recommended for the regulatory body to allow flexibility for LGS Assessment schedules for multi-jurisdictional studio to allow consolidation of audits for multiple jurisdictions to a common schedule.

2.2. Annual LGS Assessment

At least once annually, unless otherwise specified by the regulatory body, the Live Gaming Studio shall be fully evaluated against this document, as well as the rules and regulations of all jurisdictions operating therein and accompanied by a formal evaluation report from an Independent Test Laboratory. Approval for extension beyond the annual evaluation may be sought if hardship can be demonstrated. Granting a hardship waiver is the sole

discretion of the regulatory body.

NOTE: It is recommended for the regulatory body to allow flexibility for LGS Assessment schedules for multi-jurisdictional studios to allow consolidation of audits for multiple jurisdictions to a common schedule.

2.3. Integrity and Security Assessment

Unless otherwise specified by the regulatory body, an annual Integrity and Security Assessment shall be conducted against the applicable controls and tests identified in the GLI Gaming Security Framework (GLI-GSF) and any other controls and tests identified by the regulatory body to complement the LGS Assessments designated in sections 2.1 and 2.2. The Integrity and Security Assessment shall include a Gaming Information Security (GIS) Controls Audit and a Gaming Technical Security (GTS) Assessment applicable to the critical components of the Live Gaming Studio's gaming production environment.

NOTE: It is recommended for the regulatory body to allow flexibility for Integrity and Security Assessment schedules for multi-jurisdictional studios to allow consolidation of audits for multiple jurisdictions to a common schedule. Please refer to the *GLI Gaming Security Framework (GLI-GSF)* for additional information.

3. CERTIFICATION

3.1. Components Certification

All live gaming components that require certification by the regulatory body, such as live gaming platforms, remote player interfaces, and live gaming equipment shall be certified in accordance with the regulatory body's applicable technical requirements and/or adopted GLI Standards. Live gaming equipment includes, but is not limited to, simulcast control servers, physical randomness devices (automated and non-automated mechanical wheels, tumblers, blowers, shufflers, shoes, shakers, throwers, etc.), specialized devices (scanners, cameras, sound, computers, servers, monitors, communications equipment, and related components, etc.), live game management components used by the gaming attendants (e.g., dealer, croupier, etc.) to manage live game activity, and any other technological aids to the play of live games.

NOTE: The applicable technical requirements are to be determined based on how the remote player is participating in the live game. For instance, if the remote player is accessing the live game through an Interactive Gaming System, the regulatory body's technical requirements for Interactive Gaming and/or the GLI-19 Standards for Interactive Gaming Systems shall be met. The applicable technical requirements are also to be determined based on the type of live gaming equipment used. For instance, a card shuffler shall meet the regulatory body's technical requirements for card shufflers and/or the GLI-29 Standards for Card Shufflers and Dealer Shoes.

3.2. Game Certification

All live games for proposed use shall meet or exceed the applicable regulatory body's applicable rules and regulations and/or adopted GLI Standards specified by the regulatory body. All documentation and other materials necessary to conduct testing and evaluate compliance of the live game shall be submitted to an Independent Test Laboratory so the live game can be certified, including:

- a. A summary of the live game, including the objectives of the live game, the method of play, and the wagers offered;
- b. A draft of the proposed rules of the game including a description of the live gaming equipment and consumables used to play the live game and specific examples and dealing procedures;
- c. Specific procedures to remedy all misdeals and malfunctions of any live gaming equipment utilized;
- d. The true odds, the payout odds, and the house advantage for each wager;
- e. Sample(s) of new or modified live gaming equipment or consumables associated with the live game;
- f. A sketch or picture of the live game layout, if any; and
- g. Sketches or pictures of the live gaming equipment used to play the live game.

