

TECHNICAL STANDARDS GOVERNING LEGAL BINGO IN ETOWAH COUNTY, ALABAMA

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Revised September 29, 2009

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General:

Bingo or Bingo Games shall mean **the** game of chance **traditionally** known as Bingo, **including any game as defined by The Etowah County Commission** (whether or not electronic, computer or other technologic aids are used in conjunction therewith), which incorporate the following elements:

(a) Is played for prizes, including monetary prizes, with cards bearing numbers or other designations

(b) Cards consist of a grid, **designated with the word (letter) B I N G O over their respective lines of five (5)** horizontal and five (5) vertical spaces;

(c) Each square in a grid must be designated by a number or other symbol contained in a collection of numbers or symbols used for playing the game;

(d) Number or symbols are selected for each game by a procedure or mechanism entirely driven by chance.

(e) The holder of the card **daubs** such numbers or designations when objects, similarly numbered or designated, are drawn or electronically determined, **the party then claims winnings if applicable.**

(f) A game is won by the first player(s) covering for which a previously designated pattern or arrangement on such cards is first covered or marked;

(g) Two or more players must compete against one another for Prizes;

(h) Game outcomes may be displayed by means of alternative entertaining displays **must also include the card identified in (b) above.** These entertaining displays must not affect game play.

Minimum standards

(a) The Etowah County Commission may establish and implement additional technical standards that are as stringent as, or more stringent than, those set out in this part.

(b) Only applicable standards apply. Bingo equipment and software used with Bingo equipment shall meet all applicable requirements of this part. For example, if a Bingo equipment lacks the ability to print or accept vouchers, then any standards that govern vouchers do not apply.

(c) Fairness.

(i) No Bingo equipment shall cheat or mislead users.

(ii) All Prizes advertised shall be available to win.

(d) Approved equipment and software only. All Bingo equipment and software used with Bingo equipment shall be identical in all respects to a prototype reviewed and tested by a testing laboratory and approved for use by the Etowah County Commission. Unapproved software shall not be loaded onto or stored on any program storage medium used in a Bingo equipment.

(e) Proper functioning. All Bingo equipment and software used with Bingo equipment shall perform according to the manufacturer's design and operating specifications.

(f) No Limitation of Technology. This part should not be interpreted to limit the use of technology or to preclude the use of technology not specifically referenced, **consistent with these standards.**

(g) Electronic bingo equipment shall not be sold, leased or otherwise furnished to any person in Etowah County, Alabama for use in the conduct of charitable gaming until an identical sample device containing identical software has been certified by an independent testing laboratory, which has been formally recognized by Etowah County Commission as a testing laboratory that upholds the standards of integrity established by the Commission. The testing laboratory must certify that the device conforms, at a minimum, to the restrictions and conditions set forth in this regulation. Once the testing facility reports the test results to the Etowah County Commission, the Commission will either approve or disapprove the submission and inform the manufacturer of the results within 30 days, if not approved within the 30 day period, it is presumed to be approved. If any such equipment does not meet the Commission's criteria, it shall be recalled and shall not be distributed in Etowah County Alabama. The cost of testing shall be borne by the manufacturer of such equipment.

(h) Commission employees shall have the right to inspect all electronic and mechanical equipment used in the conduct of charitable gaming.

(i) The Commission, at its discretion, may require additional testing of electronic bingo equipment at any time. Such additional testing shall be at the manufacturer's expense and shall be a condition of the continued use of such device.

Enabling Bingo Devices:

(a) General requirements. Bingo equipment shall provide a method to:

(i) Enable and disable specific system components.

(b) Specific requirements. Bingo equipment shall:

- (i) Ensure that only enabled system components participate in bingo as defined above; and
- (ii) Ensure that the default condition for components shall be disabled.

Hardware:

(a) Printed circuit boards.

(i) Printed circuit boards that have the potential to affect the outcome or integrity of the game, and are specially manufactured or proprietary and not off-the-shelf, shall display a unique identifier such as a tamper proof part number and/or revision number, which shall be updated to reflect new revisions or modifications of the board.

(ii) No switches or jumpers on any circuit boards that have the potential to affect the outcome or integrity of the game.

(b) Electrostatic discharge. Bingo equipment components accessible to the public shall be constructed so that they exhibit immunity to human body electrostatic discharges on areas exposed to contact. Static discharges of ± 15 kV for air discharges and ± 7.5 kV for contact discharges may not cause damage, or inhibit operation or integrity of the Bingo equipment.

