PROPOSED AMENDENT

11 CSR 45-5.193 Statistical Performance of Electronic Gaming Devices *(EGDs)*. The commission is amending the title, purpose statement, and sections (1) and (2).

PURPOSE: This amendment clarifies the information required to be provided regarding the statistical performance of EGDs and specifies the method used to calculate the theoretical payout percentage for strategy card game-themed EGDs.

*PURPOSE: This rule establishes the standards for [electronic gaming device]***EGD*** statistical performance.*

(1) Gaming equipment suppliers shall—
  (A) Provide the volatility index (VI) on all Probability Accounting Report (PAR) sheets. The volatility index shall be calculated at ninety-five percent (95%) confidence level and at one (1)-line played, or the *[electronic gaming device (]*EGD*[)]* minimum bet where applicable. For EGDs with non-linear *[pay tables]***paytables**, the bet with the lowest payout shall be used. The calculations shall be accomplished by utilizing the below formulas:

$$VI = \kappa\sigma$$

Where κ equals the *z* score for the required confidence level and σ is the standard deviation for the game.

The standard deviation is calculated as follows:

$$\sigma = \sqrt{\sum_{i=1}^{n} ((\text{Net Pay}_i - \text{E.V.})^2 \times \text{probability}_i)}$$

Net Pay$_i$ = (the amount of each individual pay divided by the number of *[coins]***credits** wagered) **or (the total win amount of one wagered game, including all wins in any bonus rounds, divided by the number of credits wagered)**
E.V. = the payback percentage for the game
Probability$_i$ = probability of each Net Pay$_i$

(B) Calculate PAR sheets utilizing theoretical analysis where feasible. When the Return To Player (RTP) percentage cannot be feasibly computed using theoretical analysis the RTP percentage shall be computed such that the half-width of the ninety-five percent (95%) confidence interval is not more than .01%*[. Within these PAR sheets, provide standard confidence intervals at a confidence level of ninety-five percent (95%) with each interval showing 10,000, 100,000, 1,000,000, 10,000,000, and 100,000,000 games played]*;

(C) Obtain written authorization from the commission prior to submitting any EGDs that support features which introduce independent VIs, separate from the base game VI, to an independent testing laboratory **(ITL)**;

(D) *[All EGD software submitted for approval after January 1, 2014, shall e]*Ensure each EGD payout that is calculated into the PAR sheet's RTP for the game increments the appropriate coin-out, attendant-paid jackpot, attendant-paid progressive payout, or machine-paid progressive payout meter to allow for the analysis of game performance **for all EGD software submitted for approval after January 1, 2014**. Any features not calculated into the PAR sheet's RTP of the game shall not increment these meters**, unless otherwise approved by the commission**; *[and]*

(E) Ensure all base game, bonus**,** and progressive winnings from a wager are aggregated to determine whether the EGD payout is a reportable and/or taxable event requiring the EGD to lock up allowing for the preparation of a W-2G and state withholdings as required by section 313.826, RSMo*[.]***;**

(F) Provide to the commission and Class B licensees a PAR sheet for each game theme and any additional products which utilize a random number generator (RNG) to determine game outcome. PAR sheets shall list the software identification number of the product for which the PAR sheet applies and each paytable shall include:

1. The minimum and maximum theoretical RTP;

2. An explanation of how the expected theoretical RTP was calculated for games of skill/strategy;

3. Identification of each winning combination and its award value;

4. Volatility Index; and

5. Standard confidence intervals at a confidence level of ninety-five percent (95%) with each interval showing 10,000, 100,000, 1,000,000, 10,000,000, and 100,000,000 games played;

(G) Provide to the commission the following supporting documentation for each game theme and any additional products which utilize an RNG to determine game outcome:

1. Identification of available and valid configuration options, including payline options, denominations supported, maximum bets supported, bet per line options, mandatory feature or bonus bets, and optional feature or bonus bets;

2. Progressive awards, if offered, including:

A. Identification of each progressive supported;

B. The recommendation or required reset value;

C. The default incrementation rate; and

D. The odds of winning each progressive;

3. List of symbols as placed on each reel strip, including actual reel stop positions for each symbol;

4. Identification of the base game top award and the odds of winning the base game top award; and

5. Identification of and frequency of obtaining all features and bonuses; and

(H) Calculate the theoretical payout percentage of strategy card games such as video poker using optimal strategy.

(2) *[Independent testing laboratories]***ITLs** shall—
   (A) Independently verify the *[manufacturers']* VI and RTP percentage, then detail the findings in the certification letter; *[and]*
   (B) Provide standard confidence intervals at a confidence level of ninety-nine percent (99%) in the certification letters using this formula—

$$\text{Percent Payback} \ \pm \ \frac{VI}{\sqrt{\text{number of games played}}}$$

with the number of games played for each interval being 10,000, 100,000, 1,000,000, 10,000,000, and 100,000,000*[.]***; and**
   (C) Calculate the theoretical payout percentage of strategy card games such as video poker using optimal strategy.

*AUTHORITY: section**s** 313.004 **and 313.807**, RSMo [2000]**2016**, and sections 313.800 and 313.805, RSMo Supp. [2012]**2024**.* Original rule filed Sept. 27, 2012, effective May 30, 2013. **Amended: Filed Dec. 5, 2024.***

*Original authority: 313.004, RSMo 1993, amended 1994; 313.800, RSMo 1991, amended 1993, 1994, 2005; and 313.805, RSMo 1991, amended 1993, 1994, 2000, 2008, 2010.

PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars ($500) in the aggregate.

PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars ($500) in the aggregate.

*NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment via email to MGCPolicy@mgc.dps.mo.gov, or by mail to the Missouri Gaming Commission, Policy Section, PO Box 1847, Jefferson City, MO 65102. To be considered, comments must be received within thirty (30) days after publication of this notice in the **Missouri Register**. A public hearing is scheduled for February 18, 2025, at 10:00 a.m., in the Missouri Gaming Commission's Hearing Room, 3417 Knipp Drive, Jefferson City, MO.*