4. CONTROLS

4.1. Live Game Functionality and Features

4.1.1. Remote Player Information and Transparency

The entire process is viewed by all remote players through real-time remote audio and video feed using streaming, narrowcast, broadcast, or other technology and a graphical interface. Remote players shall be provided with:

- a. An equivalent quality audio/video feed.
 - i. This equivalence shall be measured and verified whenever communications are initiated, including reconnection due to signal interruptions or re-initiation when the signal was severed;
 - ii. A minimum signal connection requirement shall be established, enforced and disclosed to the players;
- b. Real-time audio/visual access to the live game being played, including:
 - i. Any gaming information typically required to be displayed for games as specified in the regulatory body's technical standards and not displayed by the Remote Player Interface itself;
 - ii. The actions of the gaming attendant and, where applicable, other players;
 - iii. Date and time at the Live Gaming Studio;
 - iv. Game identification/table number and location;
- c. Rules that describe procedures in place to deal with live game interruptions caused by the discontinuity of data flow, video and voice from the network server during a game (e.g., internet connection outage, simulcast control server malfunction, etc.);
- d. An indication of the possibility of human error by the gaming attendant and system error by the live gaming equipment and how errors are resolved; and
- e. Information relating to any correlation between the remote player's wager selection through the Remote Player Interface and what will be displayed in the video feed, such as physical player chips or tokens, and their values.

4.1.2. Live Transmission Delays and Interruptions

Each remote player shall be informed of any live transmissions or any live games relying on 'live' monitoring of an event (e.g., bingo) that 'live' transmissions may be subject to delay or interruption.

- a. Where a delay is apparent or created by the Live Gaming Platform, the scale of the delay shall be displayed to the remote player. Verbal notice from the gaming attendant is acceptable as outlined in the appropriate policy and/or procedure document.
- b. Procedures shall be in place to deal with remote player interruption or any video, voice, or data stream disruptions during a live game.

4.1.3. Prohibition on Real-Time Player Advantage Information

Remote players shall not be provided with any real-time information, for the current live game being played, that can be used to aid in:

- a. Projecting or predicting the outcome of a game;
- b. For card games, tracking the cards played and cards remaining to be played;
- c. Analyzing the probability of the occurrence of an event relating to a game; or
- d. Analyzing the strategy for playing or wagering to be used in a game, unless allowed by the rules of the game.

4.1.4. Remote Player Instruction Handling

The live game receives instructions from each remote player through the Remote Player Interface or another communication channel to facilitate player decisions where required. Procedures shall be in place to ensure that:

- a. All legitimate wagers are accepted by the game as defined by rules for that game;
- b. When wagers are placed by verbal instruction, the content of the wager is communicated back and acknowledged by the player before the wager is confirmed;
- c. When a gaming attendant is receiving wagers indicated by the player, a clear indication or notification that the wager has been accepted or rejected (in full or in part) is provided to the player; and

- d. The winning player is notified of their win, including the amount won, after the completion of the game and that their available funds are updated either immediately or once they exit the game.

4.1.5. Surrogate Players

Where authorized by a regulatory body, a Live Gaming Organization may utilize a surrogate player to place wagers on behalf of a remote player instead of directly through a Remote Player Interface. Such implementations will be reviewed on a case-by-case basis. Procedures shall be in place for the surrogate player to, if applicable:

- a. "Withdraw" funds from the player account to purchase physical chips or tokens; and
- b. "Deposit" funds to the player account after cashing out physical chips or tokens when game play has ended or after an interruption.

4.1.6. Commingling of Remote Players with On-Premises Players

When remote players participate in games with on-premises players, who are playing at the physical game in a Gaming Venue (e.g., casino, bingo hall, card room, etc.), the Live Gaming Organization shall ensure that:

- a. Procedures are established and include at a minimum how revenue is accounted for, reconciled, and recorded.
- b. On-premises players are informed that they are being filmed as part of a live feed;
- c. A player may not participate on the same game as both an on-premises player and a remote player;
- d. The rules, artwork, and functionality of the live game, as made available to the remote player through the Remote Player Interface, where applicable:
 - i. Include no more or no less information than that which is made available to on-premises players;
 - ii. Not result in any advantage or disadvantage as compared to on-premises players; and
- e. Remote players shall be no more or no less eligible to win the game than on-premises players. Nothing herein may preclude the possibility of implementing specific bonus/promotional awards only for on-premises players or remote players.

