
GLI-13 Revision History

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Revision History Outline

Date Released: July 31, 2024 Version 3.0 *Final*
Date Released: September 6, 2011 Version 2.1 *Final*
Date Released: April 20, 2007 Version 2.0 *Final*
Date Released: June 30, 2006 Version 1.2 *Released for comment*
Date Created: February 20, 2001 Version 1.1

Revision 3.0

- Re-titled document. Updated layout and formatting of the document to provide a modern feel to the standard.
- Reorganized and restructured document into more consumable chapters and sections, providing better distinction among the major technical areas of General Systems, Monitoring and Control Systems, Validation Systems, and Interface Elements.
- Added Glossary of Key Terms.
- Incorporated requirements based upon industry best practices.
- Generalized applicability of technical standard beyond gaming devices such that this standard applies to systems used in operations of other forms of Gaming Equipment (e.g. gaming devices, electronic table games, electronic wager stations, live game management components, kiosks, cashier station, etc.) used at all types of gaming venues (casinos, racetracks, card rooms, bingo halls, gaming halls, establishments used for video lottery and other forms of distributed gaming, etc.).
- Revised definitions for Monitoring and Control Systems, and Validation Systems. Included term “Gaming System” to cover all types of landbased gaming systems. (S 1.5.1)
- Added reference to the GLI Gaming Security Framework (GLI-GSF) which will house the technical security controls and testing requirements for these systems. Also removed requirements which will be covered in the GLI-GSF.
- Incorporated limited alignment with widely-accepted jurisdictional and international standards.
- Reorganized General System Requirements into a chapter which is intended to contain requirements applicable to all types of landbased gaming systems. (chapter 2)
- Added various content to General System Requirements based on alignment with other GLI Standards and current best practices, including but not limited to, control program verification, common critical components and functions, communications, information to be maintained. (chapter 2)
- Updated with testable communication requirements for landbased gaming systems within a laboratory setting consistent with requirements within other markets. (S 2.4.1)
- Incorporate database audit trail requirements. (S 2.4.2)

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- Added requirements regarding data purging consistent with requirements within other markets. (S 2.4.3)
 - Inserted new requirements for access to system workstations. (S 2.4.4)
 - Revised address requirements to provide clarity for cases where an interface element is/isn't used. (S 2.4.5)
 - Updated requirement regarding loss of communication with connected Gaming Equipment (either directly or through an interface element). (S 2.4.6)
 - Added logging requirements specifying what needs to be recorded by the system consistent with other GLI Standards and other markets. (S 2.5, 3.4.2, 4.2.2)
 - Made updates to some report requirements to add flexibility within generation and specificity regarding some of the report content. (S 2.6, 3.5, 4.7)
 - Added reporting requirements for system significant events and alterations consistent with other GLI Standards and other markets (S 2.6.2)
 - Reorganized Monitoring and Control System Requirements into its own chapter and expanded the scope to cover support for forms of gaming other than just gaming devices (chapter 3).
 - Separated and tweaked requirements for handpay slips and fill/credit slips. (S 3.2, 3.3)
 - Enhanced previous "slot file" requirements into a requirement for a Gaming Equipment Asset Registry (GEAR) and included support for Multi-Venue Systems (S 3.4.2)
 - Simplified communication of significant events and metering to reference sections from GLI-11 for content (S 3.4.3)
 - Added Machine Entry Authorization Log (MEAL) requirements for cases where the ability to automatically record access to Gaming Equipment is supported (S 3.4.4).
 - Reorganized reports specific to Monitoring and Control Systems to its own section and added reports pertaining to metered vs. actual wins comparison and game performance (S 3.5)
 - Refreshed Validation System Requirements chapter and expanded its scope to cover support for coupons in addition to vouchers (chapter 4).
 - Incorporated and revised wording from GLI-11 to provide coverage for all forms of Gaming Equipment (S 4.2.2, 4.3.1, 4.3.2, 4.3.6, 4.4.2, 4.6)
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- Expanded requirements pertaining to wagering instrument records to record additional information for redeemed, voided, and expired items as well as add support for Multi-Venue Systems (S 4.2.3)
- Consolidated offline wagering issuance requirements and removed requirements which were previously “recommended” (S 4.3.6)
- Expanded cashier redemption methods to include manual input of validation number (S 4.5.1)
- Clarified invalid notification requirements to cover attempted redemptions of voided and expired wagering instruments (S 4.5.2)
- Reorganized reports specific to Validation Systems to its own section and added reports pertaining to wagering instrument meter reconciliation and cashier sessions (S 4.7)
- Added log required to record at least 35 transactions for any wagering instruments issued and redeemed by the Gaming Equipment as required in other markets (S 4.6.3)
- Reworded and moved around some Interface Element requirements to cover cases where the requirement would still need to be met if the Gaming Equipment communicates directly with the system.
- Reorganized remaining Interface Element requirements into its own chapter, covering hardware, software, critical NV memory, and communications consistent with other GLI Standards. (Chapter 5)
- Provided clarity on the applicability of the hardware requirements to off-the-shelf components. (S 5.2.1)
- Revised system environmental and safety requirements to limit applicability to interface elements which have local critical NV memory and/or installed software. Also lessened severity of testing. (S 5.2.2)
- Revised installation requirements to allow locations outside of the gaming equipment provided there is sufficient security (S 5.2.7)
- Expanded requirements for software updates to allow methods of updating interface element software beyond FLASH technology (S 5.3.5)
- Revised handling of unrecoverable memory corruption to be consistent with other GLI Standards (S 5.4.5)

