COMPARISON OF GLI-12 V3.0 DRAFT RELEASE TO GLI-12 V2.1
STANDARDS FOR PROGRESSIVE JACKPOTS
DRAFT RELEASE DATE SEPTEMBER 12, 2025

GLI-12 V3.0	GLI-12 V2.1	
Chapter 1: Introduction to Progressive Jackpots		
1.4 Interpretation of this Document		
1.4.1 General Statement	**GLI-12 v2.1**	
This technical standard applies to monetary awards or "payoffs" which increase according to the credits wagered in the game, also known as progressive jackpots. The terms "progressive jackpot" and "jackpot" are used interchangeably throughout this document. Monetary awards or "payoffs" which increase through other methods will be reviewed on a case-by-case basis. **NOTE:** This technical standard does not apply to awards of restrictive incentive credits, bonuses/features which offer awards which may increase over a single game cycle or, static awards whose probabilities of triggering change as the game is played, persistence game features which increase as the game is played (e.g., number of free games, multipliers, several achievements towards the activation of a bonus/feature or the issuance of an award, etc.) or "levels" of static awards available to be won based on player experience and/or achievements.	**1.5.1**	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.
1.4.2 Jackpot Implementations		
There are three main types of progressive jackpot implementations: a) A standalone jackpot is a progressive jackpot which is integrated with or linked to a single game theme on a single instance of Gaming Equipment contributing to its own payoff. b) A shared jackpot is a progressive jackpot which is integrated with or linked to multiple game themes on a single instance of Gaming Equipment contributing to a common payoff. c) A linked jackpot is a progressive jackpot which is linked to one or more game themes on multiple instances of Gaming Equipment contributing to a common payoff.		

d) A multi-site jackpot is a linked jackpot which is interconnected between multiple Gaming Venues through a Multi-Site Jackpot System. **NOTE:** When referenced within this document, the term "Gaming Equipment" refers to any gaming device, electronic table game, live gaming table, or other gaming component that is intended to award or contribute to a jackpot. **NOTE:** Where allowed by the regulatory body, a multi-site jackpot may also include cases where a jackpot is interconnected between a Multi-Site Jackpot System and an Interactive Gaming System.		
Chapter 2: Progressive Jackpot Requirements		
2.1 Introduction		
2.1.1 General Statement	**GLI-12 v2.1**	
The requirements of this chapter, unless otherwise indicated, apply to all forms of progressive jackpots and their components, which may be internal or external to the Gaming Equipment.	**2.1.1**	This chapter shall govern the requirements for all progressive components submitted for review.
	2.6.1	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.
2.2 Progressive Jackpot Displays and Information		
2.2.1 Progressive Jackpot Display	**GLI-12 v2.1**	

The Jackpot Display may be a mechanical, electrical, or electronic device, including the video display incorporated into the Gaming Equipment. For External Jackpot Displays the requirements for "External Jackpot Displays" shall also be met.	**2.4.1**	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.
2.2.2 Alternating Displays	**GLI-12 v2.1**	
Where multiple items of information are displayed on a Jackpot Display, it is acceptable to have this information displayed in an alternating fashion provided that the rate at which information alternates permits a player a reasonable opportunity to read each item.	**2.4.5**	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.
2.2.3 Jackpot Information	**GLI-12 v2.1**	
Descriptions of progressive jackpots, including any written, graphical, and auditory information, shall be accessible by a player without the need for funds deposited or commitment of a wager, including all qualifying wagers, possible winning outcomes, and combinations, as applicable.	**2.4.2**	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.'
2.2.4 Jackpot Payoffs	**GLI-12 v2.1**	
The Jackpot Display is used to indicate the current progressive jackpot award amount or "payoff" for each jackpot in credits or the local currency format to all players who are playing a game which may potentially trigger the jackpot. If the progressive jackpot offers a "mystery payoff" where the actual payoff amount is not displayed to the player, the "Mystery Payoff Features" shall apply	**2.4.2**	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.'
a) As games are played, the current payoff for each progressive jackpot shall be updated on the jackpot display at least every thirty seconds from the	**2.4.3**	The use of odometer and other "paced" updating displays are allowed.