4.1.7. Physical Player Chips or Tokens

The following applies to physical player chips or tokens used in live games. For instance, in a live poker game involving both on-premises players and remote players, physical player chips or tokens may be placed on the table to indicate the player's wager to the other players.

- a. All chips or tokens shall have identical physical characteristics except for specific differences in denomination.
- b. The chips or tokens of all possible denominations shall be shown based on the game denomination) so that unavailability of chips or tokens of smaller denominations will not force players to wager more.
- c. Each chip or token shall be designed so that the specific denomination of each chip or token can be determined when placed in a stack of chips or tokens of various denominations.
- d. The chips or tokens used shall be unique for each denomination they are representing, and the denomination shall be clearly visible on any chip or token.
- e. A defined procedure shall exist for the accounting of the physical player chips or tokens.

4.1.8. Tipping Functionality

Where tipping functionality is available allowing a player to tip the gaming attendant for the live game, the Live Gaming Organization shall ensure that tipping transactions are optional, player-initiated, independent of wagering functionality, properly processed, and accounted for.

- a. Tipping procedures shall adequately mitigate the risk of collusion between players and the gaming attendant, which shall include, but is not limited to, the pooling of all tips received.
- b. Tipping transactions shall not:
 - i. Be required as a condition for participation in a live game;
 - ii. Impact the pace of game play or introduce delays in wager resolution; and
 - iii. Affect the outcome of any game or the integrity of the RNG or live gaming equipment used in the live game.
- c. The Remote Player Interface shall:

- i. Clearly distinguish tipping transactions from wagering transactions; and
 - ii. Present the remote player with a confirmation screen prior to finalizing a tipping transaction.
- d. Tipping transactions shall be:
 - i. Recorded separately from gaming transactions; and
 - ii. Reconciled against the player's available funds prior to being made available to the gaming attendant.

4.1.9. Tampering and Interference

The Live Gaming Organization shall ensure that no unauthorized individual has the ability to manipulate or influence any live game or live gaming equipment, including with respect to the production of game outcome data, except as intended by game design.

4.2. Security of the Live Gaming Studio

4.2.1. Security Policies and Procedures

The Live Gaming Studio shall be defined, demarcated, and protected by security policies, procedures, and controls appropriate to the operating environment. Secure areas, live gaming equipment, consumables, and areas where consumables are stored or prepared for use shall be protected to prevent unauthorized access and preserve the integrity of live games.

- a. Access to areas where live games occur, live gaming equipment is located, or consumables are stored or prepared for use shall be limited to authorized personnel.
- b. Access permissions shall be assigned based on personnel role or category, including gaming attendants, supervisory personnel, security personnel, and other authorized personnel, as applicable.
- c. Access points, including delivery areas, loading areas, and other points where unauthorized persons may enter, shall be controlled, monitored, and, where practicable, isolated from operational areas.
- d. Controls shall be sufficient to prevent unauthorized access to any area where live game integrity could be affected.
- e. Security policies and procedures shall be periodically reviewed to ensure risks are identified, mitigated, and addressed through contingency plans.
- f. Procedures shall be in place to respond to security incidents or other security issues within the Live Gaming Studio.

4.2.2. Security Requirements Based on Operating Environment

The security controls for the Live Gaming Studio shall be appropriate to the location and operating environment in which the live games occur.

- a. Where live games occur in a Gaming Venue (e.g., casino, bingo hall, card room, etc.) that is open for game play by on-premises players, the Live Gaming Studio shall be subject to the applicable security rules and controls of the Gaming Venue, including controls over the perimeter, live gaming equipment, consumables, and related access points.
- b. Where live games occur in a Gaming Venue during public opening hours in an area not open for game play by on-premises players, the areas where live games occur, areas near live gaming equipment, areas where consumables are stored or prepared for use, and related access points shall be protected by delimitation, alert barriers, and supervision by security personnel.
- c. Where live games occur in a private studio, in a Gaming Venue during public closure hours, or in an area not open for game play by on-premises players and not supervised by security personnel, the areas where live games occur, areas near live gaming equipment, areas where consumables are stored or prepared for use, and related access points shall be protected by physical barriers and access security systems.