- Added interface element communication requirements consistent with requirements within other markets (S 5.5.1)
- Expanded focus of information storage and buffering at the interface element to be used with any Gaming Systems (S 5.5.2, 5.5.3)
- Added various notes to improve clarity of requirements, and to better document known conditions or restrictions.
- Made various grammatical changes throughout the document to improve clarity and readability.

Revision 2.1

Notable Changes

- Incorporation of changes based on GLI Standards Series reflected in GLI-11 v2.1 Gaming Devices in Casinos, as applicable to GLI-13 v2.0 On-Line MCS and Validation Systems in Casinos
- Title Page updated version and release date
- General-All references to Inc. changed to LLC.
- 1.2.1 Revised block diagram to be more general and match component names to text.
- 1.3.1 Added reference (v)(w)(x) and (y) documents.
- 1.4.4 Added AFT.
- 1.5.1 Added references (h) and (i) to standards GLI-21 and GLI-26.
- Removed Chapter 2 Submission Requirements, reassigned chapter numbering throughout the document to reflect
- 2.2.2 Added (e)(f)(g)(h) and 2.2.3 **Submission Media** to match GLI-11 requirements.
- 2.3.2(g) Added to note to call lab to determine if UPS is needed.
- 2.3.3(a) Changed EC to CE.

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- 2.5 Added section 2.5.4 **Source Code Compiler** requiring a source code compiler for all requested software and utilities.
 - 2.5.3 Added requirement and note that compiled object is identical to submitted program.
 - 2.7.2(b) Added “pictures” and “specifications” to hardware submissions.
 - 3.1 Inserted 3.1.4.1 Comprehensive Checks to agree with GLI-11 NVRAM checks. Inserted 3.1.4.2 Interface Element requirements for Offline tickets.
 - 3.1.3 Replaced **Battery Backup** requirements with those from GLI-11 to maintain agreement.
 - 3.1.4 Renamed **Information Buffering and Integrity Checks** to **Information Buffering**. Removed casual reference to needing method to check for corruption.
 - 4.2.2(d)(i)(ii) Changed unique “Coin-In Jam” and “Reverse Coin-In” messages to be generic “Coin-In Error” message to agree with GLI-11 language.
 - 4.2.2(e)(i) Changed “Stacker Full” message to be “Bill Validator Malfunction” to agree with GLI-11.
 - 4.2.2(h)(iii) Removed “Must be sent as a unique message” and removed “i and ii” references above so that all continue to require a unique message.
 - 4.3.2(a)(ii) Added note excluding Keno & Skill Games from 4% meter requirements to agree with GLI-11.
 - 4.3.2(c) Changed “Coin-Drop” to “Total Coin Drop”.
 - 4.4.2(b) Removed. Previously RESERVED. Renumbered 4.4.2(c)(d)(e)(f)(g).
 - 4.7.2 Added (e) to require MCS to backup and recover all Offline Voucher info.
 - 5.1.2 Added note relaxing “constant communication” requirement in the case of Offline Vouchers.
 - 5.2.2 Added 5.2.2.1 as **Algorithm for generating offline ticket/voucher authentication identifiers**.
 - 5.2.3(b)(vi) Added “if applicable” to agree with GLI-11 no longer requiring expiration dates on tickets.
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- 5.2.4 Renumbered to 5.2.5. Renamed “SMIB” as “Interface Device” and “back end” as “MCS”. Remove note discussing re-evaluation when G2S protocol is adapted. Added note exempting approved Offline Voucher routines from these regulations. Inserted new 5.2.4 as *System Requirements for Offline Ticketing Support*.
 - 5.3.2 Inserted *Offline Ticket/Voucher Redemption* regulations. Previously was **RESERVED**.
 - 5.4.1(e) Removed. Previously RESERVED. Renumbered (f) & (g). Removed note discussing re-evaluation once G2S protocol is adopted.