incrementing game event to reasonably reflect the actual size of the payoff. The use of odometer and other "paced" updating displays are allowed.		
b) Where the jackpot display has a maximum display limitation (i.e., it could only display a certain number of digits), a maximum payoff limit or "ceiling" shall be required and shall meet the requirements for "Maximum Payoff Limits".	**2.4.4**	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.
2.2.5 Mystery Payoff Features	**GLI-12 v2.1**	
Instead of displaying the current payoff, a Progressive Jackpot Display may show a minimum value or "mystery payoff" provided that: a) Under no circumstances is the actual payoff less than the mystery payoff displayed to the player; b) It is made clear to the player that the displayed value is a mystery payoff; and c) The actual payoff is displayed at the time of the progressive jackpot being won.		
2.2.6 Maximum Payoff Limits	**GLI-12 v2.1**	
If a maximum payoff limit or "ceiling" is supported by the progressive jackpot, once the payoff reaches its ceiling, it shall remain at that value until awarded to a player. a) Where required by the regulatory body, all additional contributions after reaching the ceiling amount shall be credited to an overflow or diversion pool. b) Where disclosed to the player in the artwork, the displayed ceiling amount shall be accurate.	**2.4.4**	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.
	2.5.15	This limit on the jackpot of a progressive gaming device shall be posted on or near the device or devices to which the limit applies.
	2.5.16	Progressive controller may have the ability to set time limits that limit the time the progressive is available.
2.3 Jackpot Design and Operation		
2.3.1 Jackpot Games	**GLI-12 v2.1**	
Electronic Games offering progressive jackpots comply with the applicable jurisdictional requirements set out for games in the "Game Requirements chapter of the GLI-11 Standards for Gaming Devices and/or other applicable technical requirements observed by the regulatory body.	**2.5.1**	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.
2.3.2 Jackpot Randomization	**GLI-12 v2.1**	
A random number generator (RNG) used by the progressive jackpot shall comply with the applicable jurisdictional requirements set out for RNGs in the "Random Number Generator (RNG) Requirements" chapter of the GLI-11 Standards for Gaming Devices and/or other applicable technical requirements observed by the regulatory body. Additionally, the use of an RNG shall comply with the following rules: a) Where more than one RNG is used within the progressive jackpot, each RNG shall be separately evaluated; and b) Where each instance of an RNG is identical, but involves a different implementation within the progressive jackpot, each implementation shall be separately evaluated.		
2.3.3 Jackpot RTP Calculation	**GLI-12 v2.1**	
For progressive jackpots used in the return to player (RTP) calculations for a house-banked game, the minimum percentage requirement, as specified by the regulatory body, shall be met using the lowest available parameters for the progressive jackpot during the expected lifetime of the game. **NOTE:** In absence of any minimum percentage requirement observed by the regulatory body, the seventy-five percent (75%) minimum percentage requirement from the *GLI-11 Standards for Gaming Devices* shall be applied. Also, at the discretion of the regulatory body, the independent test laboratory can apply an alternative approach to RTP calculations.	**2.5.12**	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.
	2.8.1	The rules within this section shall not supersede the Percentage and Odds rules outlined in the GLI-11 Gaming Devices in Casinos.
2.3.4 Jackpot Odds	**GLI-12 v2.1**	
The odds of achieving any explicitly advertised progressive jackpot that is based solely upon chance shall occur at least once in one hundred million (100,000,000) games, unless the game artwork prominently displays the	**2.5.12**	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,

actual odds of that jackpot to the player. This odds rule shall apply to all wager categories that can win the advertised progressive jackpot. In addition, the following odds requirements shall be met for each jackpot, unless otherwise clearly disclosed to the player:		see also "Percentage Requirements" in GLI-11 Gaming Devices in Casinos.
The odds of winning each jackpot shall not decrease as the player increases their wager within the same paytable.	**2.8.1**	The rules within this section shall not supersede the Percentage and Odds rules outlined in the GLI-11 Gaming Devices in Casinos.
Each game shall have equivalent odds of winning each jackpot, adjusted for the denomination played. For instance, the odds shall remain equivalent for multi-denomination games based on the player's monetary wager. A tolerance is acceptable provided that for each total monetary wager, the magnitude of the difference between the RTP and median RTP of all monetary wagers shall be less than one percent (1%) of the median RTP. **NOTE**: The magnitude is calculated by obtaining all associated RTPs for each level for each wager, determining the median RTP, identifying the maximum difference between any RTP and the median RTP, and dividing the maximum difference by the median RTP.	**2.8.2**	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.)
2.3.5 Partial Progressive Jackpot Redirection	**GLI-12 v2.1**	
A Jackpot Diversion Scheme may be used, where a portion of the progressive jackpot contributions are diverted to another pool or "diversion pool" to be used as needed by the design of the jackpot (e.g., the diversion pool may be added to the reset value of the next progressive jackpot or be used to pay simultaneous wins of a jackpot). a) A Jackpot Diversion Scheme shall be able to be implemented such that it does not have a mathematical expectation of infinity. b) Diversion pools shall not be truncated. Diverted contributions once that diversion pool has reached its upper limit shall be accounted for. c) Where a diversion pool is used to fund the reset value of a progressive jackpot, the reset value shall assume an empty diversion pool for the purposes of RTP calculations.		
2.3.6 Mystery-Triggered Jackpots	**GLI-12 v2.1**	

For mystery-triggered jackpots which use a hidden trigger amount to determine the when the progressive jackpot is awarded: a) The hidden trigger amount shall be set randomly upon each jackpot reset and shall remain unknown at all times; and b) It shall not be possible to gain access to or knowledge of the hidden trigger amount at any time.		
2.3.7 Jackpot Wins	**GLI-12 v2.1**	
Progressive jackpots may be awarded based on obtaining winning symbols, or by other criteria, such as mystery-triggered jackpots, bad-beat jackpots, etc. When a progressive jackpot is triggered: a) A winning player shall be notified of a progressive jackpot win and its payoff: i. By the end of the game in play if internal to the game; or ii. Within thirty seconds if the jackpot is external to the game. b) Contributions toward the progressive jackpot shall not be lost. Jackpot payoffs when awarded shall not be rounded down or truncated unless carried over to the reset amount. c) For Electronic Games, the jackpot payoff may be added to the player's credit meter if either: i. The credit meter is maintained in the local currency amount format; ii. The jackpot payoff is incremented in whole credit amounts; or iii. The jackpot payoff in local currency amount format is converted properly to credits upon transfer to the credit meter in a manner that does not mislead the player. d) Where the jackpot payoff is not automatically added to the player's credit meter in an Electronic Game (e.g., awards exceeding any jurisdictional limit, including a taxation limit), the game shall cease play, display an appropriate message, and require intervention by appropriate personnel to resolve player payment. e) The jackpot payoff shall update to the reset value and continue normal operations.	**2.4.3**	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.
	2.6.3(a)	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; *NOTE: A light or alarm shall alert the player upon winning a mystery jackpot, to prevent a player from abandoning an unclaimed award.*
	2.5.11	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;

