



## STANDARD SERIES

### GLI-12:

# Progressive Gaming Devices in Casinos

---

Version: 2.1

Release Date: September 6, 2011



This Page Intentionally Left Blank

## **ABOUT THIS STANDARD**

This Standard has been produced by **Gaming Laboratories International, LLC** for the purpose of providing independent certifications to suppliers under this Standard and complies with the requirements set forth herein.

A supplier should submit equipment with a request that it be certified in accordance with this Standard. Upon certification, Gaming Laboratories International, LLC will provide a certificate evidencing the certification to this Standard.

# Table of Contents

<b>CHAPTER 1</b> .....	<b>7</b>
1.0 OVERVIEW – PROGRESSIVE GAMING DEVICES IN CASINOS .....	7
1.1 Introduction.....	7
1.2 Acknowledgment of Other Standards Reviewed.....	8
1.3 Purpose of Technical Standards.....	9
1.4 Other Documents That May Apply.....	10
1.5 Progressives Defined and Sections Applied.....	11
<b>CHAPTER 2</b> .....	<b>18</b>
2.0 PROGRESSIVE COMPONENT REQUIREMENTS .....	18
2.1 Introduction.....	18
2.2 Hardware and Player Safety .....	18
2.3 Environmental Effects on Progressive Integrity.....	18
2.4 Progressive Meter/Display Requirements.....	19
2.5 Progressive Controller Requirements .....	21
2.6 Progressive Jackpots.....	25
2.7 Progressive Awards Paid by Over Time.....	27
2.8 Progressive Percentage Requirements and Odds.....	27
2.9 Independent Control Program Verification .....	28
<b>CHAPTER 3</b> .....	<b>29</b>
3.0 MULTIPLE SITE PROGRESSIVE REQUIREMENTS .....	29
3.1 Introduction.....	29
3.2 Multi-Site Central Computer Requirements .....	29
3.3 Multi-Site Progressive Procedures.....	32
3.4 Multi-Site Jackpots.....	33

# CHAPTER 1

## *1.0 OVERVIEW – PROGRESSIVE GAMING DEVICES IN CASINOS*

### **1.1 Introduction**

**1.1.1 General Statement.** Gaming Laboratories International, LLC (GLI) has been testing gaming devices since 1989. Over the years, we have developed numerous standards for jurisdictions all over the world. In recent years, many jurisdictions have opted to ask for the development of industry standards without creating their own standards documents. In addition, with technology changing almost monthly, new technology is not being incorporated quickly enough into existing standards due to the long process of administrative rulemaking. This document is the second of several that will put forth GLI’s Standard for Gaming Equipment. This document, GLI Standard 12, will set forth the technical standards for Progressive Gaming Devices in Casinos. A “gaming device” does NOT include, for purposes of this Standard, electronic equipment used in the conduct of TABLE GAMES. For detailed standards applicable to electronic table games, please reference standards GLI-24 (Electronic Table Game Systems) and GLI-25 (Dealer Controlled Electronic Table Games).

**1.1.2 Document History.** This document is an essay from many standards’ documents from around the world. Some GLI has written, and some, such as the Australian and New Zealand National Standard, were written by Industry Regulators with input from test laboratories and gaming device manufacturers. We have taken each of the standards’ documents, merged each of the unique rules together, eliminated some rules, and updated others to reflect both the change in technology and the purpose of maintaining an objective, factual standard. We have listed below, and given credit to, agencies whose documents we reviewed prior to writing this Standard. It is the policy of **Gaming Laboratories International, LLC** to update this document as often as possible, in order to reflect changes in technology, testing procedures, or cheating methods. This

document will be distributed without charge to all those who request it. It may be obtained by downloading it from our website at [www.gaminglabs.com](http://www.gaminglabs.com) or by writing to us at:

**Gaming Laboratories International, LLC**

600 Airport Road  
Lakewood, NJ 08701  
(732) 942-3999 Tel  
(732) 942-0043 Fax

## **1.2 Acknowledgment of Other Standards Reviewed**

**1.2.1 General Statement.** This Standard has been developed by reviewing and using portions of the documents from the organizations listed below. We acknowledge the regulators who have assembled these documents and thank them:

- a) The ACT Office of Financial Management;
- b) The New South Wales Department of Gaming and Racing;
- c) The New Zealand Casino Control Authority;
- d) The New Zealand Department of Internal Affairs, Gaming Racing & Censorship Division;
- e) The Northern Territory Racing and Gaming Authority;
- f) The Queensland Office of Gaming Regulation;
- g) The South Australian Office of the Liquor and Gaming Commissioner;
- h) The Tasmanian Department of Treasury and Finance, Revenue and Gaming Division;
- i) The Victorian Casino and Gaming Authority;
- j) The Western Australian Office of Racing Gaming and Liquor;
- k) US Tribal Compacts from Tribal Governments and State Governments which included:
  - i. Arizona;
  - ii. Connecticut;
  - iii. Iowa;
  - iv. Kansas;

- 
- v. Louisiana;
  - vi. Michigan;
  - vii. Minnesota;
  - viii. Mississippi;
  - ix. North Carolina;
  - x. North Dakota;
  - xi. Oregon; and
  - xii. Wisconsin.
- l) Colorado Division on Gaming – Limited Gaming Regulations;
  - m) Illinois Gaming Board – Adopted Rules;
  - n) Indiana Gaming Commission;
  - o) Iowa Racing and Gaming Commission;
  - p) Louisiana State Police – Riverboat Gaming Division – Electronic Gaming Device;
  - q) Missouri Gaming Commission – Department of Public Safety;
  - r) Nevada Gaming Commission and State Gaming Control Board;
  - s) New Jersey – Regulations on Accounting and Internal Controls;
  - t) South Dakota Commission on Gaming – Rules and Regulations for Limited Gaming.
  - u) NIST Special Publication 800-57 Recommendations for Key Management – Part 2: Best Practices for Key Management Organization.
  - v) GSA G2S and S2S protocol standards.

*\* Please note a comprehensive revision history of this document is available upon request.*

### **1.3 Purpose of Technical Standards**

**1.3.1 Purpose.** The purpose of this Technical Standard is as follows:

- a) To eliminate subjective criteria in analyzing and certifying gaming device operation;
- b) To only test those criteria that impact the credibility and integrity of a gaming device from both the Revenue Collection and Player’s perspective.
- c) To create a standard that will insure that Progressive Gaming Devices in casinos are fair, secure, able to be audited, and will operate correctly;

- 
- d) To distinguish between local public policy and laboratory criteria. At GLI, we believe that it is up to each local jurisdiction to set public policy with respect to gaming;
  - e) 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 the standard, testing is not directed at health or safety matters. These matters are the responsibility of the manufacturer, purchaser, and operator of the equipment;
  - f) To construct a standard that can be easily changed or modified to allow for new technology; and
  - g) To construct a standard that does not specify any particular method or algorithm. The intent is to allow a wide range of methods to be used to conform to the standards, while at the same time, to encourage new methods to be developed.

**1.3.2 No Limitation of Technology.** One should be cautioned that this document should not be read in such a way that limits the use of future technology. The document should not be interpreted that if the technology is not mentioned, then it is not allowed. Quite to the contrary, as new technology is developed, we will review this standard, make changes, and incorporate new minimum standards for the new technology.

## **1.4 Other Documents That May Apply**

**1.4.1 Other Standards.** These standards cover the actual requirements for various types of progressive gaming devices in casinos. . The following other standards may apply:

- a) GLI-11 Gaming Devices in Casinos;
- b) GLI-13 On-Line Monitoring and Control Systems (MCS) and Validation Systems in Casinos;
- c) GLI-16 Cashless Systems in Casinos;
- d) GLI-17 Bonusing Systems in Casinos;
- e) GLI-18 Promotional Systems in Casinos;



- f) GLI-20 Redemption Kiosks: and
- g) GLI-21 Client Server Systems.