Revision 2.0

Rev 1.2 Final was renamed to **Rev2.0 Final** for document control purpose.

Revision 1.2

- General – all references to “EGD” has been changed to refer to “Gaming Device”, also, added reference to the Wireless Security Standards outlined within the new Chapter 7, throughout the document. References to “Bill Acceptors” were changed to “Bill Validators” throughout the document. References to “Tickets” were changed to “Ticket/Vouchers” throughout the document to remain consistent with GLI-11 referencing.
 - 1.4. Added clarification to include gaming devices that use player account cards (cashless) to be evaluated against this standard where applicable.
 - 1.5.1(c) removed the reference to “Cashless Systems Standards for Advanced Communication Protocols in Casinos (GLI-14) currently not released” and replaced with Cashless Systems in Casinos GLI-16
 - 1.5.1(d) inserted GLI-17.
 - 1.5.1(e) inserted GLI-18, pushing Internal Controls down to (f) of this section.
 - 1.5.1(g) added a reference to GLI-20 Redemption Terminals for systems that have redemption terminals (kiosks) integrated for ticket/voucher validation.
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- 2.6.2 clarified ‘where applicable’ since some of the programs may reside in a file where it is not possible to label it.
 - 2.6.2(e) referenced ‘or other system device’ to clarify the location of installation information needed for system firmware submission requirements to not limit to the interface element.
 - 3.1.2 Modified the Metering Requirements to accommodate multiple rollovers that may occur at the same time.
 - 3.2.1 was changed to require critical information be contained if the FEP maintains buffered/logging information.
 - 3.3.3 clarified that the MCS clocks shall be synchronized, where conflicting information could occur.
 - 3.4.2 was changed to better clarify since the hand pay message is ‘confirmed’ instead of ‘authorized’ as previously indicated. In addition, the rule now also refers to the 10425 in addition to the W2G.
 - 3.4.3(a) changed the reference for Alphanumeric Slip Identifier to Type of Slip. The Slip Identifier information requirement is now referenced within (b
 - 3.4.3(b) added the requirement for a Numeric Slip identifier (which increments per event).
 - 3.4.3(i) added the reference to Additional Pays, if applicable, to be included on the JP/Fill slip generated by the system.
 - 3.4.4(c) modified the wording pertaining to significant event number to also allow a significant even identifier since previously, the rule would only allow for ‘numbers.’
 - 3.4.5(a) changed the rule to refer to the unique interface element’/location’ identification number, instead of the previous language which referred to the ‘EGD’ identification number where the rule topic is based on the device file.
 - 3.4.6 modified the rule to allow for other means to allow controlled access to all accounting information where the previous version specified ‘an application.’ Also, changed the reference to require all Internal Control required reports to clarify, if these reports are specified.
 - 4.1.1 changed the rule to require the system to function as indicated by the communication protocol to ensure that all ranges of communications permitted by the protocol are supported by the system.