NOTE: A progressive jackpot may be disabled or decommissioned concurrent with the winning of the jackpot if the game was configured to automatically disable or establish in its place an award which does not increment.		
2.3.8 Swapping Jackpot Level	**GLI-12 v2.1**	
For games offering multiple jackpot levels, when a single winning combination may be evaluated as more than one of the available paytable combinations, unless otherwise explicitly defined in the game rules, the player shall always be paid the highest possible value based on all combinations to which the outcome may correlate (e.g., if "Jackpot A" is awarded for five aces on a payline and "Jackpot B" is awarded for four aces on a payline, and "Jackpot B" has a larger award than "Jackpot A", the player shall be awarded the payoff for "Jackpot B" if the player obtains an outcome of five aces on a payline).	**2.6.2**	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 paytable 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.
2.3.9 Jackpot Triggers for Multiple Players	**GLI-12 v2.1**	
The software controlling the jackpot shall have a means to accurately identify and record the order of triggers when multiple players trigger a jackpot at nearly the same time, such that the full amount of the displayed payoff can be awarded to winning player who triggered first. When this is not possible or if it's possible that multiple players trigger at the exact same time (e.g., in a multi-player game), one of the following shall occur: a) The full amount of the displayed payoff shall be awarded to each winning player; or b) Accurate information on how the payoff is distributed shall be disclosed to the player. **NOTE:** If not displayed directly by the artwork, it is the responsibility of the operator to provide this information to players via stickers, decals, external signage, forms, or brochures available at the Gaming Venue where required by the regulatory body.		
2.4 Jackpot Management		

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2.4.1 Jackpot Parameters	**GLI-12 v2.1**	
The method by which parameter values for each progressive jackpot are entered, viewed, and modified shall be via an authorized access method to ensure that only authorized employees are allowed access. The following parameters for each jackpot offered shall be maintained and shall be displayed or able to be calculated on demand, as applicable:	**2.5.3**	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): *NOTE: Any change to the jackpot amount must conform to the local Internal Control procedures.*
	2.5.10	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) Unique progressive jackpot ID, if jackpot is not tied to a particular game theme, paytable, or Gaming Equipment; b) For multi-games, the participating game theme/paytable ID(s), unless all are participating;	**2.5.3(k)**	k) The participating gaming devices.
c) For linked jackpots: i. The participating Gaming Equipment ID(s); ii. Theoretical RTP percentage for the jackpot; iii. Actual RTP percentage for the jackpot;	**2.5.3(c)**	c) HITS: number of times this progressive was won;
	2.5.10(a)	a) The number of progressive jackpots won on each progressive level if the progressive display has more than one (1) winning amount;
d) Current value of the progressive jackpot (payoff);	**2.5.3(a)**	a) CURRENT VALUE: current prize amount;
e) Any other pools containing progressive jackpot contributions: i. Current value of amount exceeding ceiling, where required by the regulatory body (overflow); ii. Current value of the Jackpot Diversion Scheme (diversion pool);	**2.5.3(h)**	h) SECONDARY INCREMENT: percentage increment rate after limit is reached;
	2.5.3(b)	b) OVERFLOW: amount exceeding limit;
	2.5.3(i)	i) HIDDEN INCREMENT: percentage increment rate for the reserve pool
f) Reset value of the current progressive jackpot if different from startup value (reset value);	**2.5.3(j)**	j) RESET VALUE: the amount the progressive resets to after the progressive is won; and
g) Where such parameters are configurable after initial setup:		
i. Initial value of the progressive jackpot (startup value);	**2.5.3(e)**	e) BASE: starting value;
ii. Percentage increment rate (increment);	**2.5.3(g)**	g) INCREMENT: percentage increment rate;

	2.5.10(e)	e) The rate of progression for each level displayed;
iii. Progressive jackpot limit value (ceiling);	**2.5.10(c)**	c) The maximum amount of the progressive payout for each level displayed;
	2.5.3(f)	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);
iv. Percentage increment rate after ceiling is reached (secondary increment);	**2.5.3(h)**	h) SECONDARY INCREMENT: percentage increment rate after limit is reached;
v. Percentage increment rate for diversion pool (hidden increment);	**2.5.3(h)**	h) SECONDARY INCREMENT: percentage increment rate after limit is reached;
vi. Diversion pool limit value (diversion limit);	**2.5.10(c)**	c) The maximum amount of the progressive payout for each level displayed;
vii. The odds of triggering the progressive jackpot (odds);		
viii. Any parameters which indicate time periods the progressive jackpot is available for triggering (time limit); and		
ix. Any additional information needed to properly reconcile any configurable progressive jackpot.	**2.5.3(c)**	c) HITS: number of times this progressive was won;
	2.5.3(d)	d) WINS: total value of wins for this progressive or a history of the last 25 progressive hits;
	2.5.10(b)	b) The cumulative amounts paid on each progressive level if the progressive display has more than one (1) winning amount;
NOTE: It is expected that for non-configurable progressive parameters not displayed there will be documentation available to the operator indicating such static values.		
2.4.2 Changes to Parameters	**GLI-12 v2.1**	
The following requirements apply to modifying progressive jackpot parameter values once the current jackpot's payoff has already had player contributions to it and without requiring it to be decommissioned: a) For progressive jackpots with a configurable increment rate which affects the return to player (RTP) of the game(s), changes to the increment rate may not take effect until the current progressive jackpot is won;		