(c) Physical enclosures. Physical enclosures shall be of a robust construction designed to resist determined illegal entry. All protuberances and attachments such as buttons, identification plates, and labels shall be sufficiently robust to avoid unauthorized removal.

(d) Player interface. The player interface shall include a method or means to:

- (i) Display actual Bingo information to a player; and
- (ii) Require the player to interact with the Bingo equipment.

(e) Account access components. A Bingo equipment component that reads account access media shall be located within a secure, locked or tamper-evident area or in a cabinet or housing that is of a robust construction designed to resist determined illegal entry and to protect internal components. In addition, the account access component:

- (i) Shall be constructed so that physical tampering leaves evidence of such tampering; and
- (ii) Shall provide a method to enable the Bingo equipment to interpret and act upon valid or invalid input or error condition.

(f) Financial instrument storage components. Any Bingo equipment components that store financial instruments and that are not operated under the direct control of an authorized personnel or agent shall be located within a secure and locked area or in a locked cabinet or housing that is of a robust construction designed to resist determined illegal entry and to protect internal components.

(g) Financial instrument acceptors.

(i) Any Bingo equipment components that handle financial instruments and that are not operated under the direct control of an agent shall:

(h) Be located within a secure, locked and tamper-evident area or in a locked cabinet or housing that is of a robust construction designed to resist determined illegal entry and to protect internal components;

(i) Be able to detect the entry of valid or invalid financial instruments and to provide a method to enable the Bingo equipment to interpret and act upon valid or invalid input or error condition; and

(ii) Be constructed to permit communication with the Bingo equipment of the accounting information required by applicable provisions of the Etowah County Commission rules and regulations governing minimum internal control standards.

(iii) Prior to completion of a valid financial instrument transaction by the Bingo equipment, no monetary amount related to that instrument shall be available for play. For example, credits shall not be available for play until currency or coupon inserted into an acceptor is secured in the storage component.

(iv) The monetary amount related to all valid financial instrument transactions by the Bingo equipment shall be recorded as required by the applicable provisions of the Etowah County Commission rules and regulations governing minimum internal control standards.

(1) Any Bingo equipment components that dispense financial instruments and that are not operated under the direct control of an authorized personnel or agent shall:

(i) Be located within a secure, locked and tamper-evident area or in a locked cabinet or housing that is of a robust construction designed to resist determined illegal entry and to protect internal components;

(ii) Provide a method to enable the Bingo equipment to interpret and act upon valid or invalid input or error condition; and

(iii) Be constructed to permit communication with the Bingo equipment of the accounting information required by applicable provisions of the Etowah County Commission rules and regulations governing minimum internal control standards.

(v) The monetary amount related to all valid financial instrument transactions by the Bingo equipment shall be recorded as required by the Etowah County Commission regulations governing minimum internal control standards.

(i) Game Outcome Determination Components. Any Bingo equipment logic components that affect the game outcome and that are not operated under the direct control of unauthorized personnel or agent shall be located within a secure, locked and

tamper-evident area or in a locked cabinet or housing that is of a robust construction designed to resist determined illegal entry and to protect internal components.

(j) Door access detection. All components of the Bingo equipment that are locked in order to meet the requirements of this part shall include a sensor or other methods to monitor an open door. A door open sensor, and its components or cables, shall be secure against attempts to disable them or interfere with their normal mode of operation;

(i) Separation of functions / no limitations on technology. Nothing herein shall prohibit the account access component, financial instrument storage component, financial instrument acceptor, and financial instrument dispenser from being included within the same component, or separated into individual components.

Software:

This section provides general software standards for Bingo equipment for the play of Bingo games.

(a) Player interface displays.

(i) If not otherwise provided to the player, the player interface shall display the following:

(1) The representation that this is a Bingo game;

(2) The purchase or wager amount;

(3) Game results; and

(4) Any player credit balance.

(5) Between plays of any game and until the start of the next play, or until the player selects a new game option such as purchase amount or card selection, whichever is earlier, if not otherwise provided to the player, the player interface shall display:

(ii) The total purchase amount and all Prizes and total credits won for the last game played;

(iii) The final results for the last game of the Bingo played displayed in Bingo format, including entertaining displays of results, if any; and

(iv) Any default purchase amount for the next play.

(b) Game initiation and play.

(i) Each game played on the Bingo equipment shall follow and not deviate from a constant set of rules for each game provided to players. Any change in rules constitutes a different game. There shall be no automatic or undisclosed changes of rules.

(ii) The Bingo equipment shall not alter or allow to be altered the card permutations or game rules used for play of a Bingo game unless specifically

chosen by the player prior to commitment to participate in the game. No duplicate cards shall be sold for any common draw.