*NOTE: Any progressive system shall not affect, supercede, replace or in any way alter the other language provisions of the GLI-11 Standards (Gaming Devices in Casinos) governing casino licensees and the conduct of gaming.*

## **1.5 Progressives Defined and Sections Applied**

**1.5.1 General Statement.** A Progressive Gaming Device means, “A gaming device that has an increasing jackpot, based on a function of credits that are bet. This includes games that award progressive jackpots or a ‘pool’ based on criteria other than obtaining winning symbols on the machine, such as ‘Mystery Jackpot.’ However, this does not include games that incorporate a bonus feature as part of the game theme, which offers awards that increase as the game is played and, as well, is not configurable.” Chapters 1, and 2 of this document shall set forth the technical requirements for the following types of progressives. Chapter 3 only applies to multi-site progressive games:

- a) Stand-Alone Progressive Gaming Devices. A stand-alone progressive gaming device is a single progressive game that is not a part of a link;
- b) Multiple Gaming Device (Linked) Progressives. A ‘linked progressive’ is one (1) or more gaming device(s) that offer common progressive jackpot(s) which are linked to a progressive controller within a single casino location; and
- c) Multi-Site Progressive Gaming Devices. Multi-site progressive gaming devices are interconnected in more than one (1) casino. The purpose of a multi-site progressive system is to offer common progressive jackpot(s) (system jackpot) at all participating locations.

# CHAPTER 2

## 2.0 PROGRESSIVE COMPONENT REQUIREMENTS

### 2.1 Introduction

**2.1.1 General Statement.** This chapter shall govern the requirements for all progressive components submitted for review.

### 2.2 Hardware and Player Safety

**2.2.1 General Statement.** Electrical and mechanical parts and design principals of the electronic associated progressive hardware must not subject a player to any physical hazards. The test laboratory shall not make any finding with regard to Safety and EMC testing as that is the responsibility of the manufacturer of the devices or those that purchase the devices. Such Safety and EMC testing may be required under separate statute, regulation, law or Act and should be researched, accordingly, by those parties who manufacture or purchase said hardware. The test laboratory shall not test for, be liable for, nor make a finding relating to these matters.

### 2.3 Environmental Effects on Progressive Integrity

**2.3.1 Progressive Integrity Standard.** The Laboratory will perform certain tests to determine whether or not outside influences affect game fairness to the player or create cheating opportunities. This certification applies exclusively to tests conducted using current and retrospective methodology developed by Gaming Laboratories International, LLC (GLI). During the course of testing, GLI inspects for marks or symbols indicating that a device has undergone product safety compliance testing. Gaming Laboratories International, LLC also performs, where possible, a cursory review of submissions and information contained therein related to Electromagnetic Interference (EMI), Radio Frequency Interference (RFI), Magnetic Interference,

Liquid Spills, Power Fluctuations and Environmental conditions. Electrostatic Discharge testing is intended only to simulate techniques observed in the field being used to attempt to disrupt the integrity of Progressive Gaming Devices. Compliance to any such regulations related to the aforementioned testing is the sole responsibility of the device manufacturer. GLI claims no liability and makes no representations with respect to such non-gaming testing. A progressive system shall be able to withstand the following tests, resuming their function without operator intervention:

- a) Electro-Static Interference. Protection against static discharges requires that the progressive components be earthed in such a way that static discharge energy shall not permanently damage, or permanently inhibit the normal operation of the electronics or other components within the progressive system. Progressive system components may exhibit temporary disruption when subjected to a significant electro-static discharge greater than human body discharge, but they shall exhibit a capacity to recover and complete any interrupted function without loss or corruption of any control or critical data information associated with the progressive system. The tests will be conducted with a severity level of a maximum of 27KV air discharge.

