

Gaming Policy and Enforcement Branch (GPEB)

TGS5

Technical Gambling Standards for Internet Gambling Systems (IGSs)

Technical Standards Document (TSD) Version 2.3



Gaming Policy and Enforcement Branch

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Executive Summary of changes of TGS 5 to version 2.3

- Title Page updated from Version 2.2 to Version 2.3.
- Minor wording changes throughout the document to clarify existing requirements.
- Added language to several sections allowing placeholder dollar amounts to be recorded in player accounts instead of actual prize values, if the prizes involve offline payment or offline decisions about payments.
- Updated multiple sections to allow for authorized direct payments for the purchase of PlayNow products in alignment with Lottery Mobile App deployment.
- Updated section 1.1.1(b) with the correct section of the Criminal Code of Canada.
- Updated section 1.1.2 to indicate that changes to this document will happen as necessary rather than annually.
- Updated section 2.2.5(d) - Incomplete Games processes improved.
- Updated section 3.1.3 name from Challenge Questions to Player Access.
- Updated section 3.1.3 to allow multifactor authentication.
- Removed the text from section 3.4.1 defining “obscene” since the definition is already detailed in the Advertising and Marketing Standards.
- Update section 3.5.1 Player Protection terminology to GameSense messaging, references and content.
- Updated section 3.5.2 – availability of last login information.
- Updated section 4.2.9.1 to remove reference to the Province of BC’s “Advertising and Marketing Standards for the B.C. Gambling Industry,” which is covered in section 3.4.1 of this document.
- Appendix N updated to allow the player to either accept or abandon changing sports betting odds.
- Added Appendix P - new Physical Lottery Ticket Scanner & Redeemer Requirements to align with Lottery Mobile App deployment.
- Added Appendix Q - new Player Identity System.

1 Overview of TSD

1.1 Introduction

1.1.1 General Statements I

The General Statements are as follows:

- a) Before being permitted to operate in the live environment, all gaming supplies used in the Province of British Columbia must be tested to the applicable requirements set forth in this Technical Standards Document (TSD).
- b) For the purposes of this TSD, Internet Gambling Systems (IGSs) mean gaming supplies as defined in Section 1 of the **Gaming Control Act of British Columbia** and includes gaming supplies that are operated on or through a computer, video device or slot machines as defined in Section 207(4.01) of the **Criminal Code of Canada**.
- c) The British Columbia Lottery Corporation (BCLC) may select an Accredited Testing Facility (ATF), or other equivalent body, that has been accredited by and registered with the Gaming Policy and Enforcement Branch (GPEB), to perform this testing.
- d) The appointed testing body must provide their final evaluation results, reports, and any additional documentation as may be required directly to GPEB and to BCLC for review, and where required, subsequent discussion.
- e) The British Columbia Lottery Corporation (BCLC) may elect to perform internal quality assurance testing on an IGS; however, reliance on the test results for the purposes of certification will rest solely with GPEB.
- f) For certainty, any ATF, or other equivalent body, that is employed to perform this testing and is approved by GPEB must essentially treat BCLC as its client, and GPEB as the regulatory authority for issuing approvals. Although the appointed testing body may recommend the approval of any gaming supplies for use in the Province of British Columbia, the ultimate authority to approve gaming supplies rests solely with GPEB.

1.1.2 General Statement II

This document will be updated when necessary, in consultation with BCLC, to reflect changes in technology, testing methods, or known cheating methods.

Note: *GPEB reserves the right to modify (or selectively apply) the requirements set forth in this TSD as deemed necessary to ensure the integrity of gambling in the Province of British Columbia. However, in order to ensure consistency and compliance, GPEB will not modify or selectively apply the requirements set forth in this TSD without first providing reasonable prior written notice to BCLC, on an as-needed and case-by-case basis.*

1.2 Acknowledgment of Other TSDs Reviewed

1.2.1 General Statement

This TSD has been developed by reviewing and using portions of the documents listed below:

- a) Alderney Gambling Control Commission (AGCC)'s TSD named 'Control System Guidelines for Interactive Gaming',
- b) GLI (Gaming Laboratories International) Standard GLI-19 – Standards for Interactive Gaming Systems (Suppliers), and
- c) GLI (Gaming Laboratories International) Standard GLI-19 – Standards for Interactive Gaming Systems (Operators).

1.3 Purpose of TSD

1.3.1 Purpose

The Purpose of this TSD is as follows:

- a) To eliminate subjective criteria in analyzing and certifying IGS operation,
- b) To test those criteria which impact the credibility and integrity of IGS operation from both the Revenue Collection and Player's play point of view,
- c) To create a TSD that will help ensure that IGSs operating in the live environment are fair, honest, secure, safe, auditable, and able to operate correctly,

- d) To recognize that non-gambling testing (such as Electrical Testing) should not be incorporated into this TSD but left to appropriate test laboratories that specialize in that type of testing,
- e) To recognize that except where specifically identified in this TSD, testing is not directed at health or safety matters. These matters are the responsibility of the manufacturer of the equipment,
- f) To construct a TSD that can be easily changed or modified to allow for new technology or functionality, and
- g) To construct a TSD that does not specify any particular method or technology for any element or component of an IGS. The intent is instead to allow a wide range of methods and technologies to be used to comply with this TSD, while at the same time, to encourage new methods and technologies to be developed.

1.3.2 No Limitation of Technology

One should be cautioned that this TSD should not be read in such a way that limits the use of future technology. The TSD should not be interpreted that if the technology is not mentioned, then it is not allowed. As new technology is developed, GPEB, in consultation with BCLC, will review this TSD, make any changes deemed necessary, and incorporate new minimum standards for the new technology.

Note: *Although BCLC may recommend that particular changes be made to this TSD, the ultimate authority to approve changes rests solely with GPEB.*

1.4 Other Documents That May Apply

1.4.1 Other TSDs

This TSD, as well as the other TSDs listed below, are to be interpreted so that all of the provisions are given as full effect as possible. In the event of a conflict or inconsistency between the foregoing, unless expressly stated to the contrary, the order of precedence shall be as follows:

- a) This TSD (i.e.: TGS5 – Internet Gambling Systems (IGSs),
- b) TGS1 – Technical Gaming Standards for Electronic Gaming Devices (EGDs) in Gaming Venues,
- c) TGS2 – Technical Gaming Standards for Progressive Gaming Devices in Gaming Venues,
- d) TGS4 – Technical Gaming Standards for Electronic Bingo Systems in Gaming Venues, and
- e) TGS3 – Technical Gaming Standards for On-line Monitoring and Control Systems (MCSs) and Validation Systems in Gaming Venues.

1.4.2 GPEB Standards

This TSD must not contradict any provisions of the following standards:

- a) Advertising and Marketing Standards for the BC Gambling Industry, and
- b) GPEB Responsible Gambling Standards.

1.4.3 Legislated Acts or Regulations

This TSD must not contradict any provisions of the following legislation:

- a) The Criminal Code of Canada,
- b) The Gaming Control Act and Gaming Control Regulation of British Columbia, and
- c) The British Columbia Freedom of Information and Protection of Privacy Act.

1.4.4 Information Systems Security (ISS) Industry Standards

The Administrative Controls, Technical Controls and Physical & Environment Controls for the IGS should incorporate the best practice principles found in the applicable and relevant ISS industry standards, as dictated by such sources as:

- a) ISO / IEC 27001 – Information Security Management Systems (ISMS),
- b) ISO / IEC 27002 – Code of practice for information security management,
- c) ISO 31000:2009 - Risk Management – Principles and guidelines,
- d) Open Source Security Testing Methodology Manual (OSSTMM).

2 IGS Platform Requirements

2.1 Game Outcome

2.1.1 General Statement

All Critical functions, including the result of any game and the associated payout, must be generated by the IGS and be independent of the end player device except for the player's selections / choices during game play.

2.1.2 Communications Channel

Where the game outcome is derived from an RNG, that outcome must not be affected by the effective bandwidth, link utilization, bit error rate or other characteristics of the communications channel between the IGS and the end player device.

2.2 IGS Platform

2.2.1 General Statement

If the IGS is comprised of multiple computer systems at various sites, the IGS as a whole and all communication between its components must conform to these requirements.

2.2.2 Shut down and Recovery

- a) The IGS must be able to perform a graceful shutdown (i.e.: a shutdown where no data is lost, and all applications are able to close properly) in the event of a simple power failure, and not restart automatically on power up.
- b) In the event of a critical hardware / software failure, the IGS must be able to recover all critical information from the time of the last backup to the point in time at which the system failure occurred (no time limit is specified).
- c) BCLC must have disaster recovery capability sufficient to ensure player entitlements are protected and audit capability is facilitated up to the point of the disaster.
- d) The IGS must be able to recover from unexpected restarts of its central computers or any of its other components.

2.2.3 Third Party Hosting

Where one or more components of the IGS are hosted by a third party service provider, the following requirements must be met:

- a) The private and financial information of all players must be protected by the third party service provider using industry-standard ISS controls, and
- b) No third party service may be used which requires software to comply with rules / regulations which are contradictory to any items found within this standard.