b) For progressive jackpots with a configurable ceiling which does not affect the RTP of the game(s), changes to the ceiling may only be to a value greater than the current payoff. Alternatively, changes to the ceiling may not take effect until the current progressive jackpot is won; c) Changes to the parameters shall not affect the probabilities of triggering the current progressive jackpot; d) For mystery-triggered jackpots which use a hidden trigger amount to determine the progressive jackpot win: i. The hidden trigger amount shall be reselected when modifying any parameters that could result in an immediate trigger due to the modification; and ii. The reselected amount shall be in the range of the current payoff to the ceiling and shall not result in a trigger without any contribution after the modification.		
2.4.3 Jackpot Transfers	**GLI-12 v2.1**	
There shall be a secure means for transferring or combining contributions from a decommissioned progressive jackpot (and any overflow or diversion pools specific to that progressive jackpot), correcting errors with a progressive jackpot, or any other reasons required by the regulatory body.	**2.5.14**	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.
2.4.4 Jackpot Disable	**GLI-12 v2.1**	
For cases where a progressive jackpot is disabled (e.g., attendant intervention, error condition, time limit has expired, etc.), the following requirements shall apply: a) An appropriate message shall be displayed to the affected players indicating that the progressive jackpot is not available; b) For house-banked games, if the minimum percentage requirement, as specified by the regulatory body is no longer met when the jackpot is not available, the affected games shall be disabled. c) It shall not be possible for the jackpot payoff to be incremented or won while in this state; and		

Upon resumption of the jackpot from the disabled state, it shall be possible to return the jackpot with the identical parameters as before the disable, including the payoff. The hidden trigger amount, if used to determine jackpot win for a mystery-triggered jackpot, may only be reselected if the reselected amount is in the range of the current payoff to the ceiling.		
2.5 Jackpot Controllers		
2.5.1 General Statement	**GLI-12 v2.1**	
The requirements of this section are intended to apply equally to Jackpot Controllers integrated within the Gaming Equipment (Internal Jackpot Controllers), external to the Gaming Equipment (External Jackpot Controllers) or a combination of the two. ***NOTE**: It is expected that Internal Jackpot Controllers installed on Electronic Games (e.g., within the program storage devices of a gaming device) meet their requirements for program storage devices, critical control programs, and critical non-volatile (NV) memory.*	**2.5.2**	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.
2.5.2 Monitoring of Game Play	**GLI-12 v2.1**	
The Jackpot Controller shall ensure the processing of progressive jackpot contributions is accurate. If the detection of unreasonable contributions is supported by the Jackpot Controller, such contributions shall be ignored. In addition, an appropriate error message shall be displayed to the affected players, the affected progressive jackpots shall be disabled, and the "Jackpot Disable" requirements shall be met. This error condition shall be communicated to a Gaming System when such a compatible system and protocol are supported.	**2.5.8**	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.
2.5.3 Jackpot Controller Meters	**GLI-12 v2.1**	
Jackpot Controllers shall incorporate the following meters which shall be labeled so they can be clearly understood in accordance with their function:		

a) The Jackpot Controller shall have specific electronic accounting meters that accumulate the total value of jackpot payoffs paid for each progressive jackpot. These accounting meters shall be at least ten (10) digits in length and shall automatically roll over to zero once its maximum logical value has been reached. Eight (8) digits shall be used for the dollar amount and two (2) digits used for the cents amount.	**2.5.3**	d) WINS: total value of wins for this progressive or a history of the last 25 progressive hits;
b) The Jackpot Controller shall have specific electronic occurrence meters that accumulate the number of times each progressive jackpot is awarded. These occurrence meters shall be at least eight (8) digits in length, however, are not required to automatically roll over.	**2.5.3**	c) HITS: number of times this progressive was won;
2.5.4 Internal Linked Jackpot Controllers	**GLI-12 v2.1**	
For linked jackpots, where the Jackpot Controller is internal to the Gaming Equipment, only one instance of Gaming Equipment on the link at a time shall function as the Primary Jackpot Controller. If the instance of Gaming Equipment configured as the Primary Jackpot Controller becomes inoperative, the affected progressive jackpots shall be disabled, and the "Jackpot Disable" requirements shall be met unless another instance of the Gaming Equipment has been established as the Primary Jackpot Controller. This error condition shall be communicated to a Gaming System when such a compatible system and protocol are supported.	**2.5.5**	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) 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.).
2.5.5 Communication Loss or Malfunction	**GLI-12 v2.1**	
If communication is lost between the Gaming Equipment and any Jackpot Controller external to the Gaming Equipment, or a malfunction occurs with that Jackpot Controller, the affected progressive jackpots on that Gaming	**2.5.13**	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