4.2.3. Regulatory Body Access

If required, the regulatory body shall be provided with continual and unrestricted access to the Live Gaming Studio, live gaming equipment, and consumables for any reason the regulatory body determines necessary to regulate, license, enforce, and audit the conduct of live games. This shall include, but is not limited to, access to all live

audio/video feeds required or otherwise implemented.

4.3. Surveillance System

4.3.1. Surveillance Equipment and Control Rooms

A surveillance system that has the capability to monitor and record continuous unobstructed views of all live game play and areas where consumables are stored and prepared for use shall be installed, maintained, and operated.

- a. The surveillance system shall be maintained and operated from one or more secured locations, such as locked cabinets, or from staffed surveillance operation rooms.
- b. The surveillance operation rooms shall be secured to prevent unauthorized entry.
- c. Access to the surveillance operation rooms shall be limited to surveillance personnel and other authorized individuals.
- d. Surveillance operation room access logs shall be maintained.
- e. Surveillance operation room equipment shall have total override capability over all other satellite surveillance equipment.
- f. Each camera shall be installed in a manner that will prevent it from being readily obstructed, tampered with, or disabled.

4.3.2. Surveillance System Power Loss

In the event of power loss to the surveillance system:

- a. Alternative security procedures, such as additional supervisory or security personnel, shall be implemented immediately; or
- b. An auxiliary or backup power source shall be available and capable of providing immediate restoration of power to the surveillance system to ensure that surveillance personnel can observe all areas covered by dedicated cameras.

4.3.3. Active Monitoring Surveillance

Procedures shall be in place to ensure that surveillance and recordings are actively monitored by security personnel. The surveillance system shall:

- a. Have the capability to display all camera views on a monitor;
- b. Include sufficient numbers of recording devices to record the views of all cameras required by this section;
- c. Record all camera views; and
- d. Include sufficient numbers of monitors to simultaneously display live game activities.

4.3.4. Continuous Recording of Games

A continuous recording shall be made of all live games played so that:

- a. The information necessary to adequately reconstruct each live game is identifiable and distinguishable, consistent with the applicable game recall requirements specified in the regulatory body's technical standards and not displayed by the Remote Player Interface itself;
- b. The surveillance system can record an accurate date and time stamp of each live game.
 - i. The date and time shall not significantly obstruct the recorded view;
 - ii. The date and time shall be determined to an accuracy of one second relative to the clock used by the system;
 - iii. Time zone shall either also appear, or it shall be clear in the supporting documentation; and
- c. The sequence of live games relative to each other can be determined.

4.3.5. Recording Procedures

Procedures shall be established and implemented to ensure that the recording:

- a. Covers the defined Live Gaming Studio and areas where consumables are stored and prepared for use with sufficient detail to confirm whether the game rules and procedures were followed and to identify discrepancies;
- b. Is captured in such a way that precludes interference or deletion;
- c. Can be reviewed by the operator and/or regulatory body in the event of a player complaint/dispute; and
- d. Is retained for a minimum of ninety days or as required by the regulatory body. Recordings related to any event that is subject to an investigation discovered within the initial retention period shall be copied and retained until the completion of the investigation or after completion for a period of not less than one year or as required by the regulatory body.

4.3.6. Surveillance Training

All surveillance personnel shall be trained in the use of the surveillance equipment and live games.

4.3.7. Surveillance Reporting

Regulatory body approved procedures shall be implemented for reporting suspected crimes and suspicious activity.