## **2.4 Progressive Meter/Display Requirements**

**2.4.1 General Statement**. One or more progressive gaming device(s) shall be linked, directly or indirectly, to a mechanical, electrical, or electronic device, including the video display, if applicable, that shows the payoff which increments at a set rate of progression as credits are wagered. This device is the Progressive Meter. For games that contain a progressive feature such as ‘Mystery Jackpot’, the payoff does not have to be displayed to the player however, information must be available to the player describing the feature.

**2.4.2 Progressive Displays**. A Progressive Meter shall be visible to all players who are playing a device, which may potentially win the progressive amount if the progressive jackpot combination appears, except for ‘mystery jackpots.’ A player shall know that he is playing a

progressive game and not have to play the max bet amount to find out. The above are parameters that are verified on-site prior to implementation. The following rules apply to all Progressive Meter displays:

- a) The progressive meter shall display the current total of the progressive jackpot in the monetary value or credits (the monetary value may vary for Multi-Site Progressive Displays.) Because the polling cycle does cause a delay, the jackpot meter need not precisely show the actual monies in the progressive pool at each instance, see also [Types of Updating Displays](#), section 2.4.3. This rule does not apply to ‘Mystery Jackpots.’

*NOTE: Any device that has a feature that doubles, or triples, etc. any win shall have a sign that states the progressive award will not be doubled or tripled if won during the feature, if this is the intention.*

**2.4.3 Types of Updating Displays.** The use of odometer and other “paced” updating displays are allowed. The progressive meter shall display the winning value within 30 seconds of the jackpot being recognized by the central system. In the case of the use of paced updating displays, the system jackpot meter shall display the winning value after the jackpot broadcast is received from the central system.

**2.4.4 Progressive Display Digital Limitations.** If the progressive meter(s) progresses to its maximum display amount, the meter shall freeze and remain at the maximum value until awarded to a player. This can be avoided by setting the jackpot limit in accordance with the digital limitations of the sign.

**2.4.5 Alternating Displays.** If this rule prescribes multiple items of information to be displayed on a gaming device or progressive meter, it is sufficient to have the information displayed in an alternating fashion.

---

## 2.5 Progressive Controller Requirements

**2.5.1 General Statement.** Any progressive system shall meet the game standards set forth in this document and the GLI-11 Standards for Gaming Devices in Casinos. The requirements of this Section are intended to apply equally to one progressive gaming device linked to a progressive controller or is internally controlled, as well as several progressive gaming devices linked to one progressive controller within one casino or multiple casinos.

**2.5.2 Progressive Controller Description.** *Progressive controller means hardware and software that controls communications among the devices that calculate the values of the progressive jackpots and displays the information within a progressive gaming device link and on the associated progressive meter..* The controller shall calculate the values of the progressives and display the information within a progressive gaming device link and the associated progressive meter (if applicable, progressive controllers may be internally controlled by the game’s control program). A progressive controller may consist of more than one discrete component and includes but is not limited to PC-based computers, wiring, interface boards and collection nodes, etc.

**2.5.3 Setting the Jackpot Amounts.** The method by which system jackpot parameter values are modified or entered is to be secure. All progressive gaming devices or any approved progressive system component shall display, upon request, the following information for each progressive prize offered (if applicable):

- a) CURRENT VALUE: current prize amount;
- b) OVERFLOW: amount exceeding limit;
- c) HITS: number of times this progressive was won;
- d) WINS: total value of wins for this progressive or a history of the last 25 progressive hits;
- e) BASE: starting value;
- f) LIMIT: jackpot limit value (if the Jackpot is capped at a maximum limit, this standard does not require to add the overflow amounts to the next starting value and will be determined on a casino-by-casino basis);

- g) INCREMENT: percentage increment rate;
- h) SECONDARY INCREMENT: percentage increment rate after limit is reached;
- i) HIDDEN INCREMENT: percentage increment rate for the reserve pool
- j) RESET VALUE: the amount the progressive resets to after the progressive is won; and
- k) The participating gaming devices.