Equipment shall be disabled, and the "Jackpot Disable" requirements shall be met. This error condition shall be communicated to a Gaming System when such a compatible system and protocol are supported.		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:
Chapter 3: External Jackpot Component Requirements		
3.1 Introduction		
3.1.1 General Statement	**GLI-12 v2.1**	
This chapter sets forth additional technical requirements for progressive jackpot components external to the Gaming Equipment, such as External Jackpot Displays and External Jackpot Controllers, including, Multi-Site Jackpot Systems, and Live Game Jackpot Systems used with live table games as applicable.		
3.2 Jackpot Hardware Requirements		
3.2.1 Hardware Installation	**GLI-12 v2.1**	
All proprietary jackpot hardware shall meet the applicable requirements within this section. Unless otherwise directed by the regulatory body, these requirements do not apply to jackpot hardware that solely utilizes unaltered commercial off-the-shelf (COTS) components, such as a PC or a display/monitor. For jackpot hardware that utilize modified off-the-shelf (MOTS) components, these requirements will apply only to the modifications made to the components.		
3.2.2 Player Safety and Environmental Effects on Integrity	**GLI-12 v2.1**	
The following requirements only apply to any jackpot hardware for external jackpot components accessible by a player (e.g., External Jackpot Displays):	**2.5.9**	Each progressive controller used with a 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.

a) Electrical and mechanical parts and design principles of the jackpot hardware shall not subject a player to any physical hazards. b) The jackpot hardware shall be impervious to influences from Electro-Static Discharge (ESD). Protection against ESD requires that the jackpot hardware be earthed in such a way that static discharge energy shall not permanently damage or permanently impact the normal operation of the electronics or other components within the jackpot hardware. An external jackpot component may exhibit temporary disruption when subjected to a significant external ESD with a severity level of 8kV air discharge and 4kV contact discharge. The external jackpot component shall exhibit a capacity to recover and complete any interrupted function without loss or corruption of any locally stored control information or critical data following any temporary disruption.	**2.2.1**	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.
	2.3.1	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.
3.2.3 Printed Circuit Board (PCB) Identification Requirements	**GLI-12 v2.1**	
Each PCB used in the jackpot hardware shall be clearly identifiable by an alphanumeric identification and, when applicable, a revision number. If track cuts, patch wires, or other circuit alterations are introduced to the PCB, then a new revision number shall be assigned.		
3.2.4 Switched and Jumpers	**GLI-12 v2.1**	
If the jackpot hardware contains switches and/or jumpers, they shall be fully documented for evaluation by the independent test laboratory.		
3.2.5 Wired Communication Ports	**GLI-12 v2.1**	
Wired communication ports on the jackpot hardware shall be clearly labeled.		
3.2.6 Touch Screen Displays	**GLI-12 v2.1**	
Touch screen displays, if in use by the jackpot hardware (e.g., for Live Game Jackpot Systems), shall be accurate, and if required by their design, shall support a calibration method to maintain that accuracy; alternatively, the display hardware may support automatic self-calibration.		
3.2.7 Installation Requirements	**GLI-12 v2.1**	
The jackpot hardware shall be installed in a secure area of the Gaming Equipment or in another secure location allowing only authorized access.		
3.3 Jackpot Software Requirements		
3.3.1 Software Identification	**GLI-12 v2.1**	
Jackpot software shall contain sufficient information to identify the software and its version.		

3.3.2 Independent Software Verification	**GLI-12 v2.1**	
It shall be possible to perform an independent integrity check of all jackpot software that affects the integrity of jackpot operations from an outside source. This verification shall be accomplished by being authenticated by a third-party application run from the jackpot component, by allowing a third-party device to authenticate the media, or by allowing for removal of the media such that it can be verified externally. The independent test laboratory, prior to software approval, shall evaluate the integrity check method.	**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.
3.4 Jackpot Interface Elements		
3.4.1 Interface Elements	**GLI-12 v2.1**	
Where Gaming Equipment uses interface elements to communicate with the External Jackpot Component, the interface elements shall meet the applicable “Interface Element Requirements” within the GLI-13 Standards for Monitoring and Control Systems and Validation Systems and other applicable jurisdictional requirements observed by the regulatory body.		
3.5 External Jackpot Displays		
3.5.1 Interface Elements	**GLI-12 v2.1**	
In addition to the requirements for “Jackpot Displays” of the last chapter, as well as the hardware and software requirements within this chapter, the requirements of this section apply to External Jackpot Displays.		
3.5.2 Display Resolution	**GLI-12 v2.1**	