2.2.4 Disabling of Gambling

- a) The IGS must provide a mechanism for each game offered on the IGS to be disabled, individually, by BCLC.
 - i) For the purposes of this section, disabling a single table within a game as defined in Appendix "L" and Appendix "O" does not constitute a game disable.
- b) When a game is disabled, all players playing that game must be permitted to conclude their current game in play:
 - i) Presently, or
 - ii) When that game next becomes available to the player.
- c) Once a game is disabled, it must not to be accessible to players.
- d) The IGS must provide full audit trails when disabling a game that is currently in play.
- e) The IGS must also provide a mechanism for all gambling offered on the IGS to be disabled, as a whole, by BCLC – with full consideration to the associated requirements listed above.
- f) The IGS must also provide a mechanism for each active game session on the IGS to be disabled, individually, by BCLC – with full consideration to the associated requirements listed above.
- g) Since the disabling of an event / market (or available wager type for that event / market) with

sports wagering (as defined in Appendix N of this standard) does not cause the corresponding real-life sport / contest / match to be cancelled:

- i) Where the event / market (or available wager type for that event / market) is to remain disabled in the sports wagering application, and the corresponding real-life sport / contest / match is completed, the IGS must be capable of returning all bets to players, or settling all bets, as appropriate.
- ii) Where the event / market (or available wager type for that event / market) is re-enabled in the sports wagering application, before the corresponding real-life sport / contest / match is completed, the IGS must be capable of returning all bets to players, or leaving all bets active, as appropriate.

2.2.5 Incomplete Games

- a) The IGS must provide a mechanism for a player to complete an incomplete game before a player is permitted to participate in another instance of the same game. Incomplete games include:
 - i) Loss of communications between IGS and end player device,
 - ii) IGS restart,
 - iii) Game disabled by IGS,
 - iv) End player device restart, and
 - v) Abnormal termination of gambling application on end player device.
- b) Upon reconnection by the player, and the player returns to the same game, the IGS must present the player the incomplete game for completion.
- c) Bets associated with a partially complete game that can be continued must be held by the IGS until the game completes. Player accounts must reflect any funds held in incomplete games.
- d) Information concerning methods of dealing with an incomplete game must be readily available to the player. Bets placed but remaining undecided in incomplete games (i.e.: without the player returning to that game in order to complete it) beyond a stipulated timeframe will become void.

2.2.6 User Inactivity Timeout

- a) The IGS must implement a 30-minute user inactivity timeout.
- b) If a session is terminated due to a user inactivity timeout, the end player device must display to the player the server session termination (i.e.: the user inactivity timeout) upon the player's next attempted action on the IGS. No further game play is permitted until the IGS and the end player device establish a new session.

2.2.7 Malfunction

The IGS must not be affected by the malfunction of end player devices other than to institute the incomplete games procedures in accordance with these requirements:

- a) Any unrecoverable malfunction of gambling hardware / software must result in the voiding of affected game bets and pays, and the return of affected bets.
- b) The terms and conditions of game play must clearly define the rules by which these unrecoverable malfunctions of gambling hardware / software are addressed.

2.2.8 Client Software

Where wagering is conducted through the use of client software installed on the end player device, the following requirements apply to that client software and the client-server interactions during gambling:

- a) The client software must not automatically alter any firewall rules to open ports that are blocked by either a hardware or software firewall.
- b) The client software must not access any ports which are not necessary for the communication between the client and the server.
- c) The client software installation instructions must not require or instruct the end user to manually open up any ports on their firewall for any port that is not directly used in client-server communications.
- d) Players must not be able to use the client software to transfer data to one another, other than chat functions (e.g.: text, voice, video, etc...) and approved files (e.g.: user profile pictures, photos, etc...), and all data transferred in this manner must be:

- e) Automatically scanned for viruses or other malicious content (where appropriate), and logged by the IGS. If the client software includes additional non-gambling related functionality, this additional functionality must not alter the game's integrity in any way.

2.2.9 Data Transmission and Data Storage

- a) Where player personal information is being passed over communication lines, or being stored somewhere within the IGS, such data must be protected with measures commensurate with the sensitivity of that data and in compliance with the applicable privacy legislation (such as FIPPA).
- b) Examples of player personal information include:
 - i) Player Name, and
 - ii) Player email address.
- c) Examples of sensitive player personal information that require advanced protection measures, such as encryption (or other commensurate controls) include:
 - i) Player identity details (including player identity verification results),
 - ii) Player physical address and contact numbers,
 - iii) Credit and debit card details,
 - iv) PINs and passwords,
 - v) Account details and balances,
 - vi) Player protection limitations,
 - vii) Player protection exclusions,
 - viii) Money transfers to and from player accounts,
 - ix) Changes to account details, such as change of address, change of credit card, or change of name, and
 - x) Game play (i.e.: games played, amounts bet, amounts won, Progressive Jackpots won, etc...).
- d) Any sensitive or confidential information maintained by the IGS must be stored in areas of the system that are secured from unauthorized access, both external and internal.

2.3 Data Logging Requirements

2.3.1 General Requirements

- a) The IGS must be capable of retaining and backing up all recorded information, as discussed herein, for as long as the period required by relevant provincially and/or federally legislated authorities, based on the type of information. Accordingly, among other implications, the number of digits to be used in all fields must therefore be based on appropriately projected performance and business. **Note:** *this does not preclude the possibility of archiving such data outside of the core IGS.*
- b) All time stamping implemented throughout recorded information must make use of the 24-hour format. All times displayed to players must be the current time for their time zone (e.g.: Pacific Time Zone for BC players).
- c) All date stamping implemented throughout recorded information must make use of a consistent format to be prescribed by BCLC.
- d) Where different transaction server processes write to the same transaction log, it must be possible to identify the originating server for each transaction.

2.3.2 Player Account Information

- a) For each individual player account, the IGS must maintain and back up the following information; and be capable of reporting this information to BCLC for a BCLC-configurable time span, upon request:
 - i) Player identity details (including player identity verification results),
 - ii) Account details and current balance,
 - iii) Changes to account details, such as change of address, change of credit card, or change of name,
 - iv) Any self-imposed player protection limitations,
 - v) Any self-imposed player protection exclusions,
 - vi) Details of any previous accounts, including reasons for deactivation,

- vii) Deposit / withdraw / direct payment history, and
- viii) Game play history or wager history (i.e.: games played, amounts bet, wagers placed, amounts won, Progressive Jackpots won, etc...) (**note: In the event a player has won a prize that involves an offline payout and / or an offline decision (i.e.: different payout options), it is acceptable that a placeholder dollar amount be used**).
- b) For player accounts as a whole, the IGS must be capable of generating the following reports for a BCLC-configurable time span, upon request:
 - i) A list of all currently (or previously) active player accounts,
 - ii) A list of all currently (or previously) inactive player accounts (including reasons for deactivation),
 - iii) A list of all accounts for which the player has currently (or previously) imposed a player protection self-exclusion,
 - iv) A list of all accounts for which the player has currently (or previously) been excluded from the site by BCLC (i.e.: involuntary exclusion),
 - v) A list of all accounts for which the player's funds have currently (or previously) been inactive for a period of time exceeding 90 days,
 - vi) A list of all accounts for which one or more of the player's deposits and / or withdrawals have exceeded a BCLC-configurable limit (i.e.: large deposits / withdrawals). The limit must be configurable for single transactions, as well as aggregate transactions over a user-defined time period, and
 - vii) A list of all accounts for which one or more of the player's wins have exceeded a BCLC-configurable limit (i.e.: large wins). The limit must be configurable for single wins, as well as aggregate wins over a user-defined time period.

2.3.3 Gambling Session Information

- a) For each individual gambling session (i.e.: player login time to logout time), the IGS must maintain and back up the following information, and be capable of reporting this information to BCLC:
 - i) Unique player ID,
 - ii) Gambling session start and end time, and
 - iii) Game play or wagers placed information for session (i.e.: games played, amounts bet, amounts won, Progressive Jackpots won, etc...).
- b) For gambling sessions as a whole, the IGS must be capable of generating the following report upon request:
 - i) A list of all currently active gambling sessions.

2.3.4 Game Information

- a) For each individual game played or wager placed, the IGS must maintain and back up the following information, and be capable of reporting this information to BCLC:
 - i) Unique player ID,
 - ii) Unique game identifier,
 - iii) Game start time, according to IGS,
 - iv) Player account balance at start of game,
 - v) Amount wagered,
 - vi) Contributions to Progressive Jackpot pools (if any),
 - vii) Current game status (i.e.: in progress / complete) (**note: the IGS must maintain records of any game that fails to complete, and the reason why the game failed to complete**),
 - viii) Game result / outcome,
 - ix) Progressive Jackpot wins (if any),
 - x) Game end time, according to IGS,
 - xi) Amount won (**note: In the event a player has won a prize that involves an offline payout and / or an offline decision (i.e.: different payout options), it is acceptable that a placeholder dollar amount be used**), and
 - xii) Player account balance at end of game.
- b) The IGS must maintain and back up the following information, and be capable of reporting this information to BCLC, for a BCLC-configurable period of time, upon request:
 - i) Information on the game titles hosted by the website, including approved game /

paytable versions.

2.3.5 Significant Events Information

- a) The IGS must maintain and back up the following information, and be capable of reporting this information to BCLC for a BCLC-configurable time span, upon request:
 - i) Changes made by BCLC to game parameters (***note:** for the purposes of sports wagering, which can implement dynamic odds / payouts setting, only the odds / payouts actually used for each individual wager need to be retained*),
 - ii) Changes made by BCLC to Progressive Jackpot parameters,
 - iii) New Progressive Jackpots created,
 - iv) Progressive Jackpot wins, and
 - v) Progressive Jackpot shutdowns.

