

(vii) Run test (patterns of occurrences shall not be recurrent);

(viii) Spectral test;

(ix) Serial correlation test potency and degree of serial correlation (outcomes shall be independent from the previous game); and

(x) Test on subsequences.

(c) *Unpredictability.*(1) It shall not be feasible to predict future outputs of an RNG, even if the algorithm and the past sequence of outputs are known.

(2) Unpredictability shall be ensured by reseeding or by continuously cycling the RNG, and by providing a sufficient number of RNG states for the applications supported.

(3) Re-seeding may be used where the re-seeding input is at least as statistically random as, and independent of, the output of the RNG being re-seeded.

(d) *Non-repeatability.* The RNG shall not be initialized to reproduce the same output stream that it has produced before, nor shall any two instances of an RNG produce the same stream as each other. This property shall be ensured by initial seeding that comes from:

(1) A source of “true” randomness, such as a hardware random noise generator; or

(2) A combination of timestamps, parameters unique to a Class II gaming system, previous RNG outputs, or other, similar method.

(e) *General requirements.* (1) Software that calls an RNG to derive game outcome events shall immediately use the output returned in accordance with the game rules.

(2) The use of multiple RNGs is permitted as long as they operate in accordance with this section.

(3) RNG outputs shall not be arbitrarily discarded or selected.

(4) Where a sequence of outputs is required, the whole of the sequence in the order generated shall be used in accordance with the game rules.

(5) The Class II gaming system shall neither adjust the RNG process or game outcomes based on the history of prizes obtained in previous games nor make any reflexive or secondary decision that affects the results shown to the player or game outcome. Nothing in this paragraph shall prohibit the use of entertaining displays.

(f) *Scaling algorithms and scaled numbers.* An RNG that provides output scaled to given ranges shall:

(1) Be independent and uniform over the range;

(2) Provide numbers scaled to the ranges required by game rules, and notwithstanding the requirements of paragraph (e)(3) of this section, may discard numbers that do not map uniformly onto the required range but shall use the first number in sequence that does map correctly to the range;

(3) Be capable of producing every possible outcome of a game according to its rules; and

(4) Use an unbiased algorithm. A scaling algorithm is considered to be unbiased if the measured bias is no greater than 1 in 100 million.

§ 547.15 What are the minimum technical standards for electronic data communications between system components?

This section provides minimum standards for electronic data communications with gaming equipment or components used with Class II gaming systems.

(a) *Sensitive data.* Communication of sensitive data shall be secure from eavesdropping, access, tampering, intrusion or alteration unauthorized by the tribal gaming regulatory authority. Sensitive data shall include, but not be limited to:

(1) RNG seeds and outcomes;

(2) Encryption keys, where the implementation chosen requires transmission of keys;

(3) PINs;

(4) Passwords;

(5) Financial instrument transactions;

(6) Transfers of funds;

(7) Player tracking information;

(8) Download Packages; and

(9) Any information that affects game outcome.

(b) *Wireless communications.* (1) Wireless access points shall not be accessible to the general public.

(2) Open or unsecured wireless communications are prohibited.

(3) Wireless communications shall be secured using a methodology that makes eavesdropping, access, tampering, intrusion or alteration impractical. By way of illustration, such

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methodologies include encryption, frequency hopping, and code division multiplex access (as in cell phone technology).

(c) Methodologies shall be used that will ensure the reliable transfer of data and provide a reasonable ability to detect and act upon any corruption of the data.

(d) Class II gaming systems shall record detectable, unauthorized access or intrusion attempts.

(e) Remote communications shall only be allowed if authorized by the tribal gaming regulatory authority. Class II gaming systems shall have the ability to enable or disable remote access, and the default state shall be set to disabled.

(f) Failure of data communications shall not affect the integrity of critical memory.

(g) The Class II gaming system shall log the establishment, loss, and re-establishment of data communications between sensitive Class II gaming system components.

§ 547.16 What are the minimum standards for game artwork, glass, and rules?

This section provides standards for the display of game artwork, the displays on belly or top glass, and the display and disclosure of game rules, whether in physical or electronic form.

(a) *Rules, instructions, and prize schedules, generally.* The following shall at all times be displayed or made readily available to the player upon request:

(1) Game name, rules, and options such as the purchase or wager amount stated clearly and unambiguously;

(2) Denomination;

(3) Instructions for play on, and use of, the player interface, including the functions of all buttons; and

(4) A prize schedule or other explanation, sufficient to allow a player to determine the correctness of all prizes awarded, including;

(i) The range and values obtainable for any variable prize;

(ii) Whether the value of a prize depends on the purchase or wager amount; and

(iii) The means of division of any pari-mutuel prizes; but

(iv) For bingo and games similar to bingo, the prize schedule or other explanation need not state that subsets of winning patterns are not awarded as additional prizes (*e.g.* five in a row does not also pay three in a row or four in a row), unless there are exceptions, which shall be clearly stated.

(b) *Disclaimers.* The Class II gaming system shall continually display:

(1) “Malfunctions void all prizes and plays” or equivalent; and

(2) “Actual Prizes Determined by Bingo [or other applicable Class II game] Play. Other Displays for Entertainment Only.” or equivalent.

§ 547.17 How does a tribal gaming regulatory authority apply for a variance from these standards?

(a) *Tribal Gaming Regulatory Authority approval.* (1) A tribal gaming regulatory authority may approve a variance from the requirements of this part if it has determined that the variance will achieve a level of security and integrity sufficient to accomplish the purpose of the standard it is to replace.

(2) For each enumerated standard for which the tribal gaming regulatory authority approves a variance, it shall submit to the Chairman within 30 days, a detailed report, which shall include the following:

(i) An explanation of how the variance achieves a level of security and integrity sufficient to accomplish the purpose of the standard it is to replace; and

(ii) The variance as granted and the record on which it is based.

(3) In the event that the tribal gaming regulatory authority or the tribe’s government chooses to submit a variance request directly to the Chairman for joint government to government review, the tribal gaming regulatory authority or tribal government may do so without the approval requirement set forth in paragraph (a) (1) of this section.

(b) *Chairman Review.* (1) The Chairman may approve or object to a variance granted by a tribal gaming regulatory authority.

(2) Any objection by the Chairman shall be in written form with an explanation why the variance as approved