If an External Jackpot Display is equipped with a configurable display/monitor, the resolution of the configured External Jackpot Display shall: a) Be compatible with one or more of the resolutions supported by the software in a manner that ensures the intended function of the display; and b) Not clip or fail to display any required progressive jackpot information.		
3.5.3 Display Error	**GLI-12 v2.1**	
If a malfunction or a communication loss with the External Jackpot Display has been identified, an error shall be indicated to the affected players and/or the appropriate personnel. If a payoff, which may be incorrect, is still displayed, the malfunction or communication loss shall clearly be indicated on the External Jackpot Display.	**2.5.13**	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:
3.5 External Jackpot Controllers		
3.6.1 General Statement	**GLI-12 v2.1**	
In addition to the requirements for "Jackpot Controllers" of the last chapter, as well as the hardware and software requirements within this chapter, the requirements of this section apply to External Jackpot Controllers.		
3.6.2 Software Validation	**GLI-12 v2.1**	
If an External Jackpot Display is equipped with a configurable display/monitor, the resolution of the configured External Jackpot Display shall: a) Be compatible with one or more of the resolutions supported by the software in a manner that ensures the intended function of the display; and b) Not clip or fail to display any required progressive jackpot information.	**2.5.6(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;
3.6.3 Gaming Equipment Identification	**GLI-12 v2.1**	
The External Jackpot Controller shall uniquely identify each instance of Gaming Equipment connected to the controller. This unique identification number will be used by External Jackpot Controller to track all mandatory information related to the associated Gaming Equipment with regards to the		

progressive jackpot. Additionally, the External Jackpot Controller shall not allow for duplicate entries of this identification number.		
3.6.4 Controller Communications	**GLI-12 v2.1**	
The External Jackpot Controller shall utilize a robust bidirectional communication protocol which ensures that erroneous data or signals do not adversely affect the integrity or operation of the progressive jackpot.	**2.5.7**	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.
3.6.5 Integrity of Protocol Communications	**GLI-12 v2.1**	
The External Jackpot Controller shall accurately function as indicated by the communications protocol that is implemented, and as required by the regulatory body. In addition, the External Jackpot Controller shall be designed or programmed such that it: a) May only communicate with authorized Gaming Equipment and jackpot components through secure communications; b) Sends the jackpot payoff to the game for metering purposes when a jackpot is triggered; and c) Constantly updates the Jackpot Display(s) as game play is continued.	**2.5.7**	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.
3.6.6 Controller Error Conditions	**GLI-12 v2.1**	
When one of the following External Jackpot Controller errors occur, an appropriate error message shall be displayed to the affected players, the affected progressive jackpots shall be disabled, and the "Jackpot Disable" requirements shall be met. The error condition shall be communicated to a Gaming System when such a compatible system and protocol are supported: a) Loss of communications with all participating Gaming Equipment; b) Program error or authentication mismatch; c) Critical NV memory error, which shall also cause any external communication to cease; d) Progressive jackpot configuration lost or not set;	**2.5.13**	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)

e) Unreasonable contribution detected, where such detection is supported; and f) Controller meters do not reconcile against Gaming Equipment meters, where reconciliation between the meter sets is supported.		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; b) 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 c) If the game meters are validated against the controller's meters (via communications between the game board and controller) and they do not reconcile.
3.6.7 Interruption and Recovery	**GLI-12 v2.1**	
After a program interruption, the External Jackpot Controller shall be able to recover to the state it was in immediately prior to the interruption occurring once communications with all components necessary for progressive jackpot operation have been established and similarly authenticated. These communications shall not begin until the program resumption routine, including any self-test, is completed successfully.	**2.5.4**	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.
	2.5.6	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; c) The integrity of all critical memory shall be checked.
	2.5.6(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;
3.6.8 Information to be Maintained	**GLI-12 v2.1**	
The External Jackpot Controller shall be capable of maintaining and backing up the following information for each progressive jackpot offered, unless properly communicated to a separate external Gaming System, who will address these responsibilities, as applicable:		

a) Unique progressive jackpot ID; b) The date and time the progressive jackpot was made available; c) The "Jackpot Parameters" specified in this document; d) For each progressive jackpot awarded: i. Winning Gaming Equipment ID; ii. For multi-games, winning game theme/paytable ID; iii. For multi-site jackpots, Gaming Venue Name/Site Identifier of progressive jackpot trigger; iv. The date and time of progressive jackpot trigger; v. Progressive jackpot hit and payoff amount; vi. Identification of user(s) who processed and/or confirmed the jackpot win; e) The current status of the progressive jackpot (active, disabled, decommissioned, etc.); f) Any change to the progressive jackpot's status or parameters, including: i. The date and time of the change; ii. Identification of user(s) who performed and/or authorized the change; iii. Reason/description of the change, including status or parameter changed; iv. Status or parameter value before change; v. Status or parameter value after change; and g) The date and time the progressive jackpot was or is scheduled to be decommissioned (blank until known).		
3.6.9 Jackpot Balancing Reports	**GLI-12 v2.1**	
The External Jackpot Controller shall be capable of generating the information needed to compile jackpot balancing reports for each progressive jackpot it controls, unless properly communicated to a separate Gaming System, who will address these responsibilities. At a minimum, that report shall provide balancing of the changes of the jackpot amounts, including jackpot payoffs won, for all participating games versus current jackpot amount(s), plus jackpot payoffs. In addition, the report shall account for, and not be made inaccurate by, unusual events such as those related to the "Jackpot Management" or "Controller Error Conditions".		