3 Administrative Requirements

3.1 Player Registration and Account Requirements

3.1.1 Agreement

- a) Part of the player's registration process must be an agreement to the terms and conditions of game play. **Note:** *where end player devices utilize mobile technologies (which tend to implement miniature screens), it is permissible to present the check box or acceptance button outside of the terms and conditions, provided that the terms and conditions are made available to the player (e.g.: through some form of link) should the player choose to review the terms and conditions before acceptance.*
- b) The player can only advance to "cash" play if they take an action to acknowledge the agreement.

3.1.2 Verification

- a) Players must hold a valid active account before commencement of gambling.
- b) The IGS's registration process must be capable of confirming the identity, age and permanent residency of a player before permitting them to register a valid active account:
 - i) The IGS must deny registration to under-aged persons, and
 - ii) The IGS must deny registration to persons whose permanent residence is outside of the Province of British Columbia, or another permitted provincial jurisdiction.
- c) The IGS must deny login by persons attempting to access their account from outside of the Province of British Columbia, or another permitted provincial jurisdiction.
- d) The IGS must deny registration to persons who are identified as having self – excluded until such time as the self-exclusion has been revoked.
- e) The IGS must deny registration to persons who are not permitted to create an account by reason of a prohibition issued by BCLC or another permitted jurisdiction. As it relates to the above requirements, it is accepted that the system may unavoidably be subject to a certain degree of error when dealing with players residing or located close to geographic borders due to Internet Protocol (IP) address allocation by Internet Service Providers (ISPs).
- f) Player access to an IGS must involve at least a user ID and password.
- g) Initial passwords are set by the player; however, any subsequent password resets must be issued in a secure manner.

3.1.3 Player Access

- a) Where a player requires authentication of their credentials to access or modify their player account and / or password, an industry standard mechanism for electronic authentication shall be used, such as multi-factor authentication (MFA).

3.1.4 Under Aged Persons

- a) No bets shall be accepted from a player unless that person has been registered as a player who is 19 years of age or older.
- b) The IGS must be capable of generating a detailed report of any player's activity (as per Section 2.3.2 Player Account Information), such that if a player is ever found to be underage, BCLC has all of the necessary information to take whatever action is deemed appropriate by BCLC.

3.1.5 Controls Over Accepting Bets

- a) In conjunction with the restrictions detailed in Section 3.1.2, the IGS must not permit a person to actively participate as a player in an authorized game, or to place a wager, unless that person is situated in the Province of British Columbia, or another permitted provincial jurisdiction.
- b) The IGS must not accept a wager from a player in an authorized game unless a player's account has been established in the name of the player, and there are adequate funds in the account or authorized direct payment to cover the amount of the wager.

3.1.6 Player Accounts

- a) A new player account must be created in order to permit a player to deposit funds into the account or use a direct payment for game play.

- b) A player must only be permitted to have one active account at a time.
- c) Depositing funds or direct payment will be by a method acceptable to BCLC and made known to the Player on the player account payment screen.
- d) A new account for a person must not be created if the reason for the deactivation of a previous account indicates that the person must not be permitted to establish another account.

3.1.7 Security

- a) Player accounts on the IGS must be secured against unauthorized access or update other than by approved methods. This includes internal access by unauthorized BCLC staff, and external access by unauthorized parties.
- b) To clarify subsection (a) above, in the case of mobile gambling, encrypted HTTPS (or equivalent) is sufficient for the wireless communication of any sensitive player personal information as listed in Section 2.2.9 (c) Data Transmission and Data Storage.
- c) BCLC shall include in the terms and conditions a notification that players are responsible for the security aspects of their end-player device.

3.1.8 Player Activity Report

- a) On request by the player, a transaction activity report must be made available that contains winnings, losses and duration of play for each day of the period requested, and totals of these details. Transaction activity reports will be available:
 - i) Online via the IGS through their player account, or
 - ii) Manually by requesting the reports from BCLC.
- b) Statements must include sufficient information to allow the player to reconcile the statement against their own records to the session level (***note:** In the event a player has won a prize that involves an offline payout and / or an offline decision (i.e.: different payout options), it is acceptable that a placeholder dollar amount be used*).

3.1.9 Player Funds Maintenance

- a) All transactional data including deposits with authorization numbers (or equivalent, as provided by the financial institution / payment system), authorized direct payments, withdrawals, transfers or adjustment transactions, must be maintained in a system audit log.
 - i) Transactional data need only be maintained by the IGS for as long as the period required by relevant provincially and/or federally legislated authorities, based on the type of information, and
 - ii) Transactional data archiving is permitted.
- b) Except where rules within the player agreement and / or prize payout policies impose additional requirements prior to a payout being made, a player must be able to withdraw funds up to the current balance of their account at any time.
- c) Inactive accounts with a positive dollar balance in the IGS must be protected against forms of illicit access or removal. This includes unauthorized internal access by BCLC staff, and external access by unauthorized parties.
- d) Withdrawals from a player's account cannot be paid back to a credit card except where a credit card transaction error requires correction, or where a deposit refund is required, in which case, a void or refund credit card transaction process for the same value as the original transaction can be used.
- e) Withdrawals from a player's account on the IGS must either be paid directly to an account with a financial institution that is specifically named by the player through the course of configuring their player account on the IGS, or made payable to the player and forwarded to the player's address. The name and address must be the same as held in the player registration details.
- f) The IGS must be capable of identifying where the same financial institution account number is listed in two or more separate player accounts.
- g) Any funds left in a player's account that is to be de-activated are to be remitted in the name of the owner of the account.
- h) The IGS must not permit the withdrawal of funds in excess of the player's balance.

3.1.10 Player Game Session

A session finishes if:

- a) The player notifies the IGS that the session is finished (i.e.: logs out),
- b) A player-inactivity timeout is reached, or
- c) BCLC terminates the session.

3.1.11 Unclaimed Funds from Inactive Accounts

A documented process must be put in place to deal with unclaimed funds from inactive accounts. An account is considered to be inactive if the player has not logged into the account for a time period to be specified by BCLC in the documented and published Terms & Conditions for the IGS.

3.2 Anti-Money Laundering Requirements

3.2.1 General Statement

BCLC must ensure that the IGS software is designed to satisfy the following objectives:

- a) The IGS must be capable of closing player accounts.
- b) The IGS must be capable of imposing deposit or direct payment limits on players.
- c) The IGS must be capable of logging and reporting player account activity, including:
 - i) Opening and closing in short time frames, and
 - ii) Deposits and withdrawals without associated game play.
- d) In order to allow BCLC to return cheques to players and mark those payments with “Account Closure” or “Over-contribution”, as the case may be, the IGS must be capable of identifying cheques and / or Electronic Fund Transfers (EFTs) separately from wins.
- e) The IGS must be designed such that player accounts are not permitted to exceed a limit set by BCLC in consultation with GPEB.

3.3 Privacy Requirements

3.3.1 General Statement

The IGS must have a privacy policy posted on the website and readily accessible to the player through the communication channel used to access the website.

3.3.2 Use of Data

- a) Any information about the current state of player accounts must be kept confidential by BCLC, except where the release of that information is required by law.
- b) If the IGS processes any part of the registration online, the IGS must ensure that access to the information is restricted to the person supplying the information and to authorized BCLC staff. This includes internal access with BCLC access control lists, and external access with communications security and username & password.
- c) GPEB and BCLC acknowledge that they are both subject to the provisions of the FIPPA and that in carrying out their respective obligations under this TSD, they will at all times comply with the FIPPA. ATFs need not conduct any compliance testing related to FIPPA; however, the ATF will report any obvious issues to GPEB and BCLC for resolution.

3.3.3 Consent

- a) In order to complete the registration process, the player must offer consent to the privacy policy by taking an action, such as checking a box in the privacy policy, or selecting an acceptance button.
 - i) Where end player devices utilize mobile technologies (which tend to implement miniature screens), it is permissible to present the check box or acceptance button outside of the privacy policy statement, provided that the privacy policy statement is made available to the player (e.g.: through some form of link) should the player choose to review the policy before acceptance.
- b) The default of consent shall always be NOT to accept.
- c) Where data is to be used for purposes not directly related to BCLC’s gambling operations (including, but not necessarily limited to, the use of such data for inclusion in a mailing list for non-BCLC products and services), additional specific consent must be granted by the player.
- d) The withholding of this additional specific consent by a person must not in itself be a ground for BCLC refusing to conduct business with the person.

3.3.4 Cookies

Where cookies are used by the IGS, the player must be informed of the usage.

3.4 Content, Advertising and Marketing

3.4.1 General Statement

- a) All information within the IGS that is displayed or otherwise conveyed to the player must comply with the Province of BC's "Advertising and Marketing Standards for the B.C. Gambling Industry".
- b) Specific or formal compliance testing by the ATF is not necessary however; any obvious breaches that may be observed while performing other testing must be reported by the ATF to GPEB for resolution.