4.3.8. Inspections and Malfunctions

A periodic inspection of the surveillance systems shall be conducted. When a malfunction of the surveillance system is discovered, the malfunction and necessary repairs shall be documented and repairs initiated within seventy-two hours.

- a. If a dedicated camera malfunctions, alternative security procedures, such as additional supervisory or security personnel, shall be implemented immediately.
- b. The regulatory body shall be notified of any surveillance system and/or camera(s) that have malfunctioned for more than twenty-four hours and the alternative security measures being implemented.

4.3.9. Surveillance Logs

The Live Gaming Organization shall maintain logs and demonstrate the following:

- a. Compliance with the storage, identification, and retention standards required in this section;
- b. Each malfunction and repair of the surveillance system as defined in this section; and
- c. Activities performed by surveillance personnel as required by this section.

4.4. Live Gaming Consumables

4.4.1. Consumable Specifications and Approval

Consumables used in a Live Gaming Studio shall meet minimum standards, specifications, and requirements prescribed by the regulatory body and shall be approved by the regulatory body prior to implementation in the studio.

4.4.2. Consumable Storage and Access

Procedures shall be in place to ensure consumables are stored in secure locations. Consumables shall be subject to access controls that prevent unauthorized access.

4.4.3. Consumable Inventory Maintenance

Procedures shall be implemented for tracking the inventory of consumables from receipt, through storage, installation, use, retirement, and destruction.

4.4.4. Consumable Audit Trail and Storage

All consumables shall have an associated audit trail that shows which designated personnel had access to the consumables at any given time for any given operation.

4.4.5. Consumable Inspections

Inspections shall be performed on consumables before being placed in operation, and periodically at random, from disbursement to retirement. All consumables that will be subjected to live gaming equipment shall also be inspected against it for defects prior to processing, to prevent play being disrupted. Logs of such inspections shall be maintained.

4.4.6. Consumable Disposal

Used consumables shall be destroyed in a manner that prevents their accidental re-use in live games, and that puts them permanently beyond use. Consumables that are the subject of any investigation shall be retained until completion of the investigation.

4.5. Live Gaming Equipment

4.5.1. Equipment Specifications and Approval

Live gaming equipment used in a Live Gaming Studio shall meet minimum standards, specifications, and requirements prescribed by the regulatory body and shall be approved by the regulatory body prior to implementation in the studio.

4.5.2. Equipment Change Management

Unless otherwise specified by the regulatory body, the Live Gaming Organization shall develop and adhere to the change control processes and procedures for usage of live gaming equipment that meets the requirements of the change management program expected to be adopted by the regulatory body, such as the GLI Change Management Program Guide (GLI-CMP).

4.5.3. Equipment Shipping and Receiving

Live gaming equipment shall be shipped in a secure manner to deter unauthorized access.

- a. A communication procedure shall be established between the live gaming equipment supplier and the Live Gaming Organization to properly control the shipping and receiving of all live gaming equipment. Such procedures shall include:
 - i. Notification of pending shipments shall be provided to the Live Gaming Organization;
 - ii. Certification documentation; and
 - iii. Notification from the supplier to the Live Gaming Organization, of the shipping date and expected date of delivery.
- b. The shipping notification shall include:
 - i. Name and address of the supplier;
 - ii. Description of shipment;
 - iii. For hardware, serial number;
 - iv. For software, software version and description of software;
 - v. Method of shipment; and
 - vi. Expected date of delivery.
- c. The Live Gaming Organization shall receive all live gaming equipment and verify the contents against the shipping notification.

4.5.4. Equipment Installation Location

The Live Gaming Studio shall contain a secure location for the placement, operation, and usage of live gaming equipment.

- a. Live gaming equipment shall be installed according to a defined plan and be sited or protected to reduce the risks from:
 - i. Environmental threats and hazards;
 - ii. Opportunities for unauthorized access;
 - iii. Power failures; and
 - iv. Other disruptions caused by failures in supporting utilities.
- b. Records of all installed live gaming equipment shall be maintained.
- c. Testing shall be completed during the installation process to verify that the live gaming equipment has been properly installed.
- d. Live gaming equipment's power and communications cabling carrying game outcome data or supporting live game information shall be protected from interception, interference, or damage.