(iii) No game play shall commence and, no financial instrument or credit shall be accepted on the affected player interface, in the presence of any fault condition that affects the outcome of the game, open door, or while in test, audit, or lock-up mode.

(iv) The player must choose to participate in the play of a game, and there shall be no function known as autoplay.

(c) Audit Mode.

(i) If an audit mode is provided, the Bingo equipment shall provide, for those components actively involved in the audit:

(ii) All accounting functions by applicable provisions of any Commission regulations governing minimum internal control standards, and by any internal controls adopted by the Etowah County Commission;

(iii) Display player interface identification; and

(iv) Display software version or game identification;

(v) Audit mode shall be accessible by a secure method such as an employee PIN and key or other auditable access control.

(vi) Accounting function data shall be accessible by an authorized person at any time, except during a payout, during a handpay, or during play.

(vii) The Bingo equipment shall disable financial instrument acceptance on the affected player interface while in audit mode, except during financial instrument acceptance testing.

(d) Last game recall. The last game recall function shall:

(i) Be retrievable at all times, other than when the recall component is involved in the play of a game, upon the operation of an external keyswitch, entry of an audit card, or a similar method;

(ii) Display the results of recalled games as originally displayed or in text representation, including entertaining display results implemented in video, if any, so as to enable the Etowah County Commission or operator to clearly identify the game sequences and results that occurred;

(iii) Allow the Bingo equipment component providing game recall, upon return to normal game play mode, to restore any affected display to the positions, forms and values displayed before access to the game recall information; and

(iv) Provide the following information for the current and previous four games played and shall display:

(1) Game start time, end time, and date;

(2) The total number of credits at the start of play, less the purchase amount;

(3) The purchase amount;

(4) The total number of credits at the end of play; and

(5) The total number of credits won as a result of the game recalled, and the value in dollars and cents for progressive Prizes, if different;

(6) A representation of the bingo card(s) used by the player;

(7) The game number identifier of the bingo game played;

(8) The numbers or other designations drawn, in the order that they were drawn;

(9) The numbers or other designations and Prize patterns covered on each card;

(10) All Prizes won by the player, including winning patterns; and

(11) Voucher and credit transfer recall. Notwithstanding the requirements of any other section in this part, Bingo equipment shall have the capacity to:

(i). Display the information for the last five vouchers or coupons printed and the last five vouchers or coupons accepted; and

(ii) Display a complete transaction history for the last five cashless transactions made and the last five cashless transactions accepted.

(e) Software signature verification. The manufacturer or developer of the Bingo equipment must provide to the testing laboratory and to the Etowah County Commission an industry-standard methodology, acceptable to the Etowah County Commission, for verifying the Bingo equipment software. Such methodologies shall include signature algorithms and hashing formulas such as SHA-1.

(f) Test, diagnostic, and demonstration modes. If test, diagnostic, and/or demonstration modes are provided, the Bingo equipment shall, for those components actively involved in the test, diagnostic, or demonstration mode:

(i) Clearly indicate when that component is in the test, diagnostic, or demonstration mode;

(ii) Not alter financial data on that component other than temporary data;

(iii) Only be available after entering a specific mode;

(iv) Disable credit acceptance and payment unless credit acceptance or payment is being tested; and

(v) Terminate all mode-specific functions upon exiting a mode.

(g) Multi-game. If multiple games are offered for player selection at the player interface, the player interface shall:

(i) Provide a display of available games;

(ii) Provide the means of selecting among them;

(iii) Display the full amount of the player's credit balance;

(iv) Identify the game selected or being played; and

(v) Not force the play of a game after its selection.

(h) Program interruption and resumption. The Bingo equipment software shall be designed so that upon resumption following any interruption, the system:

- (i) Is able to return to a known state;
- (ii) Shall check for any fault condition upon resumption;
- (iii) Shall verify the integrity of data stored in critical memory;
- (iv) Shall return the purchase amount to the player in accordance with the rules of the game; and
- (v) Shall detect any change or corruption in the Bingo equipment software.

(i) Bingo equipment components acting as progressive controllers. This paragraph applies to progressive controllers and components acting as progressive controllers in Bingo equipment.

(i) Modification of progressive parameters shall be conducted in a secure manner approved by the Etowah County Commission. Such parameters may include:

- (ii) Increment value;
- (iii) Secondary pool increment(s);
- (iv) Reset amount(s);
- (v) Maximum value(s); and
- (vi) Identity of participating player interfaces.