3.5 Player Protection Requirements

3.5.1 General Information

- a) The Gambling Platform website must comply with:
 - i. The Province of British Columbia's Advertising and Marketing Standards for the BC Gambling Industry, and
 - ii. Responsible Gambling Standards for the BC Gambling Industry.
 - iii. Responsible Gambling Standards for Internet Gambling Conducted by BCLC.
- b) The Gambling Platform website entry window must provide the player with a link to the GameSense responsible gambling website (or equivalent as agreed by BCLC and GPEB).
- c) The GameSense responsible gambling website (or equivalent as agreed by BCLC and GPEB) must contain at a minimum:
 - i. The Province's current responsible gambling message as provided to BCLC by GPEB,
 - ii. A link to the Province's current responsible gambling website (the website URL is to be provided to BCLC by GPEB),
 - iii. Information about potential risks associated with gambling, and where to get help for a gambling problem,
 - iv. Meaningful and accurate information about games and gambling in general, and
 - v. Information about self-exclusion programs (see Section 3.5.5 for details).
- d) In addition to being generally available on the Gambling Platform website, access (via a link or other means) to the GameSense responsible gambling website must be present on or readily accessible from the following pages:
 - i. All account related windows on the site (particularly the deposit window);
 - ii. The Gambling Platform entry window; and
 - iii. From any screen where game play may occur. For clarity this is in addition to any Instructions and Information required to be provided in Section 4.2.9.1. **Note:** *for the purposes of end player devices that utilize mobile technologies (which tend to implement miniature screens), the link to the GameSense responsible gambling website may be represented by a reasonably sized graphic, text, logo or symbol.*
- e) The Gambling Platform website must provide access to the following documentation (via a link or other means):
 - i. The terms and conditions the player agreed to be bound to under the "Player Agreement" and by entering and playing on the site, and
 - ii. The BCLC privacy policy.
- f) The Gambling Platform website must contain access (via link or other means) to the GPEB home website (the website URL is to be provided to BCLC by GPEB).

3.5.2 Last Log in Time Display

Information on the time and date of the player's last log in must be made readily available in the player's account.

3.5.3 Security Information

- a) The rules of play must advise the player to keep their password and login ID secure.
- b) The rules of play must advise the player to be aware of what mechanisms exist to detect if there is unauthorized use of their account, such as observing the Last Log in Time Display, and reviewing credit card statements against known deposits.

3.5.4 Session Duration Reminders

- a) The IGS must employ a session duration reminder function for all games offered on the IGS, except as noted in subsection (c) below.
- b) The method of reminder notification and the trigger method used to invoke the reminder may differ based on the type of game being played.
 - i) The duration trigger may be time-based, and either player-configurable or automatic (i.e.: not configurable by the player), or
 - ii) The duration trigger may be game-based, and automatic (i.e. not configurable by the player).
- c) Session duration reminders are not required for games where the player only wagers on a future event such as with sports or non-sports wagering or periodic lottery draws.

3.5.4.1 Time-Based Session Reminders

- a) Where the game being played implements a time-based trigger, it may either be player-configurable or automatic (i.e.: not configurable by the player):
 - i) For the player-configurable option, before being permitted to play, the player must be required to choose a timeframe for session duration reminders. The available options for timeframes for session duration reminders must include one hour, four hours, and at least one value in between. It is acceptable for this choice to include a default option for the player to select with the default duration specified as the shortest duration of time (one hour)
 - ii) For the automatic (i.e.: not configurable by the player) option, the system must implement the shortest duration of time. (i.e.: one hour).
- b) During a session, after the specified timeframe has elapsed, a message must appear on the screen clearly advising the player how long they have been playing. The message must either:
 - i) Be displayed immediately,
 - ii) Be displayed immediately upon completion of the current game or tournament in progress, or
 - iii) Be displayed immediately upon the player's next interaction with the game or website.
- c) Once the message has been displayed, the player must be required to take special action to continue gambling, such as checking a box, or selecting an acceptance button.
- d) Thereafter, where the player chooses to continue gambling, upon each subsequent cycle of the specified timeframe, steps b) and c) above must be repeated.

3.5.4.2 Game-Based Session Reminders

- a) Where the game being played implements a game-based trigger (i.e.: a trigger based on the number of completed games within the same session), the number of completed games between session duration reminders will be determined by BCLC in consultation with and as approved by GPEB. Where no specific agreement exists, the default trigger amount shall be no greater than the maximum number of games that can be played within the shortest duration of time referenced in **Section 3.5.4.1** above (i.e.: one hour).
- b) During a session, once the number of completed games has reached the trigger threshold, a message must appear on the screen clearly advising the player that they have played the number of games set for the session reminder. The message must either:
 - i) Be displayed immediately upon completion of the current game or tournament in progress, or
 - ii) Be displayed immediately upon the player's next interaction with the game or website.
- c) Once the message has been displayed, the player must be required to take special action to continue gambling, such as checking a box, or selecting an acceptance button.
- d) Thereafter, where the player chooses to continue gambling, upon each subsequent cycle of the completed games trigger, steps b) and c) above must be repeated.

3.5.5 Self-Exclusion

- a) Players must be provided with an easy and obvious mechanism to self-exclude from game play.
- b) At a minimum, this self-exclusion mechanism must be accessible from the player protection / responsible gambling website. **Note: the player must be logged into their account in order to activate the mechanism.**
- c) The player must be provided with the option to self-exclude for a specified period of time as defined in the Player Agreement. The IGS must ensure that:
 - i) Immediately upon receiving the self-exclusion order, no new bets or deposits are accepted from that player, until such time as the temporary self-exclusion has expired,
 - ii) Player wins may be processed during the self-exclusion period, provided that the originating wager was placed prior to the receipt of the self-exclusion order, and
 - iii) During the self-exclusion period, the player is not prevented from withdrawing any or all of their account balance, provided that the system acknowledges that the funds have cleared.
- d) Note the following requirements from Section 3.1.6 Player Accounts: **“A player must only be permitted to have one active account at a time”** and **“A new account for a person must not be created if the reason for the deactivation of a previous account indicates that the person must not be permitted to establish another account.”** Accordingly, in the case of a self-exclusion, a player must not be permitted to establish another account.

3.5.6 Involuntary Exclusion

- a) The IGS must provide a mechanism by which BCLC staff can exclude a player from the IGS under the terms of the Player Agreement.
- b) Immediately upon activating the exclusion, no new bets or deposits are to be accepted from that player, until such time as the exclusion has been revoked.
- c) During the exclusion period, the player must not be prevented from withdrawing any or all of their account balance, provided that the system acknowledges that the funds have cleared, and that the reason(s) for exclusion would not prohibit a withdraw.

3.5.7 Self-Limitation

- a) The IGS must provide players with an easy and obvious mechanism to self-limit their game play.
- b) At a minimum, this self-limitation mechanism must be accessible from the player protection / responsible gambling website.
- c) Immediately upon receiving any self-limitation order, the IGS must ensure that all specified limits are correctly implemented in the system.
- d) It is acceptable that self-limitations take effect the next time that the player logs in to the IGS; however, the player must be clearly informed that this is the case upon setting the limit.
- e) Once established by a player, it must only be possible to reduce the severity of self-limitations upon 24 hours' notice.
- f) Self-limitations must not be compromised by external time events, such as leap-years and daylight savings adjustments.
- g) Self-limitations must not be compromised by internal status events, such as self-exclusion orders and self-exclusion revocations.

3.5.8 Imposed Limitations

- a) The IGS must have a mechanism in place that permits BCLC to set limits on player accounts.
- b) Players must be notified in advance of any BCLC-imposed limits.

3.5.9 Transaction Logging

- a) Adequate transaction logging of player accounts must occur in order to ensure that dispute resolution is transparent (for detailed requirements, please refer to Section 2.3 Data Logging Requirements).
- b) Adequate backups of player account transactions must occur in order to ensure all player account balances can be recovered in the event of a disaster rendering the IGS inoperable (for detailed requirements, please refer to Section 2.3 Data Logging Requirements).

4 Software Requirements

4.1 RNG Requirements

4.1.1 General Statements

- a) With respect to the application of the RNG requirements listed in this document, it is accepted that predictability is not relevant to certain applications, such as bingo card generation. GPEB, in conjunction with the appointed ATF, must determine whether predictability is relevant to the application being tested, and apply these requirements accordingly.
- b) Any RNG outcomes used for game symbol selection / game outcome determination must be proven to:
 - i) Be statistically independent,
 - ii) Be fairly distributed (within statistically expected bounds) over their range,
 - iii) Pass various recognized statistical tests, and
 - iv) Be non-predictable.
- c) Game symbol selection / game outcome determination must not be influenced, affected or controlled by anything other than numerical values, or where applicable, mechanical outcomes derived from the RNG in conjunction with the rules of the game. **Note: this does not prohibit metamorphic games or Progressive Jackpots determined by means other than individual game outcomes from being considered on a case-by-case basis.**
- d) As game symbols are selected / game outcomes are determined, they must be immediately used as directed by the rules of the game (i.e.: they are not to be discarded due to adaptive behaviour by the game).
- e) Where the rules of the game require a sequence of game symbols / game outcomes to be set up in advance, these entities must not be re-sequenced except as provided by the rules of the game.

4.1.2 Choice of RNG

The RNG can either be software-based, hardware-based, a combination of both, or a mechanical-based RNG, at the discretion of BCLC. However, the final implementation must comply with the requirements of this document.

4.1.3 Hardware-Based RNGs

Owing to their physical nature, hardware-based RNGs can potentially 'break down' over time. Accordingly, failure of a hardware-based RNG could have serious consequences for the IGS, as games may become predictable or exhibit non-fair distribution. If a hardware-based RNG is used, some form of dynamic / active, real-time monitoring of the output is required, such that game play is disabled in the event that a failure is detected.

4.1.4 Software-Based RNGs

The following requirements apply only to software-based RNGs.

4.1.4.1 Scaling

- a) The methods of scaling (i.e.: converting raw RNG outcomes of a greater range into scaled RNG outcomes of a lesser range) must be linear, and must not introduce any bias, pattern or predictability.
- b) The scaled RNG outcomes must be proven to pass various recognized statistical tests.