<table>
<tr><th colspan="2">Chapter 4: Multi-Site Jackpot System Requirements</th><th></th></tr>
<tr><td colspan="3">4.1 Introduction</td></tr>
<tr><td>4.1.1 General Statement</td><td colspan="2">GLI-12 v2.1</td></tr>
<tr><td rowspan="3">In addition to other requirements in this document for External Jackpot Controllers, the requirements of this chapter apply to Multi-Site Jackpot Systems. The purpose of a Multi-Site Jackpot System is to offer a common progressive jackpot (system jackpot) at all participating Gaming Venues.
a) The independent test laboratory will test and certify the components of the Multi-Site Jackpot System in accordance with the chapters of this technical standard within a controlled test environment, as applicable. Any of these requirements which necessitate additional operational procedures in place to meet the intent of the requirement shall be documented within the evaluation report and used to supplement the scope of the operational audit.
b) The integrity and accuracy of the operation of a Multi-Site Jackpot System is highly dependent upon operational procedures, configurations, and the production environment's network infrastructure. In addition to the testing and certification of Multi-Site Jackpot System components, a regulatory body may elect to require the following operational audits and assessments be conducted on a periodic basis:
i. An internal controls audit, against the applicable controls identified in the regulatory body's Minimum Internal Control Standards (MICS); and/or
ii. A technical security assessment, against the applicable controls and tests identified in the GLI Gaming Security Framework (GLI-GSF), and/or any other controls and tests identified by the regulatory body.</td><td>3.1.1</td><td>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.</td></tr>
<tr><td>3.1.2</td><td>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.</td></tr>
<tr><td></td><td></td></tr>
<tr><td colspan="3">4.2 Components of a Multi-Site Jackpot System</td></tr>
<tr><td>4.2.1 Multi-Site Jackpot System Controllers</td><td colspan="2">GLI-12 v2.1</td></tr>
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The Multi-Site Jackpot System typically contains the following controllers. The Multi-Site Jackpot System as a whole and all communication between its controllers shall conform to the applicable technical requirements within this document: a) The Central Controller receives the contributions from the Local Controllers, increment the current progressive jackpot payoff, and communicates the payoff to the Local Controllers and, where directly connected to the Central Controller, the Jackpot Display(s), at each Gaming Venue. b) The Local Controllers for each Gaming Venue receive the contributions from the connected Gaming Equipment and communicate them to the Central Controller. Once the current progressive jackpot payoff has been received from the Central Controller, the Local Controllers updates the Jackpot Display(s), unless they are directly connected to the Central Controller. **NOTE:** Cases where the Gaming Equipment acts as a Local Controller (i.e. it connects directly to the Central Controller) are also acceptable.		
4.2.2 Local Controller Identification	**GLI-12 v2.1**	
The Multi-Site Jackpot System shall uniquely identify each Local Controller connected to the Central Controller. This unique identification number will be used by the Multi-Site Jackpot System to track all mandatory information related to the associated Local Controller. Additionally, the Multi-Site Jackpot System shall not allow for duplicate entries of this identification number.		
4.2.2 Time Synchronization	**GLI-12 v2.1**	
The time and dates of the Local Controllers shall be synchronized with the Central Controller.		
4.3 Multi-Site Communications		
4.3.1 Communications	**GLI-12 v2.1**	
The communication techniques used by the Multi-Site Jackpot System shall have proper error detection and recovery mechanisms, which are designed to prevent intrusion, interference, eavesdropping and tampering. Any alternative implementations will be reviewed on a case-by-case basis.	**3.2.4**	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.

a) All jackpot data transmitted between the Central Controller, Local Controllers, and Gaming Equipment shall employ a reasonable level of cryptography for the information being transmitted. b) The communication process used by the Multi-Site Jackpot System shall be: i. Robust and stable enough to secure each communication such that failure event(s) can be identified and logged for subsequent audit and reconciliation; and ii. Protected against the capture of authentication data transmitted during the authentication and against manipulation by unauthorized parties.	**3.2.3**	It is recommended that the method of communication be a non-shared, dedicated line or equivalent. Dial-tone systems may 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.
	3.2.8	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.
4.3.2 Periodic Communication	**GLI-12 v2.1**	
Multi-Site Jackpot Systems shall ensure that the following jackpot data is communicated at least once every sixty seconds between the Central Controller, Local Controllers, and Gaming Equipment: a) Contributions to the progressive jackpot; b) Progressive jackpot triggers, where the trigger occurs at the Central Controller; c) Changes to "Jackpot Parameters"; and d) Changes to the progressive jackpot's status (active, disabled, etc.).	**3.2.4**	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.
4.3.3 Multi-Site Jackpot Triggers	**GLI-12 v2.1**	

In addition to the "Jackpot Wins" section in this document, the following requirements apply when the multi-site jackpot is triggered: a) If the trigger occurs external to the Central Controller, the Central Controller shall be made aware of the trigger as soon as possible. Once the trigger is acknowledged by the Central Controller: i. A message shall be sent to the winning Local Controller containing the progressive jackpot win, its value, and the reset value; and ii. A message shall be sent to the other Local Controllers containing the reset value. b) If the trigger is recognized in the middle of a system-wide polling cycle, the Jackpot Display may contain a value less than the aggregated payoff amount calculated by the Central Controller. The values from the remaining portion of the polling cycle will be received by the Central Controller but not the Local Controller, in which case the payoff paid will always be the higher of the two reporting amounts. NOTE: Contributions to the system after the trigger occurs in real-time, but during the same polling cycle, shall be deemed to have been contributed to the payoff amount prior to the trigger. Contributions to the system after the trigger message being received, as well as contributions to the system before the trigger message is received by the system but registered after the trigger message is received at the system, will be deemed to have been contributed to the payoff amount of the next progressive jackpot, if applicable.	**3.2.12**	If a jackpot is recognized in the middle of a SystemWide 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.
	3.2.9	*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.*
4.3.4 Multi-Site Meter Readings	**GLI-12 v2.1**	
When requested to do so, the Central Controller shall receive readings of any meters used in the calculation of the progressive jackpot's rate of progression from all Local Controllers attached to the system in real-time in an automated fashion. The Central Controller's meter readings shall be identical to the Gaming Equipment connected to the Local Controller's meters.	**3.2.6**	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.
	3.2.10	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