4.5.5. Equipment Software Signature Verification

For live gaming equipment with software certified by an Independent Test Laboratory, procedures shall be implemented for software signature verifications to confirm that only certified software is installed. These procedures shall include:

- a. Comparing signatures generated by the verification programs to the signatures provided in the certification documentation for that software version; and
- b. Investigating and resolving any software signature verification variances.

4.5.6. Equipment Access

The live gaming equipment shall be subject to access controls that prevent unauthorized access. When user sessions are supported by the live gaming equipment, mechanisms shall be in place to ensure that:

- a. Access to the live gaming equipment by personnel is controlled by a secure logon procedure or other secure process approved by the regulatory body to ensure that only authorized personnel are allowed access. It shall not be possible to modify the configuration settings of the live gaming equipment without an authorized secure process.
- b. A user session is initiated by the individual logging in to their user account using their secure username and password or an alternative means for the individual to provide authentication credentials as allowed by the regulatory body.
- c. All available options presented to the individual shall be tied to their user account.
- d. If the live gaming equipment does not receive input from the individual within fifteen minutes, or a period specified by the regulatory body, the user session shall time out or lock up, requiring the individual to re-establish their login in order to continue. For portable equipment, the period shall not exceed two minutes unless otherwise specified by the regulatory body.
- e. User accounts are automatically locked-out after three consecutive failed access attempts in a thirty-minute period, or a period to be determined by the regulatory body. Where supported, a mechanism may automatically release a locked-out account after thirty minutes, or a period to be determined by the regulatory body, has elapsed.

4.5.7. Equipment Maintenance

To ensure its continued availability and integrity, live gaming equipment shall be correctly maintained, inspected, tested, and serviced at regular intervals by designated personnel to ensure that it is free from defects or mechanisms that could interfere with its operation. Logs of such activities shall be maintained.

4.5.8. Equipment Malfunctions and Replacement

Policies and procedures shall be implemented to identify, investigate, document, and resolve live gaming equipment malfunctions including live gaming equipment that shows an unacceptable level of errors. Such procedures shall address the following:

- a. Determination of the event causing the malfunction;

- b. Review of relevant records, game reports, logs, and surveillance records;
- c. Repair or replacement of the live gaming equipment; and
- d. Verification of the integrity of the live gaming equipment before restoring it to operation;

4.5.9. Equipment Removal or Retirement

Procedures shall be implemented to remove or retire any or all live gaming equipment from operation. Procedures shall include the following:

- a. Remove and/or secure live gaming equipment;
- b. Document the removal or securing of live gaming equipment;
- c. For live gaming equipment containing storage media, removing or securely overwriting any licensed software and other sensitive information, and documenting such activity;
- d. Verify that unique identifiers, and descriptions of removed or retired live gaming equipment are recorded as part of the retirement documentation; and
- e. Coordinate with the appropriate personnel to properly retire the live gaming equipment in the system records.

4.5.10. Equipment Destruction

Where the regulatory body authorizes destruction of any live gaming equipment, procedures shall be developed to destroy such equipment. Such procedures shall include the following:

- a. Methods of destruction;
- b. Witness or surveillance of destruction;
- c. Documentation of all equipment destroyed; and
- d. Signatures of personnel destroying equipment attesting to destruction.

4.6. Simulcast Control Servers

4.6.1. Simulcast Recording

Simulcast control servers shall be used to record and analyze all live gaming activity and results. The analysis and recording shall be aimed at identifying and countering fraud and abuse, as well as risks of gaming addiction. The Live Gaming Studio may use its own surveillance system and a split live feed to simulcast control servers, or there may be a separate network of video involved.

4.6.2. Game Outcome Access

The simulcast control servers shall prevent anyone from accessing the live game outcome prior to finalizing a wager.