4.1.4.2 Period

The period of the RNG, in conjunction with the methods of implementing the RNG outcomes, must be sufficiently large to ensure that all game outcome combinations are possible for the given games / applications.

4.1.4.3 Range

The range of raw values produced by the RNG must be sufficiently large to provide adequate precision and flexibility when scaling and mapping.

4.1.4.4 Seeding / Re-Seeding

- a) The methods of seeding / re-seeding implemented in the RNG must ensure that all seed values are determined securely, and that the resultant sequence of game outcomes is not predictable.
- b) Unless proven to have no adverse effect on the randomness of the RNG outcomes, seeding and reseeding must be kept to an absolute minimum.
- c) If for any reason the background cycling / activity of the RNG is interrupted, the next seed value for the RNG must be a function of the value produced by the RNG immediately prior to the interruption.

4.1.4.5 Background Cycling / Activity

- a) In order to ensure that RNG outcomes cannot be predicted, adequate background cycling / activity must be implemented in between games.
- b) Wherever a game outcome is made up of multiple mapped RNG values, background cycling / activity must be implemented during the game (i.e.: in between the selection of each mapped RNG value) in order to ensure that the game outcome is not comprised of sequential mapped RNG outcomes.
- c) The rate of background cycling / activity must be sufficiently random in and of itself to prevent prediction.

4.1.5 Mechanical-Based RNGs

Mechanical-Based RNGs will apply only to Live Dealer style games as outlined in Appendix O, or any other games as specifically permitted by GPEB.

4.2 Game Requirements

4.2.1 Game Fairness

- a) Games must not be designed to give the player a false expectation of better odds by falsely representing any occurrence or event.
- b) Near-miss games that are specifically designed to give the player the perception that they almost won the top prize (i.e.: with a frequency greater than that which would naturally occur given the game rules), in order to induce the player to continue gambling, are not permitted.
- c) Games that are designed to give the player the perception that they have control over the game due to player skill, when they actually do not (i.e.: the game outcome is fully random), are not permitted. **Note:** *It is permitted for a game to be designed to give the player the perception that they have control over the game due to player luck, when they actually do not, provided that the player has been informed in the game rules that their choices cannot actually influence the outcome of the game.*
- d) The following information must be made available to the player through the communication channel used to access the IGS:
 - i) The rules of the game and instructions of play, and
 - ii) The %RTP value, or odds of winning, or odds / payouts for sports wagering, as appropriate.
- e) Further to Subsection (d) above, where end player devices utilize mobile technologies (which tend to implement miniature screens), it is permissible to present an abridged version of the above information accessible from directly within the game, and make available the full / complete version of the above information through another method, such as a link to the IGS website.
- f) The rules of the game must not be unfair.
- g) The rules of the game must be accurate and correct.
- h) Game rules must not be changed during a session. BCLC must have a policy and procedure in place to prevent a game rule from being changed during a session unless effective notification is given to player.
- i) Game rules must not be changed between a player making a bet and the decision to credit or debit the players account for the bet.
- j) Further to subsections (h) and (i) above, nothing herein shall preclude the possibility of the following with sports wagering:

- i) Dynamic odds / payouts setting, or
 - ii) Rules changes to address circumstances within the sport / contest / match (e.g.: disqualified winners, cancelled games, etc...).
- k) Games / Wagers must operate and interact with the player strictly in accordance with the published rules.

4.2.2 Game Play Duration

The minimum duration for a single game is to be 3 seconds.

4.2.3 No Adaptive Behaviour by Games

A player who plays a game that is represented as being based on a random event must have an equally likely chance of obtaining any possible combination every time a game is played (except for that which is provided in the game rules). That is, it is unacceptable for the %RTP to be manipulated by the system or manual intervention to maintain a constant %RTP.

4.2.4 No Forced Game Play

- a) The player must not be forced to play a game just by selecting that game.
- b) The IGS must detect and reject repeated “play” messages that arise from impatient players pressing “play” more than once while awaiting a response from the IGS.

4.2.5 Game Play Requirements

- a) The following information must be displayed on the game screen, or readily accessible via a link:
 - i) Game name,
 - ii) Instructions (and restrictions) on game play or available wagers, in the case of wagering on future events, including a payable for all prizes and special features,
 - iii) Current account balance displayed in currency (as opposed to credits), and
 - iv) Unit and total bet.
- b) The following principles must be followed where games are provided in different language versions:
 - i) Each language version of the same game / wager must provide the same %RTPs or odds / payouts as the case may be,
 - ii) Each language version must be consistent with the game / wager instructions and restrictions for that version,
 - iii) All game information must be provided in the language specified for that version, and
 - iv) The game instructions (and restrictions) must carry the same meaning across all language versions so that no one version is advantaged or disadvantaged.

4.2.6 Game Design

- a) All payable variations of any given game offered on the IGS must comply with all applicable requirements herein, and must exhibit a %RTP not less than a minimum value as agreed to by GPEB and BCLC for that particular game type.
- b) The %RTP for each game must be specified by BCLC in the game documentation.
- c) Where a progressive prize is offered, the calculated %RTP must include such factors as the base game %RTP, progressive start-up value, progressive increment rate, etc...
- d) %RTP for a game must be demonstrable, as well as theoretical, and must be of a similar %RTP to those games typically found in traditional / land-based gambling venues / sites. Where a game does not have a traditional / land-based equivalent, GPEB reserves the right to withhold game approval if, in its judgment, and having regard to all circumstances, the %RTP is not considered to be fair and reasonable.
- e) Where a game is represented or implied to include a simulation of a real-life physical device, the behaviour of the simulation must be identical to the expected behaviour of the real-life physical device. That is:
 - i) The visual representation of the simulation must correspond to the features of the real-life physical device, insofar as it is material to ensuring player fairness and clarity,
 - ii) The probability of any event occurring in the simulation that affects the outcome of the game must be equivalent to the real-life physical device,

- iii) Where the game simulates multiple real-life physical devices that would normally be expected to be independent of one another, each simulation must be independent of the other simulations, and
- iv) Where the game simulates real-life physical devices that have no memory of previous events, the behaviour of the simulations must be independent of (i.e.: not correlated with) their previous behaviour, so as to be non-adaptive and non-predictable in practice.

Note: *The intent of item (e) above is not to limit options from a game design perspective, but rather to ensure that the player is not misled by the behaviour of a simulation. For example, it is acceptable for a game to implement a roulette wheel that has only 12 numbers, instead of the traditional 37 or 38 numbers, provided that this behaviour has been made clear to the player. In this instance, item (e) would apply in that the probabilities for the roulette wheel with 12 numbers must align with the real-life physical equivalent (i.e.: a 1/12 chance of yielding any particular number).*

- f) Games that are not completely independent of game play history (i.e.: metamorphic games) must:
 - i) Display clearly to the player which game rules apply to the current game state,
 - ii) Display to the player sufficient information to indicate the current status towards the triggering of the next metamorphosis of the game. If the game collects tokens, the number of tokens missing or the total number required to trigger the next metamorphosis must be indicated, along with the number of tokens collected at that point,
 - iii) Not adjust the likelihood of a metamorphosis occurring based on the history of prizes obtained in previous games. Games must not adapt their %RTP based on past payouts, and
 - iv) Not be designed in such a manner to be misleading to the player.

4.2.7 Mapping

- a) The methods of mapping (i.e.: converting scaled RNG outcomes into actual game symbols / game outcomes) must also be linear. **Note:** *it is accepted that certain game implementations require exemption from this requirement, such as instances where mapping is purposefully used to create the necessary probabilities for various game outcomes, as provided by the rules of the game.*
- b) The mapped RNG outcomes must be proven to pass various recognized statistical tests.

4.2.8 Game Play

- a) Wagering that requires monetary payment (i.e.: play-for-real) can only occur during a game session (i.e.: after the player has logged in, and before the player has logged out).
- b) Where links are used to supply information as required by this TSD, game play must not occur if the linked information is not available. These links must be checked (either manually or automatically) at least daily.
 - i) Where a broken link is uncovered, and the link relates to game-specific information only, then the associated game(s) must be taken offline (either manually or automatically) if the link is not repaired within one hour.
 - ii) Where a broken link is uncovered, and the link relates to the website as a whole, then all games must be taken offline (either manually or automatically) if the link is not repaired within twelve hours.
- c) In the event that a game in current play cannot be continued due solely to an IGS action, all bets must be returned to the players of that game.
- d) If the IGS extends an invitation to play a particular game, it must accept all legitimate wagers (as defined by rules) for that game.
- e) At the time of selection, the player must be made aware of which game or wager is being selected for play.
- f) It must not be possible to start a second occurrence of the same game before the current game in play is completed and all relevant meters have been updated on the IGS. Some exceptions may be granted in instances where, for example:
 - i) BCLC elects to conduct off-line, manual consideration of large payouts (i.e.: where a

- player chooses to continue gambling while a large payout is pending), or
- ii) The game in question is based on a future event, such as with sports wagering, or a periodic lottery drawing.
- g) A 'replay last game' facility must be provided, either as a re-enactment or by description. The replay must clearly indicate that it is a replay of the previous game, and must provide the following information (at a minimum):
- i) The date and time the game was played,
 - ii) The display associated with the final outcome of the game, either graphically or via a clear text message,
 - iii) Total player cash / credits at start of play,
 - iv) Total player cash / credits at end of play,
 - v) Amount bet including any multipliers,
 - vi) Total cash / credits won for the prize resulting from the last play (including Progressive Jackpots) (**note: In the event a player has won a prize that involves an offline payout and / or an offline decision (i.e.: different payout options), it is acceptable that a placeholder dollar amount be used**),
 - vii) The results of any player choices involved in the game outcome, and
 - viii) Results of any intermediate game phases, such as gambles or feature games.
- h) For games that involve wagering on a future event, such as with sports wagering or a periodic lottery drawing, a 'Wager History' must instead be provided. The history must clearly indicate that it is a history of the previous wager(s), and must provide the following information (at a minimum):
- i) The date and time the wager was placed,
 - ii) The description of the final outcome of the game upon which the wager was made, either graphically or via a clear text message,
 - iii) Total player cash / credits upon placing the wager,
 - iv) Total player cash / credits upon settlement of the wager,
 - v) Amount wagered including any multipliers,
 - vi) Total cash / credits won for the wager (including Progressive Jackpots) (**note: In the event a player has won a prize that involves an offline payout and / or an offline decision (i.e.: different payout options), it is acceptable that a placeholder dollar amount be used**),
 - vii) Any player choices involved in the wager, and
 - viii) Results of any intermediate wager phases.