(j) The Bingo equipment component or other progressive controller shall provide a means of creating a progressive balancing report for each progressive link it controls. At a minimum, that report shall provide balancing of the changes of the progressive amount, including progressive Prizes won, for all participating player interfaces versus current progressive amount(s), plus progressive Prizes. In addition, the report shall account for, and not be made inaccurate by, unusual events such as:

- (i) Bingo equipment critical memory clears;
- (ii) Modification, alteration, or deletion of progressive Prizes;
- (iii) Offline equipment; or
- (iv) Multiple site progressive Prizes.

(k) Critical memory.

(l) Critical memory may be located anywhere within the Bingo equipment. Critical memory is any memory that maintains any of the following data:

- (i) Accounting data;
- (ii) Current credits;
- (iii) Configuration data;
- (iv) Last game recall information;
- (v) Game recall information for the current game, if incomplete;

- (vi) Software state (the last normal state software was in before interruption);
- (vii) RNG seed(s), if necessary for maintaining integrity;
- (viii) Encryption keys, if necessary for maintaining integrity;
- (ix) Progressive Prize parameters and current values;
- (x) The five most recent financial instruments accepted by type, excluding coins and tokens;
- (xi) The five most recent financial instruments dispensed by type, excluding coins and tokens; and
- (xii) The five most recent cashless transactions paid and the five most recent cashless transactions accepted.
- (xiii) Critical memory shall be maintained using a methodology that enables errors to be identified and acted upon. All accounting and recall functions shall be verified as necessary to ensure their ongoing integrity.
- (xiv) The validity of affected data stored in critical memory shall be checked after each of the following events:

- (1) Every restart;
- (2) Every reconfiguration, download, or change of Prize schedule or denomination requiring operator intervention or action.

(m) Secured access. Bingo equipment that uses a logon or other means of secured access shall include a user account lockout after a predetermined number of consecutive failed attempts to access system.

Accounting and reporting functions:

Records and Accounting

(a) This section provides standards for accounting functions used in Bingo equipment.

(b) Required accounting data. The following minimum accounting data, however named, shall be maintained by the Bingo equipment.

(i) Amount In, The total value of all financial instruments and cashless transactions accepted by the Bingo equipment.

(ii) Amount Out, The total value of all financial instruments and cashless transactions paid by the Bingo equipment, plus the total value of attendant pay.

(iii) Amount Played, The total value of all purchases accepted by the Bingo equipment.

(iv) Amount Won, The total value of all prizes awarded by the Bingo equipment.

(c) Accounting data storage. The Bingo equipment shall electronically maintain accounting data:

- (i) Accounting data shall be stored with at least eight decimal digits.
- (ii) Credit balances shall have sufficient digits to accommodate the design of the game.
- (iii) Accounting data shall be updated upon the occurrence of the relevant accounting event.
- (iv) Modifications to accounting data shall be recorded, including the identity of the person(s) making the modifications, and be reportable by the Bingo equipment.

(d) Rollover. Accounting data that rolls over to zero shall not corrupt data.

(e) Credit balance display and function.

(i) Any credit balance maintained at the player interface shall be prominently displayed at all times except:

- (1) In audit, configuration, recall and test modes; or
- (2) Temporarily, during entertaining displays of game results.
- (3) Progressive Prizes may be added to the player's credit balance provided:

- (i) the player credit balance is maintained in dollars and cents;

- (ii) The progressive accounting data is incremented in number of credits; or

- (iii) The Prize in dollars and cents is converted to player credits or transferred to the player's credit balance in a manner that does not mislead the player or cause accounting imbalances.

- (4) If the player credit balance displays in credits, but the actual balance includes fractional credits, the Bingo equipment shall display the fractional credit when the player credit balance drops below one credit.

Accounting Reports:

(a) Any reports maintained or generated by the Bingo equipment shall be capable of being downloaded or otherwise accessed.

(b) Manufacturers of Bingo equipment shall manufacture each system to ensure that an internal accounting system is capable of recording and retaining accounting information for a period of not less than twelve (12) months.

(i) The bingo equipment shall be capable of producing a single accounting report which includes the following information based on a period of time defined as a session:

- (1) Amount In, The total value of all financial instruments and cashless transactions accepted by all bingo equipment enrolled in a specific session;

(2) Amount Out, The total value of all financial instruments and cashless transactions paid by all bingo equipment enrolled in a specific session;

(3) Amount Played, The total value of all purchases accepted by all bingo equipment enrolled in a specific session; and

(4) Amount Won, The total value of all prizes awarded by all bingo equipment enrolled in a specific session;

(c) The above information shall be secure and shall not be accessible for alteration during the Session. The site system shall have report generation software with the capability to print all information required to be maintained on the site system's active or archived databases.