4.6.3. Game Results

The simulcast control servers shall record game results before posting them to the Live Gaming Platform.

4.6.4. Voiding Mechanism

The simulcast control servers shall be equipped with a mechanism for authorized personnel to void or adjust game results, if necessary. The conditions under which game results may be voided or adjusted shall be in accordance with applicable rules and regulations of the regulatory body and shall be clearly detailed in operating procedures.

4.7. Specialized Devices

4.7.1. Game Outcome Data

Game outcome data shall be recorded by the Live Gaming Platform and made available to the remote player for review immediately following its generation or detection, subject to the natural limitations of system processing and

Internet communication delays. Game outcome data refers to any result generated or detected by specialized devices during the live game up to and including the result of the player's wager including any intermediate phases that impact the result, as determined by the Live Gaming Platform.

4.7.2. Automated Recognition

Where game outcome data is automatically registered by specialized devices, the software used for automated recognition shall:

- a. Ensure a very high degree of accuracy in identifying and reporting the game outcome data to the Live Gaming Platform. The Live Gaming Organization shall ensure that the rules of the game are programmed into the Live Gaming Platform;
- b. Not provide any information that may be used to compromise the device and its components (e.g., cards contained in the current shuffle or dealing shoe);
- c. Not interfere with or modify the device's behavior beyond what functionality is associated with that software; and
- d. Include a manual operation mode to allow for corrections of an erroneous result (where the device misreads a card, the position of the ball, etc.) if such corrections are not done directly on the Live Gaming Platform.
 - i. There shall be procedures in place to inform the player when the manual operation mode of the specialized device is activated.
 - ii. Tracking shall be enabled to allow for further review.

4.8. Physical Randomness Devices

4.8.1. Device Randomness

Physical randomness devices (aka Mechanical RNGs) generate game outcome data mechanically, employing the laws of physics (e.g., wheels, tumblers, blowers, shufflers). Physical randomness devices shall be certified by an Independent Test Laboratory in accordance with applicable randomness requirements adopted by the regulatory body. All approved components that contribute to randomness (e.g., balls, cards) are integral to device performance and may not be replaced with unapproved alternatives because substitutions invalidate equivalency (e.g., plastic cards replaced with paper cards).

4.8.2. Durability Inspections

Periodic inspections of the physical randomness device shall be conducted to ensure and maintain its integrity and to identify the degradation of any component over its intended lifespan.

4.8.3. Data Digitization and Transmission

Physical randomness device outcomes shall be digitized into game outcome data and securely transmitted to the Live Gaming Platform via specialized devices for processing without alterations unless approved by the regulatory body.

4.8.4. Data Integrity and Discrepancy Resolution

Except for human error or an error correctable with a manual override, the Live Gaming Organization shall ensure that, at any time during the live game, the game outcome data matches the outcome generated by the physical randomness device. Where a discrepancy between the physical randomness device and the game outcome data exists, the Live Gaming Organization shall consider the physical randomness device's outcome correct.

4.8.5. Operating Procedures

The outcomes of a physical randomness device can be affected by inadequate operating techniques, mechanical wear, damage to, or tampering with, that device. Operating procedures shall be in place that address:

- a. Care and preventative maintenance;

- b. Security, including recorded camera coverage;
- c. The secure transporting of physical randomness devices;
- d. Realistic maximum lifetime or maximum cycle limitations;
- e. Operational safeguards such as initial starting position not correlating to output position (e.g., ball drawing devices) and ensuring that the device remains level during operation; and
- f. Approved procedures for commissioning and decommissioning devices, such as sealing and unsealing devices to ensure there is no unlawful intervention.

4.8.6. Randomness Monitoring

Mechanisms to monitor the randomness of the physical randomness device shall be in place to identify if or when a physical randomness device is not performing acceptably, results are not random, or a physical randomness device has failed.

- a. This shall include review of, as applicable:
 - i. The seeding process for devices where outcomes are at least partially dependent on software;
 - ii. Device outcomes; and
 - iii. Mechanical wear or damage.
- b. Any access to a physical randomness device shall be secure and securely logged.
- c. Where unacceptable bias or patterns are detected, the regulatory body shall be informed.