*NOTE: Any change to the jackpot amount must conform to the local Internal Control procedures.*

**2.5.4 Progressive Controller Program Interruption.** After a program interruption (e.g. power down), the software shall be able to recover to the state it was in immediately prior to the interruption occurring.

**2.5.5 Internal Link Progressive Controller** For link progressives where the progressive controller is part of the game software (internal link), all games on the link shall conform to the following criteria:

- a) Require a secure method for configuring each game on the link.
- b) Changes to progressive settings may not be made, unless it involves a secure method.
- c) Each game on the link shall be uniquely identified.
- d) Only one (1) game on the link shall function as the master progressive controller.
- e) If the game configured as the master controller becomes inoperative, all games on the link must tilt.
- f) If any game on the link loses communication with the master controller, that game must tilt.
- g) The progressive link shall be capable of displaying all progressive parameters (i.e. contribution, reset amount, levels, etc.).

**2.5.6 Progressive Resumption.** On program resumption, the following procedures shall be performed as a minimum requirement:

- a) Any communications to an external device shall not begin until the program resumption routine, including self-tests, is completed successfully;
- b) Progressive System control programs shall test themselves for possible corruption due to failure of the program storage media. The authentication may use the checksum; however, it is preferred that the Cyclic Redundancy Check (CRC) calculations are used as a minimum (at least 16 bit). Other test methodologies shall be acceptable if at a comparable level of integrity; and
- c) The integrity of all critical memory shall be checked.

**2.5.7 Communications for Signaling of a Jackpot.** There shall be a secure, two-way communication protocol between the main game processor board and progressive. In addition, the progressive system shall be able to:

- a) Send to the electronic gaming device the amount that was won for metering purposes; and
- b) Constantly update the progressive display as play on the link is continued.

**2.5.8 Monitoring of Credits Bet.** During the 'Normal Mode' of progressive gaming devices, the progressive controller shall continuously monitor each device on the link for credits bet and shall multiply the same by the rate of progression and denomination in order to determine the correct amounts to apply to the progressive jackpot. This shall be 99.99% accurate.

**2.5.9 Access to the Progressive Controller.** Each progressive controller used with a progressive gaming device shall be housed in a secure environment allowing only authorized accessibility. Access to the controller must conform to the local Internal Control procedures.

**2.5.10 Progressive Controller Required Meters.** The progressive controller or other approved progressive system component shall keep the following information in non-volatile memory, which shall be displayed on demand. Additionally, meters shall be 99.99% accurate:

- 
- a) The number of progressive jackpots won on each progressive level if the progressive display has more than one (1) winning amount;
  - b) The cumulative amounts paid on each progressive level if the progressive display has more than one (1) winning amount;
  - c) The maximum amount of the progressive payout for each level displayed;
  - d) The minimum amount of the progressive payout for each level displayed;
  - e) The rate of progression for each level displayed; and

**2.5.11 Controller and Display Functions During Progressive Jackpot Win.** When a progressive jackpot is recorded on an electronic gaming device, which is attached to the progressive controller, the progressive controller shall allow for the following to occur on the device and/or progressive display:

- a) Display of the winning amount;
- b) Display of the electronic gaming device identification that caused the progressive meter to activate if more than one (1) electronic gaming device is attached to the controller;
- c) The progressive controller shall automatically reset to the reset amount and continue normal play; and
- d) The new progressive values that are current on the link.

**2.5.12 Base Progressive Jackpot Amount.** The initial amount of a progressive jackpot shall begin at or above an award for that particular gaming device that makes the entire meter payout greater than the minimum percentage requirement, see also “Percentage Requirements” in GLI-11 Gaming Devices in Casinos.