Critical events:

This section provides standards for events such as system critical faults, deactivation, door open or other changes of states, and lockup within the Bingo system.

(a) Fault events.

The following events are to be treated as described below:

(i) **Device fault** Reported when a fault on a device is detected. When possible, this event message should indicate what the nature of the fault is.

(ii) **Financial storage device full** Reported when a financial instrument acceptor or dispenser includes storage, and it becomes full. This event message should indicate what financial storage device is full.

(iii) **Financial output device empty** Reported when a financial instrument dispenser is empty. The event message should indicate which financial output device is affected, and whether it is empty. Events Definition and action to be taken

(iv) **Financial device fault** Reported when an occurrence on a financial device results in a known fault state.

(v) **Critical memory error** Some critical memory error has occurred. When a non-correctable critical memory error has occurred, the data on the Bingo system device can no longer be considered reliable. Accordingly, any game play on the affected device shall cease immediately, and an appropriate message shall be displayed, if possible.

(vi) **Progressive communication fault** if applicable; when communications with a progressive controller device is in a known fault state.

(vii) **Program storage medium fault.** The software has failed its own internal security check or the medium itself has some fault. Any game play on the affected device shall cease immediately, and an appropriate message shall be displayed, if possible.

(1) The occurrence of any event identified in paragraph (a)(i) of this section shall be recorded.

- (2) Upon clearing any event identified in paragraph (a)(i) of this section, the Bingo system shall:
 - (3) Record that the fault condition has been cleared;
 - (4) Ensure the integrity of all related accounting data; and
 - (5) In the case of a malfunction, return a player's purchase according to the rules of the game.

(b) Door open/close events.

(i) In addition to the requirements of paragraph (a)(1) of this section, the Bingo system shall perform the following for any device affected by any sensed door open event:

- (1) Indicate that the state of a sensed door changes from closed to open or opened to closed;
- (2) Disable all financial instrument acceptance, unless a test mode is entered;
- (3) Disable game play on the affected player interface;
- (4) Disable player inputs on the affected player interface, unless test mode is entered; and
- (5) Disable all financial instrument disbursement, unless a test mode is entered.

(ii) The Bingo system may return the device to a ready to play state when all sensed doors are closed.

(c) Non-fault events.

(i) The following non-fault events are to be treated as described below, if applicable:

Event Definition and action to be taken

- (1) Player interface power off during play This condition is reported by the affected device(s) to indicate power has been lost during game play.
- (2) Player interface power on This condition is reported by the affected device(s) to indicate it has been turned on.
- (3) Financial instrument storage device container/stacker removed this condition is reported when a financial instrument storage container has been removed. The event message should indicate which storage container was removed.

Money and credit handling:

This section provides standards for money and credit handling by Bingo equipment.

(a) Credit acceptance, generally.

(i) Upon any credit acceptance, the Bingo equipment shall register the correct number of credits on the player's credit balance.

(ii) The Bingo equipment shall reject financial instruments deemed invalid.

(b) Credit redemption, generally.

(i) For cashable credits on a player interface, players shall be allowed to cash out and/or redeem those credits at the player interface except when that player interface is:

(1) Involved in the play of a game;

(2) In audit mode, recall mode or any test mode;

(3) Detecting any sensed door open condition;

(4) Updating the player credit balance or total win accounting data;

or

(5) Displaying a fault condition that would prevent cash-out or credit redemption. In this case a fault indication shall be displayed.

(ii) For cashable credits not on a player interface, the player shall be allowed to cash out and/or redeem those credits at any time.

(iii) Bingo equipment shall not automatically pay an award subject to mandatory tax reporting or withholding.

(c) Credit redemption by voucher or coupon shall conform to the following:

(i) Bingo equipment may redeem credits by issuing a voucher or coupon when it communicates with a voucher system that validates the voucher or coupon.