4.9. Live Game Procedures

4.9.1. Game Procedures and Review

Separate procedures shall exist for each game, and new games shall have their procedures in place before being offered to players. Live game procedures shall be reviewed periodically to ensure that risks are identified, mitigated, and addressed through contingency plans.

4.9.2. Player Monitoring

A mechanism shall be in place to reasonably detect players who reject tables/games and re-apply for another within the same game type on a consistent basis until they arrive at their preferred table/game.

4.9.3. Anomalous Events during Live Games

Procedures regarding anomalous events that may occur during live games shall be documented and understood by personnel, including, but not limited to:

- a. Live gaming equipment malfunctions, including incorrect outcome detection;
- b. Dropped cards;
- c. Misdeals;
- d. Re-spins;
- e. Aborted games; and
- f. Table/game closure.

4.9.4. Card Shuffling

Consistent card shuffling procedures, including a verification of the card count, frequency of shuffling, and cases for reshuffling, shall be in place. The shuffling of cards shall be logged.

4.9.5. Tamper-Proof Devices

Procedures shall be in place to ensure card shoes and similar live gaming equipment are tamper-proof once they have been loaded to preclude interference prior to and during play.

4.9.6. Operational Variations

Variations in the operation of live gaming equipment shall be incorporated into the game procedures to maintain randomness. This equipment shall have a level of randomness consistent with that seen in Gaming Venues to ensure their fairness and integrity.

4.9.7. Live Game Logs

Procedures shall be in place to maintain game logs and collate game events into statistics that can be analyzed for trends relating to game performance, personnel, and/or locations in the Live Gaming Studio, including those for supervisors, shifts, procedure violations, as well as other incidents, irregularities, and errors. The Live Gaming Organization shall use this as a basis for generating reports.

4.10. Personnel Training, Scheduling and Performance Reviews

4.10.1. Personnel Hiring and Termination

Procedures for the hiring and termination of personnel shall be documented.

4.10.2. Personnel Background Checks

Procedures shall be in place to perform periodic criminal background checks on personnel.

4.10.3. Personnel Training

To provide live games in a fair manner according to documented procedures and game rules, only personnel who have the requisite qualifications and have received training either internally or externally or have attended a training course shall be used to organize the live games.

- a. Personnel shall be trained in, and regularly reminded of, any physical behavior that is prohibited or mandated (including hand signals, talking, the handling of the cards, etc.).
- b. Evidence of training and periodic refresher training shall be maintained.

4.10.4. Personnel Scheduling

Policies and procedures concerning rotations, shift patterns and allocation shall be documented, including how gaming attendants are allocated to tables/games (i.e., without prior knowledge of which tables/games they will be serving and with their time-on-game set at a level to deter harmful relationships being developed), and changes in gaming attendants during exceptional circumstances. Staffing logs shall be maintained for each table/game.

4.10.5. Personnel Records

The retention of documentation shall be robust, allowing personnel records to be audited and investigations to be performed where personnel are directly involved or where their presence in a particular place and/or time, is crucial to understanding a chain of events.

4.10.6. Personnel Organizational Chart

The Live Gaming Organization shall provide an organizational chart of personnel with responsibility over the conduct of live games.

4.10.7. Personnel Supervision

Supervision shall be provided as needed for operations by personnel with authority equal to or greater than those being supervised. Supervisory personnel shall:

- a. Be responsible for ensuring that the Live Gaming Studio is operating in accordance with established policies and procedures; and

- b. Always be available when live games are taking place.

4.10.8. Personnel Duties Segregation

Procedures shall be in place to demonstrate that a single member of personnel would not be able to undertake all duties concerning game management and that there is segregation of responsibilities prior to play, during play, and after play. Duties shall also be adequately segregated and monitored to detect procedural errors and to prevent the concealment of fraud.

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