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- 4.1.1 (c) Added a disclaimer to the Communication Protocol section that requires the device to accurately function as indicated by the communication protocol that is implemented.
 - 4.2.1 (a) (b) Clarified (a) and (b) and (c) OR (d) are required.
 - 4.2.1(c) changed the requirement for a unique ‘code’ to also allow for a unique ‘number’ to define the event. Also, changed ‘and’ to ‘or’ and the end of this rule to give the option of using the unique number/code to define the even or use brief text to describe the event. The previous wording would require both methods.
 - 4.2.2(c) clarified that the system is to receive messages from the Gaming Device for storage for any external door that provides access to a critical area. Previously, the wording would require all accesses be reported and stored however there are areas on the device that do not contain any critical data or elements that would affect the integrity of the Gaming Device.
 - 4.2.2(i) clarified the Printer Errors as meaning Printer Empty/Paper Low; and Printer Disconnect/Failure.
 - 4.2.3 (c) clarified that the memory corruption of the interface element only needs to be reported as a priority event if the element contains critical information. Also added statement regarding the ability to generate a general tilt.
 - 4.3.1 Added meters shall be labeled in accordance to their function
 - 4.3.2 Restructured this section and changed various metering requirements
 - 4.4.2 Changed the statement where the types of reports that are typically run to remove the reference to Weekly reports and added reference to ‘Life to Date’ reports.
 - 4.4.2(a) changed the reference to Net Win Reports to also refer to ‘Revenue’ reports since this terminology is used in some areas.
 - 4.4.2(b) removed the requirement for Monthly EGD Revenue Report since the schedule of reports are to be determined by the Gaming Commission. The items within this bulleted list pertain to the information that is to be listed within the reports.
 - 4.4.2(c) was changed to clarify the information needed for the Drop Comparison Reports to include the dollar and percent variances for each medium and aggregate for each type.
 - 4.4.2(d) added clarification for this report to include the dollar and percent variances for each and aggregate
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- 4.4.2(g) changed requirement for Taxation Reports to “other reports” that may be required for the jurisdiction since some do not require Taxation Reports.
 - 4.4.2 NOTE was included to clarify that it is acceptable to combine reporting data where appropriate (e.g., revenue, theoretical/actual comparison).
 - 4.6.3 NOTE was modified to clarify that the rule is referring to the system executable code only.
 - 4.6.4 NOTE was modified to require Remote Access to be optional to accommodate those jurisdictions that do not permit remote access.
 - 4.6.5 Added section on Verification of System Software and clarified that system modules/components must be verified by a third-party device
 - 4.7.2(d) was changed to include the ‘employee file’ as specific site information that is to be backed up.
 - 5.2 Removed section pertaining to Ticket Information, which are the EGD requirements and made this section on Ticket/Voucher Issuance, which pertains to the validation system.
 - 5.2.2 (a)&(b) were added to clarify that the algorithm used must be robust enough to ensure minimal repetition of validation numbers.
 - 5.2.4 was changed to allow for the Gaming Device to allow a max of two off-line ticket/vouchers or handpay receipt since some use the preferable method of forcing handpays in the event there is a loss of communication. Also noted that this section will be re-evaluated and revised once the G2S protocol has been adopted and becomes utilized by the gaming device suppliers
 - 5.3.1 was previously Ticket Issuance, which was removed since, deemed EGD requirements. This section now reflects Online Ticket/Voucher Redemption
 - 5.3.2 is now RESERVED. This section was previously regarding Online Ticket Redemption, which is now covered under 5.3.1
 - 5.3.3(a), (b) & (c) clarified that the cashier may scan the barcode or manually input the validation number and print a validation receipt, if applicable. Previously the bulleted items (a)-(c) required all three actions, incorrectly instead of treating them as two different methods. Also, clarified the printing of a validation receipt is optional.
 - 5.3.4(e) included the reference to a Change Booth identifier if Validation Receipts are supported, in addition to the previously referred to Cashier identifier.
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- 5.3.5(a) changed the reference to invalid Serial Number to invalid Ticket/Voucher, to remain consistent with regard to the terminology used throughout the document.
- 5.3.7 Added a subsection that refers to GLI-20 Redemption Terminals for systems that integrate this type of device.
- 5.4.1 noted that this section will be re-evaluated and revised once the G2S protocol has been adopted and becomes utilized by the gaming device suppliers
- 5.4.1(d) changed the name of the Ticket Drop Report to Ticket/Voucher Drop Variance Report.
- 5.4.1(e) removed the requirement for Jackpot Ticket Report.
- 5.4.1(g) clarified that the Cashier Report is to detail individual ticket/vouchers and the sum of the ticket/vouchers paid. Also clarified that this report would pertain to the Cashier and Change Booth and Validation Terminals.
- 5.4.1 NOTE has been modified to refer to bulleted item number (b) with regard to the bulleted items that are to be waived for two part ticket/vouchers.
- 6.3.1 (c) and (d) removed the requirement for Radio Frequency Interference and Magnetic Interference testing to be conducted by GLI since it is disclosed that it is the sole responsibility of the manufacturer to comply with any regulations related to the aforementioned. GLI claims no liability and makes no representation with respect to such non-gaming testing.