(ii) Bingo equipment that redeems credits by issuing vouchers and coupons shall either:

(1) Generate two identical copies of each voucher or coupon issued, one to be provided to the player and the other to be retained within the machine for audit purposes. *Note: Information stored and/or transmitted to the system may be used to satisfy this requirement.*

(d) Valid vouchers and coupons shall contain the following:

(i) Charitable operation name and location;

(ii) The identification number of the Bingo equipment component or the player interface number, as applicable;

(iii) Date and time of issuance;

(iv) Alpha and numeric dollar amount;

(v) A session number;

(vi) A validation number that:

(1) Is produced by a means specifically designed to prevent repetition of validation numbers; and

(2) Has some form of checkcode or other form of information redundancy to prevent prediction of subsequent validation numbers without knowledge of the checkcode algorithm and parameters;

(vii) For machine-readable vouchers and coupons, a bar code or other form of machine readable representation of the validation number, which shall have enough redundancy and error checking to ensure that 99.9% of all misreads are flagged as errors;

(viii) Transaction type or other method of differentiating voucher and coupon types; and

(ix) Expiration period or date.

(e) Transfers from an account may not exceed the balance of that account.

(f) For Bingo equipment not using dollars and cents accounting and not having odd cents accounting, the Bingo equipment shall reject any transfers from voucher payment systems or cashless systems that are not even multiples of the Bingo equipment denomination.

(g) Voucher redemption systems shall include the ability to report redemptions per redemption location or user.

Downloadable system:

This section provides standards for downloading onto Bingo equipment.

(a) Downloads.

(i) Downloads are an acceptable means of transporting approved content, including but not limited to software, files, data, and Prize schedules.

(ii) Downloads of software, games, Prize schedules, or other download packages shall be conducted only as authorized by the Etowah County Commission.

(iii) Downloads shall use secure methodologies that will deliver the download data without alteration or modification.

(iv) Downloads conducted during operational periods shall be performed in a manner that will not affect game play.

(v) Downloads shall not affect the integrity of accounting data.

(vi) The Bingo equipment or the Etowah County Commission shall log each download of any download package. Each log record shall contain as a minimum:

(1) The time and date of the initiation of the download;

(2) The time and date of the completion of the download;

(3) The Bingo equipment components to which software was downloaded;

(4) The version(s) of download package and any software downloaded. Logging of the unique software signature will satisfy this requirement;

(5) The outcome of any software verification following the download (success or failure); and

(6) The name and identification number, or other unique identifier, of any individual(s) conducting or scheduling a download.

(b) Verifying downloads. Following download of any game software, the Bingo equipment shall verify the downloaded software using a software signature verification method. Using any method it deems appropriate, the Etowah County Commission shall confirm the verification.

Program storage media:

This section provides minimum standards for removable, re-writable, and non-writable program storage media used in Bingo equipment.

(a) Removable program storage media. All removable program storage media shall maintain an internal checksum or signature of its contents. Verification of this checksum or signature is to be performed after every restart. If the verification fails, the affected Bingo equipment component(s) shall lock up and enter a fault state.

(b) Non-rewritable program storage media.

(i) All EPROMs that have erasure windows shall be fitted with covers over their erasure windows.

(ii) All unused areas of EPROMs shall be written with the inverse of the erased state (e.g., zero bits (00 hex) for most EPROMs), random data, or repeats of the program data.

(iii) Flash memory storage components intended to have the same logical function as ROM, i.e. not to be dynamically written, shall be write protected or otherwise protected from unauthorized modification.

(iv) The write cycle shall be closed or finished for all CD-ROMs such that it is not possible to write any further data to the CD.

(v) Write protected hard disks are permitted if the hardware means of enabling the write protect is easily viewable and can be sealed in place. Write protected hard disks are permitted using software write protection verifiable by a testing laboratory.

(c) Writable and rewritable program storage media.

(i) Writable and rewritable program storage, such as hard disk drives, Flash memory, writable CD-ROMs, and writable DVDs, may be used provided that the software stored thereon may be verified using the mechanism provided.

(d) Identification of program storage media.

(i) All program storage media that is not re-writable in circuit (e.g. EPROM, CD-ROM) shall be uniquely identified, displaying:

(1) Manufacturer;

(2) Program identifier;

(3) Program version number(s); and

(4) Location information, if critical (e.g. socket position 3 on the printed circuit board).

Electronic Random Number Generation(RNG):

This section provides minimum standards for electronic RNGs in Bingo equipment.

(a) Properties.

(i) All RNGs shall produce output having the following properties:

- (1) Statistical randomness;
- (2) Unpredictability; and
- (3) Non-repeatability.

(b) Statistical Randomness.

(i) Numbers produced by an RNG shall be statistically random individually and in the permutations and combinations used in the application under the rules of the game. For example, if a bingo game with 75 objects with numbers or other designations has a progressive winning pattern of the five numbers or other designations on the bottom of the card and the winning of this **Prize** is defined to be the five numbers or other designations are matched in the first five objects drawn, the likelihood of each of the 75 combinations are to be verified to be statistically equal.