**2.5.13 Progressive Controller Error Conditions.** When a controller error occurs, it is preferred that it alternates the displays, or equivalent, between the current amount and an appropriate error message that is visible to all players, or can alert the casino to the error condition. If the following events occur, the progressive controller must convey the appropriate signal to disable the games using the progressive, and an error shall be displayed on the progressive meter, other approved progressive system component or gaming device:



- a) During a ‘communication failure’ between the game and the controller or anywhere within the progressive controller system: (see also [Communication Failure](#), section 4.2.8)
- b) When there have been multiple communication errors;
- c) When a controller checksum or signature has failure;
- d) When a controller’s RAM or PSD (program storage device) mismatch or failure occurs;
- e) When the jackpot configuration is lost or is not set;
- f) If there has been an unreasonable amount of credits bet (an unreasonable amount of credits bet is defined by the progressive set up which is based on the number of bets and number of machine(s)); or
- g) If the game meters are validated against the controller's meters (via communications between the game board and controller) and they do not reconcile.

**2.5.14 Transferring of Progressive Jackpot.** The progressive controller shall have a secure means of transferring a progressive jackpot and/or prizes to another progressive controller or other approved progressive system component. Transferring of progressive jackpots must meet the local Internal Control procedures.

**2.5.15 Jackpot Limits.** The controller may be configured with a limit on the jackpot of a progressive gaming device, if the limit imposed is greater than the jackpot payout on the gaming device at the time the limit is imposed. This limit shall be posted on or near the device or devices to which the limit applies.

**2.5.16 Time Limits.** Progressive controller may have the ability to set time limits that limit the time the progressive is available.

## **2.6 Progressive Jackpots**

**2.6.1 General Statement.** A Progressive Jackpot is an award for a winning or non-winning (e.g. mystery jackpot) play of the game, as defined in [Progressives Defined and Sections](#)

Applied, section 1.5.1, of this document. A bonus game where certain circumstances are required to be satisfied, prior to awarding a fixed bonus prize, is not a progressive gaming device and is not subject to these procedures.

**2.6.2 Swapping Progressive Levels.** For progressives offering multiple levels of awards, the player must always be paid the higher progressive amount, if a particular combination is won that should trigger the higher paying award. This may occur when a winning combination may be evaluated as more than one of the available payable combinations (i.e., a Flush is a form of a Straight Flush and a Straight Flush is a form of a Royal Flush). Therefore, there may be situations where the progressive levels shall be swapped to ensure the player is being awarded the highest possible progressive value based on all combinations the outcome may be defined as.

**2.6.3 Gaming Device Requirements when any Progressive is Awarded.** When a progressive prize has been awarded, the gaming device or other approved progressive component shall perform the following:

- a) An appropriate message shall be displayed;
- b) Unless the prize is transferred to the player's credit meter the software and game shall lock-up until the award has been paid by the attendant; and
- c) All progressive related meters must be updated, see also "GLI-11 Gaming Devices in Casinos," Section 3.10.9 'Electronic Accounting Meters.'

*NOTE: A light or alarm shall alert the player upon winning a mystery jackpot, to prevent a player from abandoning an unclaimed award.*

**2.6.4 Progressive Gaming Device Metering Requirements.** The electronic gaming device is required to update its electronic meters to reflect the winning progressive jackpot amount consistent with these procedures and the electronic accounting meter requirements in section four of GLI-11 Gaming Devices in Casinos. Progressive wins may be added to the credit meter if either:

- a) The credit meter is maintained in monetary value or credits;
- b) The progressive meter is incremented to whole credit amounts; or
- c) The prize, in monetary value, is converted to credits on transfer to the player's credit meter in a manner that does not mislead the player. The conversion from monetary value to credits must always round up.

*NOTE: Progressives exceeding the local income tax limit, if one exists, shall require payment by an attendant.*

## **2.7 Progressive Awards Paid by Over Time**

**2.7.1 Notice of Payment Over Time.** Any casino licensee or group of casino licensees which offers an award paid over time shall comply with the display and sign requirements or internal control requirements, except that the display or sign need not include the cash equivalent value. In addition, clear and conspicuous notice of the following shall be provided to all players:

- a) That the displayed jackpot will be paid over time and not in one lump sum; and
- b) The period of time covering the payments.