NOTE: The purpose of this meter reading is to verify and compare the progressive jackpot amount(s) in conjunction with the rate of progression. Manual reading of meter values shall not be substituted for these requirements.		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.*
4.3.5 Multi-Site Communication Failure	**GLI-12 v2.1**	
If communication is lost between the Local Controller and the Central Controller, game play may continue under the following conditions: a) The jackpot data from the affected games connected to the Local Controller shall be buffered. b) Once the Local Controller's buffer is full, an appropriate error message shall be displayed to the affected players and the affected games shall be disabled. This error condition shall be communicated to a Gaming System when such a compatible system and protocol are supported. c) Once communication with the Central Controller is reestablished, the Local Controller shall accurately relay all buffered jackpot data to the Central Controller and the system-wide totals shall be updated.	**3.3.1**	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.
	3.2.8	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 GLI Standard #12 – Standards for Progressive Gaming Devices in Casinos Version 2.1 September 6, 2011 Chapter Three: Multiple Site Progressive Requirements Page 25 Copyright © 2011 Gaming Laboratories International, LLC All Rights

		Reserved. 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.
4.4 Reporting Requirements		
4.4.1 General Reporting Requirements	**GLI-12 v2.1**	
The Multi-Site Jackpot System shall be capable of generating the information needed to compile reports as required by the regulatory body, unless properly communicated to a separate Gaming System, who will address these responsibilities. In addition to providing a mechanism to export the reporting information for the purposes of data analysis and auditing/verification (e.g., CSV, XLS, PDF), the following requirements shall apply for required reports: a) The system shall be able to provide the reporting information on demand, on a daily basis, and for other intervals required by the regulatory body (e.g., month-to-date (MTD), year-to-date (YTD), life-to-date (LTD), etc.). b) Each required report shall contain: i. The multi-site jackpot provider's name (or other identifier), the title of report, the selected interval and the date/time the report was generated; ii. An indication of "No Activity" or similar message if no information appears for the period specified; and iii. Labeled fields which can be clearly understood in accordance with their function.		
4.4.2 Multi-Site Progressive Reports	**GLI-12 v2.1**	

The Multi-Site Jackpot System shall be able to provide the information needed to compile the following reports, unless properly communicated to a separate Gaming System, who will address these responsibilities: a) Summary Reports. These reports are to include, for each progressive jackpot offered, the amount of, and basis for, the current payoff (the amount currently in play); b) Aggregate Reports. These reports are to include the balancing of the system with regard to system-wide totals; c) Payoff Reports. These reports are to include, for each progressive jackpot offered, the method of arriving at the payoff amount previously paid, including the amounts contributed beginning at the polling cycle, immediately following the previous jackpot and will include all amounts contributed up to and including the polling cycle which includes the jackpot signal; and d) Liability Reports. These reports are to include, for each progressive jackpot offered, the total payoffs owed but unpaid on winning jackpots, the current payoff amount, any other pools containing progressive jackpot contributions, and the reset value.	**3.2.9**	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.
4.4 Reporting Requirements		
4.5.1 Internal Control Procedures	**GLI-12 v2.1**	
W The multi-site jackpot provider shall establish, maintain, implement, and comply with the following controls and procedures for multi-site jackpot operations: a) Where multi-site jackpot contributions are part of the return to player (RTP) calculations, ensuring the contributions are not assimilated into revenue; b) The collection drop of Gaming Equipment funds; c) Multi-site jackpot adjustments and transfers, as supported. d) Multi-site jackpot verification and payment procedures, including independent reconciliation and signoff;	**3.3.1**	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;

e) Payment when multiple multi-site jackpot triggers occur and there is no definitive way of knowing which trigger occurred first, unless it's handled automatically by the Multi-Site Jackpot System; f) Disbursement options for multi-site jackpot awards, including information for periodic payments; g) For multi-site jackpots with parameters which are configurable after initial setup, performing independent reconciliation of jackpot contributions and awards to ensure that all jackpot increments deducted: i. Have been paid to players as jackpot payoffs; ii. Are displayed as part of jackpot payoffs; or iii. Are held in separate accounts, which can be demonstrated to be paid to players as part of future jackpot payoffs; h) Multi-site jackpot decommissioning procedures, including procedures for distribution of contributions to another jackpot or return of pro rata shares to participating Gaming Venues; i) Procedures for the maintenance, security, and accuracy of the Multi-Site Jackpot System; and j) Procedures for handling Multi-Site Jackpot System failures within the Local Controllers and Central Controller, communications, and backup and recovery		g) System failures including: i. The local hub; ii. The central site; iii. Failures in communications; and iv. Backup and recovery.
4.5.2 Provider Reserves	**GLI-12 v2.1**	
The multi-site jackpot provider shall have processes in place for maintaining and protecting adequate cash reserves, as determined by the regulatory body, including operational funds such as those used to cover all multi-site jackpot provider liability if defined by the regulatory body.		