(ii) Numbers produced by an RNG shall pass the statistical tests for randomness to a 99% confidence level, which may include:

- (1) Chi-square test;
- (2) Equi-distribution (frequency) test;
- (3) Gap test;
- (4) Poker test;
- (5) Coupon collector's test;
- (6) Permutation test;
- (7) Run test(patterns of occurrences shall not be recurrent);
- (8) Spectral test;

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

(10) Test on subsequences.

(c) Unpredictability.

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

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

(iii) 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:

(i) A source of "true" randomness, such as a hardware random noise generator; or

(ii) A combination of timestamps, parameters unique to a Bingo equipment, previous RNG outputs, or other, similar method.

(e) General requirements.

(i) Software that calls an RNG to derive game outcome events shall immediately use the output returned in accordance with the game rules.

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

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

(iv) 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.

(v) The Bingo equipment shall neither adjust the RNG process or game outcomes based on the history of awards 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:

(i) Be independent and uniform over the range;

(ii) 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;

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

(iv) Use an unbiased algorithm. A scaling algorithm is considered to be unbiased if the measured bias is no greater than 1 in 50 million.

Electronic data communications between system components:

This section provides minimum standards for electronic data communications with Bingo equipment or components used with Bingo equipment.

(a) Sensitive data. Communication of sensitive data shall be secure from eavesdropping, access, tampering, intrusion or alteration unauthorized by the Etowah County Commission. Sensitive data shall include, but not be limited to:

(i) RNG seeds and outcomes;

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

(iii) PINs;

(iv) 4 Passwords;

(v) Financial instrument transactions;

(vi) Transfers of funds;

- (vii) Player tracking information;
- (viii) Download Packages; and
- (ix) Any information that affects game outcome.

(b) Wireless communications.

- (i) Wireless access points shall not be accessible to the general public.
- (ii) Open or unsecured wireless communications are prohibited.

(iii) Wireless communications shall be secured using a methodology that makes eavesdropping, access, tampering, intrusion or alteration impractical. By way of illustration, such 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) Bingo equipment shall record detectable, unauthorized access or intrusion attempts.

(e) Remote communications shall only be allowed if authorized by the Etowah County Commission. Bingo equipment 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 Bingo equipment shall log the establishment, loss, and reestablishment of data communications between sensitive Bingo equipment components.

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:

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

(ii) Denomination;

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

(iv) A Prize schedule or other explanation, sufficient to allow a player to determine the correctness of all Prizes awarded, including;

(1) The range and values obtainable for any variable Prize

(2) Whether the value of a Prize depends on the purchase amount;
and

(3) The means of division of any pari-mutuel Prizes; but

(4) 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 Bingo equipment shall continually display:

(i) “Malfunctions void all Prizes and plays” or equivalent; and

(ii) “Actual Prizes Determined by Bingo or other applicable Bingo game Play. Other Displays for Entertainment Only.” or equivalent.

(c) The game outcome shall be displayed at all time to the player. Electronic cards are permissible but must be readily visible on the screen:

(i) They must be prominently sized and displayed;

(ii) They must be in a readable font; and

(iii) They must have contrasting colors.

Definitions:

Account Access Component, A component within a Bingo equipment that reads or recognizes account access media and gives a patron the ability to interact with his or her account.

Account Access Medium, A magnetic stripe card or any other medium inserted into, or otherwise made to interact with, an account access component in order to give a patron the ability to interact with an account.

Audit Mode, The mode where it is possible to view Bingo equipment accounting functions, statistics, etc. and perform non-player-related functions.

Agent, An employee or other person authorized by the charitable operation or nonprofit organization, as approved by the Etowah County Commission, designated for certain decisions, tasks and actions in the charitable operation.

Bingo equipment, All components, whether or not technologic aids in electronic, computer, mechanical, or other technologic form, that function together to aid the play of two or more Bingo games, including accounting functions mandated by these regulations.

Bingo Session, A consecutive period of time during which bingo games are played. A bingo session must not last longer than one calendar day with an organization limited to two sessions in a calendar week.

Bingo System, All devices, whether or not technologic aids in electronic, computer, mechanical, or other technologic form, that function together to aid the play of two or more Bingo games, including accounting functions mandated by these regulations.

Calendar Day, Means the period of time commencing at 12:00:05AM and concluding at midnight.

Calendar Week, A period of seven consecutive days commencing at 12:00:05AM on Sunday and ending at midnight the following Saturday.