4.2.9 Game Artwork (Information Displayed)

This section refers to all forms of graphical and auditory information that is sent to the end player device for presentation to the player. The combination of all relevant information being presented to the player must comply with these requirements.

4.2.9.1 Instructions and Information

- a) All written information presented on the gambling platform and games must be available in English (**note: logos or copyright messages may be displayed**). This does not preclude the display of the same information in other languages.
- b) All written information presented on the gambling platform and games must be truthful and correct.
- c) All game help / rules information (or wagering instructions, in the case of wagering on future events such as sports) must be clearly visible, or the means of displaying such information must be readily available, at all times.
- d) All game help / rules information (or wagering instructions, in the case of wagering on future events such as sports) must be visible / available to the player without the need for money to be bet on the game.
- e) All game help / rules information (or wagering instructions, in the case of wagering on future events such as sports) must be accurate and correct.
- f) There must be sufficient game help / rules information to allow a player to determine the correctness of the game or wager outcome.
- g) If random prizes are offered, the maximum value obtainable from the random prize must be

- indicated in the game help / rules information.
- h) If the value of the random prize depends on the amount of money wagered, this must also be stated in the game help / rules information.
 - i) For non-event based games, a payable displayed in the game artwork must correspond to the payable used in the mathematical treatise, and correspond to the payable implemented in the actual game design.
 - j) The functions of all buttons represented on the website and games must be clearly indicated:
 - i) Where possible on the button, and
 - ii) Clearly indicated with the help / rules screen.

4.2.9.2 Bet Display

- a) The bet denomination (and where applicable the tokenization) of the game must be clearly visible on the game screen, or be able to be easily deduced.
- b) If a game uses tokens or tokenization, the number of credits registered for each monetary unit for the current game must be displayed on the game screen.
- c) The artwork must either state the maximum bet, the number of credits that can be bet per selected line and the number of possible lines available, or it must be possible to deduce this information from the game help / rules.
- d) The minimum bet (if not easily deduced) must be readily available to the player, either directly on the game screen or in the game help / rules information.

4.2.9.3 Result Display

- a) The display of the result of a game's final outcome must not be misleading or deceptive to the player. The game must not inappropriately indicate a near-miss, as per Section 4.2.1 (b) Game Fairness.
- b) The final outcome of each game must be displayed for a sufficient length of time that permits a player to verify the outcome of the game.
- c) The display of the results of a wager based on a future event must be made available through the player's wager history facility.
- d) The nature of all prizes must be clearly indicated. If some prizes are in cash, whilst others are in credits, this must be stated.
- e) If the artwork contains game instructions specifying a maximum win, then it must be possible to win this amount from a single game (including features or other game options). For example, if the artwork states that \$500.00 is the maximum prize for a game, it must be possible to win \$500.00 on that game.
- f) To the extent that is practicable for the range of games offered, only one method of displaying win amounts should be used on the website so as to avoid confusion.

4.2.9.4 Game-Specific Requirements

The appendices of this TSD detail any requirements that are specific for each type of game or game feature. It should be noted that a game or game feature need only comply with the requirements applicable to that particular type of game or game feature.

Appendix A: Progressive Jackpot Game Requirements

For the purposes of this TSD, a game is deemed to include a Progressive Jackpot component when the game has an integrated or stand-alone incremental prize that increases based on a function of credits that are wagered. This includes games that award progressive jackpots or a “pool” based on criteria other than obtaining winning symbols, such as mystery jackpots, bad-beat jackpots etc. Incremental prize jackpots roll over into the next game if they are not won in the current game.

Progressive Jackpots can be offered in various formats as defined in the Glossary of Terms.

A.1 Progressive Jackpot Fairness

- a) All players that play games or place wagers that implement some form of Progressive Jackpot must be made aware of how they can be eligible to win the Progressive Jackpot.
- b) The rules of the game / wager must include how the Progressive Jackpot is funded and determined.
- c) All players contributing to the Progressive Jackpot and meeting all other eligibility requirements according to the game rules, must be eligible to win the Progressive Jackpot whilst they are playing that game (or having placed a wager on that game, in the case of wagering on future events such as sports).
- d) Progressive Jackpot contributions must not be assimilated into revenue. For example, if a cap is established on any Progressive Jackpot, all additional contributions once that cap is reached must be credited to a Diversion Pool.
- e) If a minimum bet amount exists in order for a player to win a jackpot, then the base game (excluding the jackpot) must meet the minimum %RTP value as agreed to in Section 4.2.6.a).

A.2 Notification of the Progressive Jackpot Amount

- a) The current Progressive Jackpot amount must be displayed on all end player devices participating in the Progressive Jackpot.
- b) It is acceptable that the system instead display to the player a minimum figure for the Progressive Jackpot amount, instead of the current exact figure, provided that
 - i) under no circumstances is the actual Progressive Jackpot amount less than the minimum figure displayed to the player,
 - ii) it is made clear to the player that the displayed figure is a minimum value, and
 - iii) the actual Progressive Jackpot amount is displayed to all participating players at the time of the Progressive Jackpot being won (or earlier).
- c) This display must be updated on all participating end player devices at least every 30 seconds.
Note: It is accepted that Internet communication delays are variable and beyond the knowledge or control of BCLC, therefore server-to-client delays will vary from player to player and from message to message.
- d) Players must be notified in the terms and conditions of game play of the imperfections of Internet communications, and how this affects them with respect to the Progressive Jackpot.

A.3 Progressive Jackpot Win Notification

Players must be notified of the win (including the amount won) by the end of their current game in play.

A.4 Progressive Jackpot Parameter Changes

Once a Progressive Jackpot has commenced, parameter changes must not take effect immediately. These parameter changes must instead be saved to apply after the current Progressive Jackpot is won.

A.5 Multiple Progressive Jackpot Winners

BCLC must address the possibility of a Progressive Jackpot being won (or appearing to be won) by one or more players at approximately the same time. The rules of the game must include resolution of this possibility.

A.6 Conversion of Progressive Jackpots

BCLC must have a policy and procedure in place to convert or combine one Progressive Jackpot pool into another Progressive Jackpot pool.

A.7 Progressive Jackpot Financial Liability

The rules of the game must provide for any planned or unplanned termination / discontinuation of a Progressive Jackpot. Of particular concern is how any outstanding pool amounts are dealt with in order to ensure player fairness.

A.8 Progressive Jackpot Shutdown

There are instances in this document where it is indicated that the Progressive Jackpot must be “shutdown”. A Progressive Jackpot shutdown requires the following action:

- a) Clear indication must be given to players that the Progressive Jackpot is not operating by displaying a message such as “Jackpot Closed” on end player devices,
- b) It must not be possible for the Progressive Jackpot to be won while in the shutdown state, and
- c) Activation of the Progressive Jackpot from the shutdown state must reinstate the Progressive Jackpot with the identical parameters (including Progressive Jackpot value, and hidden win amount for Mystery Progressive Jackpot) as before the shutdown.

A.9 Progressive Jackpot Meters

For internal BCLC use, the IGS must store and maintain the following software meters at a minimum:

- a) Total amount contributed / won (normally equal) for each previous Progressive Jackpot, including separate figures for any diverted amounts,
- b) Grand total amount contributed / won (normally equal) for all previous Progressive Jackpot combined, and
- c) Total amount contributed for current Progressive Jackpot, including separate figures for any diverted amounts.

A.10 Progressive Jackpot Recovery

In order to enable the recovery of the current value of the Progressive Jackpot amount in the case of an IGS failure, either:

- a) The current value of the Progressive Jackpot amount must be stored in at least two physically separate devices, or
- b) The current value of the Progressive Jackpot amount must be able to be accurately calculated from other available metering information that is not stored in the same system as the Progressive Jackpot amount.