## **2.8 Progressive Percentage Requirements and Odds**

**2.8.1 General Statement.** The rules within this section shall not supersede the Percentage and Odds rules outlined in the GLI-11 Gaming Devices in Casinos.

**2.8.2 Linked Gaming Device Odds.** Each device on the link shall have the same probability of winning the progressive, adjusted for the denomination played. For instance, the probability shall remain the same for multiple denomination games based, on the monetary value of the wager (e.g.1. A two (2) coin \$1 game has the probability of one (1) in 10,000 and a two (2) coin, \$2 game on the same link has the probability one (1) in 5,000.)

## 2.9 Independent Control Program Verification

**2.9.1** The controller software and any associated critical software used within the progressive system shall have the ability to allow for an independent integrity check of the device's software from an outside source and is required for all control programs that may affect the integrity of the game. This must be accomplished by being authenticated by a third-party device, which may be embedded within the game software (see NOTE below), by having an interface port for a third-party device to authenticate the media, or by allowing for removal of the media such that it can be verified externally. This integrity check will provide a means for field verification of the software to identify and validate the program. The test laboratory, prior to device approval, shall approve the integrity check method.

*NOTE: If the authentication program is continued within the control program, the manufacturer must receive written approval from the test laboratory prior to submission.*

# CHAPTER 3

## 3.0 *MULTIPLE SITE PROGRESSIVE REQUIREMENTS*

### 3.1 Introduction

**3.1.1 General Statement.** In addition to Chapters 1, and 2 of this document, this Section shall set forth the technical requirements for “Multi-Site Progressive Gaming Devices.” Multi-site progressive gaming devices are interconnected in more than one casino. The purpose of a Multi-site progressive system is to offer a common progressive jackpot (system jackpot) at all participating locations.

**3.1.2 Phases of Approval.** The approval of a "Multi-Site" system shall be certified in two phases:

- a) Initial laboratory testing, where the laboratory will test the integrity of the gaming device(s) in conjunction with a progressive system in the laboratory setting with the equipment assembled; and
- b) On-site certification where the progressive communications and set up are tested on the casino floor prior to implementation.

### 3.2 Multi-Site Central Computer Requirements

**3.2.1 General Statement.** Any casino licensee shall be prepared to participate and submit a Multi-site progressive slot system for approval a system of accounting and internal controls to the regulator, specifying the manner in which participating casino licensees will satisfy the requirements of the GLI-11 Gaming Devices in Casinos concerning the operation of gaming devices.

---

**3.2.2 Location of Central Monitoring System.** The office containing the central computer shall be equipped with a surveillance system that must meet the Internal Control procedures.

**3.2.3 Method of Communication for Multi-Site Gaming Devices.** It is recommended that the method of communication be a non-shared, dedicated line or equivalent. Dial-tone systems may be used as long as devices at the local site would not be able to be disabled from another outside line or manipulated by any other means. When the method of communication is a shared line, appropriate encryption and security must be in place to avoid corruption or compromise of data.

**3.2.4 Data Collection Requirement.** Multi-site systems shall ensure that security information and the amounts wagered information is communicated, at least once every 60 seconds for terrestrial lines (dedicated phone lines), and a reasonable amount of time for Radio Frequency, from each participating device to the central computer system.

**3.2.5 Multi-Site Encryption Method.** All Multi-Site property systems shall utilize an encryption method that has been approved by the Laboratory. Such encryption method shall include the use of different encryption “keys” or “seeds” so that encryption can be changed in a real-time fashion.

**3.2.6 Multi-Site Monitoring and Other On-Line System Requirements.** The on-line provision is to be able to monitor the meter readings and error events of each device regardless of any outside monitoring system. Therefore, the on-line security system requirement when gaming devices are in play is not altered in any way.

**3.2.7 Central Monitoring System Power Supply.** The central computer site shall be equipped with non-interruptible power supply that will allow the central computer to conduct an orderly shut down if the power is lost. Should the system utilize hard disk peripherals, the central computer shall be capable of on-line data redundancy.