Cancel Credit, An action initiated by the Bingo equipment where some or all of a player's credits are removed by an attendant and paid to the player.

Cashless System, A system that performs cashless transactions and maintains records of those cashless transactions.

Cashless Transaction, A movement of funds electronically from one component to another, often to or from a patron deposit account.

CD-ROM, Compact Disc – Read Only Memory.

Commission, Etowah County Commission, The entity authorized to regulate Bingo conducted pursuant to the authority granted in Amendment Number 506 to the Constitution of Alabama.

Coupon, A financial instrument of fixed prize value, usually paper, that can only be used to acquire non-cashable credits through interaction with a voucher system. This does not include instruments such as printed advertising material that cannot be validated directly by a voucher system.

Critical Memory, Memory locations storing data essential to the functionality of the Bingo equipment.

DLL, A Dynamic-Link Library file.

Download Package, Approved data sent to a component of a Bingo equipment for such purposes as changing the component software.

DVD, Digital Video Disk or Digital Versatile Disk.

Electromagnetic Interference, The physical characteristic of an electronic component to emit electronic noise either into free air, onto the power lines, or onto communication cables.

Electrostatic Discharge, A single-event, rapid transfer of electrostatic charge between two objects, usually resulting when two objects at different potentials come into direct contact with each other.

EPROM, Erasable Programmable Read Only Memory – a storage area that may be filled with data and information, that once written is not modifiable, and that is retained even if there is no power applied to the machine.

Fault, An event that when detected by a Bingo equipment causes a discontinuance of game play or other component functions.

Financial Instrument, Any tangible item of value tendered in Bingo game play, including, but not limited to, bills, coins, vouchers and coupons.

Financial Instrument Acceptor, Any component that accepts financial instruments.

Financial Instrument Dispenser, Any component that dispenses financial instruments.

Financial Instrument Storage Component, Any component that stores financial instruments.

Flash Memory, Non-volatile memory that retains its data when the power is turned off and that can be electronically erased and reprogrammed without being removed from the circuit board.

Game Software, The operational program or programs that govern the play, display of results, and/or awarding of Prizes or credits for Bingo games.

Hardware, Bingo equipment.

Interruption, Any form of mis-operation, component failure, or interference to the Bingo equipment.

Modification, A revision to any hardware or software used in a Bingo equipment.

Non-cashable Credit, Credits given by an operator to a patron; placed on an Bingo equipment through a coupon, cashless transaction or other approved means; and capable of activating play but not being converted to cash.

Patron Deposit Account, An account maintained on behalf of a patron, for the purpose of depositing and withdrawing cashable funds for the primary purpose of interacting with a Bingo activity.

Player Interface, Any component or components of a Bingo equipment, including an electronic or technologic aid(not limited to terminals, player stations, handhelds, fixed units, etc.), that directly enables player interaction in a Bingo game.

Prize Prizes for any given bingo session will be computed as the difference between the amount of money brought in reduced by the amount of money paid out during said session. Prizes of each session will be computed at the end of that session. Prizes given by an organization shall not exceed \$2,500.00 in cash or gifts of equivalent value during any bingo session. Prizes given by an organization shall not exceed \$5,000.00 in any calendar week.

Prize Schedule, The set of Prizes available to players for achieving pre-designated patterns in the Bingo game.

Program Storage Media, An electronic data storage component, such as a CD-ROM, EPROM, hard disk, or flash memory on which software is stored and from which software is read.

Progressive Prize, A Prize that increases by a selectable or predefined amount based on play of a Bingo game.

Random Number Generator(RNG), A software module, hardware component or combination of these designed to produce outputs that are effectively random.

Reflexive Software, Any software that has the ability to manipulate and/or replace a randomly generated outcome for the purpose of changing the results of a Bingo game.

Removable / Rewritable Storage Media, Program or data storage components that can be removed from Bingo equipment and be written to, or rewritten by, the Bingo equipment or by other equipment designed for that purpose.

Server, A computer that controls one or more applications or environments within a Bingo equipment.

Test/Diagnostics Mode, A mode on a component that allows various tests to be performed on the Bingo equipment hardware and software.

Testing Laboratory, An organization recognized by the Etowah County Commission.

Voucher, A financial instrument of fixed purchase value, usually paper, that can only be used to acquire an equivalent value of cashable credits or cash through interaction with a voucher system.

Voucher System, A component of the Bingo equipment or an external system that securely maintains records of vouchers and coupons; validates payment of vouchers; records successful or failed payments of vouchers and coupons; and controls the purging of expired vouchers and coupons.