A.11 Progressive Jackpot Controller

- a) The Progressive Jackpot controller is deemed to be part of the IGS, even if it is a physically separate controller.
- b) Where a “Master Controller” employs “Slave Controllers” to control a Progressive Jackpot, the following requirements apply:
 - i) All Slave Controllers must be time synchronised with the Master Controller,
 - ii) The Master Controller must be time synchronised with the IGS, and
 - iii) Game result Progressive Jackpot win events must be time stamped and the Progressive Jackpot Controller must ensure that hits registered within a minimum time increment are considered as simultaneous wins. Prize payout for simultaneous wins must be made in accordance with Section A.5 Multiple Progressive Jackpot Winners. The minimum time window (Progressive Jackpot Reset Period) is not less than the longest time taken to:
 - 1) Register that a Progressive Jackpot has been won,
 - 2) Announce the win on the displays of all participating end player devices, and
 - 3) Reset the Progressive Jackpot meters.

Appendix B: Internet Interface Game Requirements

The following requirements apply only to games that effectively constitute an internet interface or gateway to an existing traditional / land-based game already operating in the live environment.

It should be noted that Internet Interface Games need not comply with any other requirements from the appendices of this TSD.

B.1 Game Fairness

- a) The rules of the game, as made available to the player using the Internet interface / gateway must include no less information than that which is made available to the player using the traditional / land-based method.
- b) The artwork and functionality of the game, as made available to the player using the Internet interface / gateway, must not result in any advantage or disadvantage as compared with the player using the traditional / land-based method.
- c) All players playing the game (or placing a wager, in the case of wagering on a future event such as sports) using the Internet interface / gateway must be no more or no less eligible to win the game than players using the traditional / land-based method. **Note:** *nothing herein shall preclude the possibility of implementing promotions on either the Internet interface / gateway or the traditional / land-based method alone.*

B.2 Win Notification

Where the winning player is one using the Internet interface / gateway, they must be notified of the win directly through their player account, including the amount won, in due course after the completion of the game.

B.3 Multiple Winners

BCLC must address the possibility of the game being won (or appearing to be won) by one or more players simultaneously, including players using the Internet interface / gateway. Where necessary, the rules of the game, as made available to the player using the Internet interface / gateway must include resolution of this possibility.

Appendix C: Gamble Option Requirements

The following requirements apply only to games that implement some form of Gamble Option upon completion of the base game (e.g.: “double-up”, “triple-up”, etc...):

- a) The gamble prize limit (if applicable) for a particular game, and the maximum number of gambles available, must be clearly stated. Note that where wording indicating the maximum prize that can be won exists, then it must be possible to win this prize.
- b) When the gamble option is discontinued automatically before reaching the maximum number of gambles available, the reason must be clearly displayed.
- c) All references to gamble must use words such as “gamble” or “double up”, which cannot be misinterpreted to indicate some other feature.
- d) Any unusual game conditions during which the gamble option cannot be accessed must be specified.
- e) If a gamble option offers a choice of multipliers, it must be clear to the player what the range of choices / payouts is.
- f) Once the player has selected a multiplier, it must be clearly stated on the screen which multiplier was selected.

Appendix D: Spinning Wheel / Reel Game Requirements

The following requirements apply only to simulations of Spinning Wheel / Reel games.

D.1 Symbol-Prize Relationship

The prizes for the winning patterns of each symbol must be placed in an area that visually belongs to the symbol. This could potentially be achieved with appropriate boxing or framing. The symbol or group of symbols must not invade the area that visually belongs to some other group of symbols as this could cause ambiguities as to which symbols are displayed on the paying line.

D.2 Number of Symbols Required for a Prize

The number of symbols required to appear in the reels display window, in order to trigger each prize, must be indicated. These numbers must line up with the prizes in order to avoid any ambiguity as to which prize corresponds to which number.

D.3 Mixed or Grouped Symbols

If prizes can be awarded for mixed or grouped symbols, the artwork must clearly specify the grouping of the symbols either by placing the symbols in an area that clearly belongs to the prize and labelled with the term “Mixed” (or equivalent), or by using a descriptive term that clearly defines the grouping. Care must be taken with such phrases as “Mixed Bars” or “Mixed Fruit” to ensure that there can be no misinterpretation.

D.4 Tabulated Prizes for Multiple Credits Staked

- a) If the prizes for multiple credits staked are tabulated, then the number of credits bet required for each prize must be placed in a location that clearly indicates which prizes apply to which multipliers. Such numbers must have associated with them the word “credits” or equivalent (i.e.: “credits per line” or “total credits bet”). Common tabulations display the number of credits bet as column headings and the number of symbols required as row headings.
- b) If partial tabulation exists, the artwork must clearly indicate that the prize for one credit (or other appropriate bet) staked is multiplied by the number of credits bet (per line). Alternate game instructions must ensure that it is not possible to incorrectly assume that the tabulated prizes are further multiplied by credits bet.
- c) Where both multiplier instructions and tabulated prizes are displayed on artwork, there must be no confusion possible as to whether the multiplier applies to the tabulated prizes or not.

D.5 Winning Line Pays (Paylines)

In games that permit multiple credits to be wagered on selected lit lines, the artwork must either clearly state that the win(s) for each selected lit line will be multiplied by the number of credits wagered on that line, or show a tabulation of all possible wagers and their payouts.

D.6 Scattered Pays

The artwork must clearly indicate that scattered pays are multiplied by the total number of credits staked. This may be either via a message or a tabulation of all possible wagers and their payouts. If partial tabulation is used, the artwork must clearly indicate that the prize for one credit (or other appropriate bet) staked is multiplied by the total number of credits bet. Alternate game instructions must ensure that it is not possible to incorrectly assume that the tabulated prizes are further multiplied by credits bet.

D.7 Scatters

The scattered symbol must be clearly labelled with the word “scatter” at least once in the game instructions. Further occurrences of the scattered symbol in the game instructions do not require further labelling.

D.8 Positioning, Size, Colour and Shape

- a) Game instructions that belong to only one symbol / prize, or a group of symbols / prizes must be clearly associated with that symbol / prize or group of symbols / prizes. For example, this may be achieved with appropriate framing or boxing. Additional wording such as “these symbols” could also be used.
- b) Game instructions that refer to all symbols / prizes must read “ALL” or equivalent. If some symbols / prizes are excluded from these instructions, this should be clearly indicated with wording such as “EXCEPT” or equivalent.
- c) Game instructions must be printed in a colour that contrasts with the background colour in order to ensure that all instructions are clearly readable. For example, black print on dark purple background is not acceptable, as it can easily create confusion.
- d) Symbols that are not characters or numbers must have the same shape throughout all artwork, except while active / dynamic animation is in progress. Any symbol that changes shape or colour during an animation process must not appear in a way that might misrepresent another symbol in the pay table.
- e) If game instructions refer to a particular symbol, and the written name for the symbol may be mistaken for another symbol, or may imply other characteristics (e.g.: “Pair of Sunglasses” might imply two sunglass symbols), then the visual display of the instructions must clearly indicate to which symbol the instruction refers. For example, this may be via the display of the actual symbol, or a more clearly written description or both.

D.9 Substitutes

- a) The artwork must clearly state which symbols may act as a substitute, in which winning patterns, for which symbols, and any conditions that may apply. For example, this may be accomplished in the following manner:
 - i) An indication that the substitute(s) match “ALL” symbols,
 - ii) Provide a list of symbols that the substitute does match,
 - iii) Provide a list, using the term “EXCEPT”, which the substitute does not match, or
 - iv) Provide a statement clearly describing groups of symbols that are substituted.
- b) Where a game's rules provide for both coinciding wins being paid on a selected lit line, and the use of one or more substitute symbols, the following must apply to the artwork:
 - i) If the substitute symbols on their own are awarded a prize, and concurrently may substitute for some other symbol (e.g.: Sub Sub Sub Queen Queen pays both 3 Subs and 5 Queens), explanations of this rule must be explicitly included. It is not required to state the reverse case where the highest prize only is paid,
 - ii) If multiple patterns that use substitutes exist on the selected lit line (e.g.: Queen Queen Sub Jack Jack, for a game playing Left to Right and Right to Left), and the game only pays one of these combinations, explanations of this rule must be explicitly included. It is not required to state the reverse case where both prizes are paid, and
 - iii) If substitution occurs for patterns where none of the substituted symbols are displayed (e.g.: Sub Sub Sub Sub Sub pays for 5 Kings and 5 Queens, etc...), explanation of this rule must be explicitly included. It is not required to state the reverse case where only one prize is paid.

- c) The artwork must contain all rules relative to Substitutes participating in scattered wins. The following must be addressed:
 - i) If applicable, the artwork must specifically state when the term “substitutes for all symbols” is used, but the Substitute does not participate in scattered wins (e.g.: “<sub>substitutes for all symbols except scattered <scatter symbol>”), and
 - ii) The artwork must state payout rules for coinciding wins when there are multiple scattered win symbols and substitutes participate, including the situation where one or more scattered symbols may not appear.
- d) If there is a feature where a symbol may substitute in a winning pattern when the symbol is not on a pay line, this must be clearly specified on the artwork.
- e) The artwork must clearly state if the game provides for a change of substitutes (e.g.: during free games), and any special conditions that may apply.
- f) If the game provides for extra pays or multipliers apply when substitutes participate in winning patterns, a clear explanation must be provided.
- g) If the game provides for multipliers to apply when substitutes participate in winning patterns, the multiplication factor or a tabulation of all prizes with possible multipliers must be displayed.
- h) If extra pays or multipliers apply when substitutes participate in winning patterns, the handling of winning patterns where multiple substitutes participate must be clearly explained.