**3.2.8 Communication Failure.** A gaming device shall immediately disable itself and suspend play if communication is lost to the local collection unit hub. The gaming device may resume

---

play only when communication to the local hub is restored. If the communication is lost between the local hub and the central computer, the gaming device may continue to play provided the progressive information from all games connected to the local hub is buffered. Once the local hub's buffer is full, the hub must disable games that are connected to it. Upon reestablishing communication with the central computer, the hub must accurately relay all buffered progressive information to the central system and the system wide totals are to be updated; not withstanding this rule if the communication is lost for more than 24 hours and the site must be shut down.

**3.2.9 Central Monitoring System Required Reports.** Any "Multi-Site" system shall supply, as requested, the following reports:

- a) **PROGRESSIVE SUMMARY:** A report indicating the amount of, and basis for, the current jackpot amount (the amount currently in play);
- b) **AGGREGATE REPORT:** A report indicating the balancing of the system with regard to system wide totals;
- c) **RESERVED;** and
- d) **PAYOFF REPORT:** A report that will clearly demonstrate the method of arriving at the payoff amount. This will include the credits contributed beginning at the polling cycle, immediately following the previous jackpot and will include all credits contributed up to and including the polling cycle which includes the jackpot signal.

*NOTE: Credits contributed to the system after the jackpot occurs in real-time, but during the same polling cycle, shall be deemed to have been contributed to the progressive amount prior to the jackpot. Credits contributed to the system subsequent to the jackpot message being received, as well as credits contributed to the system before the jackpot message is received by the system, but registered after the jackpot message is received at the system, will be deemed to have been contributed to the progressive amount of the next jackpot, if applicable.*

**3.2.10 Multi-Site System Meter Readings.** All meter reading data shall be obtained in real time in an on-line, automated fashion. When requested to do so, the system shall return meter

readings on all gaming devices attached to the system. The meter readings shall be identical to the meter information retained in the gaming device(s) accounting meters. Manual reading of meter values may not be substituted for these requirements. The meter, in either credit or monetary value, required is as follows:

- a) Credits Bet shall be defined as all amounts wagered.

NOTE: The purpose of the above credits bet meter reading is to verify and compare the progressive amount(s) in conjunction with the rate of progression.

**3.2.11 Multi-Site System Door Monitoring.** The Multi-Site Progressive system shall have the ability to monitor entry into the front door of the gaming device and report it to the central system IMMEDIATELY.

**3.2.12 Jackpot Win During Poll Cycle.** If a jackpot is recognized in the middle of a System-Wide Poll Cycle, the overhead display may contain a value less than the aggregated jackpot amount calculated by the central system. The credit values from the remaining portion of the poll cycle will be received by the central system but not the local site, in which case the jackpot amount paid will always be the higher of the two reporting amounts.

### **3.3 Multi-Site Progressive Procedures**

**3.3.1 General Statement.** Procedures shall be developed, implemented and documented for the following. These reports shall adequately document the procedures, be generated and retained:

- a) Reconciliation of meters and jackpot payouts;
- b) Collection drop of gaming device funds;
- c) Jackpot verification and payment procedures that include a Commission Agent be present for independent prize verification and payment.



- d) System maintenance;
- e) System accuracy;
- f) System security;
- g) System failures including:
  - i. The local hub;
  - ii. The central site;
  - iii. Failures in communications; and
  - iv. Backup and recovery.

### **3.4 Multi-Site Jackpots**

**3.4.1 Multiple Jackpots During the Same Polling Cycle.** When multiple jackpots occur, where there is no definitive way of knowing which jackpot occurred first, they will be deemed to have occurred simultaneously; and therefore, the gaming regulator shall adopt procedures for payment of such jackpot occurrences. In addition, if there is a communication failure as described in [Communication Failure](#), section 3.2.8, a winning player wagering at a non-updated site may also be eligible to a jackpot amount.