D.10 Winning Patterns

- a) All winning patterns relevant to the particular point in time in a game must be clearly displayed or accessible on some form of artwork. All undefined patterns must be assumed to be non-winning.
- b) Complicated winning patterns must be clearly explained, preferably with pictorial representations.
- c) The winning pattern for scatters must be explicitly stated or displayed.
- d) If generic winning patterns (graphical representation of the order / position in which the winning symbols are to appear) are only represented graphically (without the aid of a written explanation), then they must be supplemented with numbers to indicate how many correct symbols each pattern corresponds to, except for unusual winning patterns (e.g.: X_X_x_X_X) where numbers must not be displayed and the pattern must be position in proximity to the prize.
- e) Winning patterns that are not “left to right” or “right to left” or “any” must be clearly explained, preferably with pictorial representations.
- f) The artwork must appropriately state that all wins occur on selected lines (and if applicable – except scatters) or equivalent.
- g) If it is possible to bet on multiple possible lines, and it is not clearly obvious which reel positions are part of each of the possible lines, then the additional lines must be clearly displayed on the artwork, and appropriately labelled. The additional lines must either be shown on static artwork or be available for display on a help or payable screen or permanently displayed on all game play screens in a location separate from the actual reels. This requirement applies to all standard five-reel games where lines greater than five must be schematized on the artwork and appropriately labelled.
- h) Upon a win, all pay lines must be clearly indicated. If it is possible to bet more than 5 lines, then upon a win the pay lines must be indicated in a manner such that all pay lines can be clearly identified by the player.

- i) The artwork must clearly state the rules for payments of prizes where multiple wins are possible. The following must be addressed:
 - i) A description of what patterns will be paid when a pay line may be interpreted to have more than one individual winning pattern,
 - ii) Where the game supports multiple pay lines, a message indicating wins on different pay lines are added or the equivalent is to be displayed,
 - iii) Where the game supports scatters, a message indicating that scattered wins are added to pay line wins or equivalent must be displayed if this is the rule of the game,
 - iv) Treatment of coinciding scattered wins with respect to other possible scattered wins must be clearly stated. For example, the artwork must state whether combinations of scattered symbols pay all possible prizes or only the highest prize, and
 - v) Where mixed symbol prizes are paid, the treatment of prizes that may be interpreted to be both mixed and straight winners is to be described.

D.11 Spinning Wheel / Reel Game Features

It is not possible to define requirements for all conceivable types of spinning wheel / reel game features that may be developed over time. The following requirements apply to spinning wheel / reel game features that are commonly in use in traditional / land-based gambling, and may be expected to be used in e-gambling.

D.11.1 Feature Trigger Patterns

- a) The trigger pattern(s) and all other conditions that should occur, in order to trigger the feature, must be unambiguously specified.
- b) The action of the game when feature trigger patterns occur during the feature (e.g.: free games) must be clearly stated on the artwork (e.g.: further triggers, bonus payout and / or no further trigger).

D.11.2 Tokens accumulation

For games with rules that allow for the accumulation of tokens to qualify for a feature(s), or game metamorphosis, the artwork must clearly show:

- a) The definition of the event that leads to the accumulation of tokens,
- b) A description of how many tokens are accumulated with each occurrence of the event,
- c) A description of how many tokens are required to trigger the feature,
- d) An indication of how many tokens are currently accumulated,
- e) If sub-tokens accumulate to tokens, a description of the number of sub-tokens needed to accumulate a token, and the number of sub-tokens and tokens currently accumulated,
- f) If the accumulation of tokens may lead to free games, the number of possible lines and credits per line that are to be wagered during the free games, and
- g) Game rules when further tokens are not accumulated during the feature sequence for events which normally would qualify to earn tokens.

D.11.3 Free games

The artwork must explain all rules relative to free games. Areas relative to free games that must be addressed, in addition to the general requirements above, are:

- a) Additional payouts for non-winners during the free game sequences, if any, must be displayed on the artwork. A clear indication if this payout is to be multiplied by credits staked per line or total credits staked, must be given,
- b) Any multipliers for prizes, special prizes, substitutes and other special rules during free games, must be displayed on the artwork,
- c) A clear display of an accumulated win amount is required during each stage of the free games if the gambling machine does not directly add wins to the credit meter,
- d) If more than one free game is offered, the number of free games that has occurred or the number remaining (or the total number) must be displayed, and
- e) Appropriate game instructions defining the number of possible lines and credits per line that are wagered during the free games.

D.11.4 Re-Spins / Held Reels

The following requirements apply to game artwork where one or more reels are automatically “held” for one or more “re-spins”. The rules for the criteria for the re-spin, and which reel positions are held, must be clear. Examples of areas that must be addressed are:

- a) Which reels are to be held (e.g.: first two reels),
- b) Whether held reels occur on winning or non-winning patterns,
- c) The specific line where the trigger combination should occur, if any (e.g.: “ON THE CENTRE LINE”), or scattered if that is the actual requirement of the game,
- d) If a partial number of reels (e.g.: 2, 3 or 4 reels) are held for some criteria, it must be clearly stated what happens when the criteria forms part of a larger pattern (e.g.: what happens when all 5 reels meet said requirement),
- e) If the trigger is a winning pattern, and the pattern does not pay during re-spins, this must be clearly stated on the artwork,
- f) The rules for extensions or termination of the re-spin sequences, including additional held reels (e.g.: when there are improvements to the original held combination(s)), must be clearly explained on the artwork, and
- g) If more than one re-spin is offered, the number of re-spins that has occurred or the number remaining (or the total number) must be displayed.

D.11.5 Bonus Prizes

This section refers to games where one or more bonus prizes may be paid to the player during the feature sequence. Generally, bonus prizes are awarded as a result of some second (or subsequent) screen animation:

- a) Criteria for both the initial entry and entry to further bonus features must be clearly stated,
- b) All instructions and player choices for the bonus feature must be clearly stated,
- c) A display of total amounts won must be available at the end of each stage of the game, including on second screen animations. This must include display of bonus prizes won in multiple sequence bonus features, and
- d) If bonus prizes are multiplied, the artwork must clearly state whether they are multiplied by credits staked per line or total, where appropriate.

D.11.6 Metamorphic Sequences

This section refers to metamorphic games where the player still “pays” for the sequence game(s):

- a) All instructions for the game, including the differences between the main game and the metamorphic game, must be stated (e.g.: <character> appearing anywhere in window pays the original prize which started the feature),
- b) An indication must be stated that the number of lines and / or number of credits wagered during the metamorphic sequence may not exceed the wager of the game (or games) that triggered the feature, if that is the rule of the feature,
- c) Any special prizes, substitutes, multipliers or similar rules during the metamorphic sequence must be clearly stated on the artwork, and
- d) If the metamorphic sequence consists of more than one feature game, the number of games in the metamorphic sequence that has occurred or the number remaining (or the total number) must be displayed.

D.11.7 Held Reel Games

This section refers to spinning reel variations with Draw Poker characteristics, where the player may hold one or more reels for a second chance to improve the hand. The artwork must address the following:

- a) Held and non-held reels, including recommended reels, must be clearly marked on the screen at all times,
- b) The method for changing holds must be clearly displayed to the player,
- c) If the player is required to wager additional credits to participate in the hold reels phase of the game, this must be stated, and
- d) Display that the player is able to hold or release reels.

D.11.8 Miscellaneous symbols

For spinning wheel / reel game features, if a symbol that can form part of a winning combination is not on all reels:

- a) The artwork must clearly show which reels the symbol appears by illustrating exactly which reels the symbol appears on, or
- b) The artwork must not show or imply to the player that the corresponding prize can be won.

Appendix E: Keno / Bingo / Lottery Game Requirements

The following requirements apply only to simulations of Keno / Bingo / Lottery games, where balls are drawn from a simulated cage (or equivalent) and a player tries to pick in advance which of these balls will be selected:

- a) The player must be able to view or access a tabulated display of the payable (or equivalent), which shows all possible winning payouts, while no game is in progress.
- b) Any special rules that are outside the standard game of Keno / Bingo / Lottery must be clearly explained.
- c) All of the player's selections (where applicable, the player's card) must be clearly identified directly on the game screen. Where the game uses multiple player cards, it is acceptable for the player's selections to be accessible by flipping or switching through the cards.
- d) If the player is permitted to discard the current card and instead select a new card before the commencement of the game, then the following requirements must be met:
 - i) This functionality must be clearly explained to the player in the game rules, and
 - ii) This functionality must be made readily available to the player before the commencement of the game.
- e) The artwork must clearly state how the player makes or changes selections. Areas to be addressed are how:
 - i) Individual numbers are picked,
 - ii) Individual numbers are cleared, and
 - iii) All selections are cleared.
- f) The balls drawn must be clearly identified on the screen.
- g) The game must highlight balls drawn which match the player's selections (i.e.: "Hits").
- h) Special hits, if any, must be clearly identified.
- i) The screen must provide clear indication of how many spots were selected and how many hits were achieved.
- j) Rules for purchase of additional features of the game, if any, must be explained.
- k) Accumulator games and fixed prize progressive games or a combination of both that provide non-linearly proportional odds and payouts are permitted for Bingo games.

Appendix F: Roulette Game Requirements

The following requirements apply only to simulations of Roulette games:

- a) Each “Zero” used must be uniquely labelled (e.g.: “0” versus “00”).
- b) The simulated Roulette wheel must be in the identical format as a standard casino wheel (including colours of landing locations and position of numbers) with the exception of the position of “Zeroes”, if more than one exists, in which case the “Zeroes” may be placed arbitrarily.
- c) A paytable, or description of all available wagers and their payouts, must be accessible by the player while the game is not in play.
- d) The method of selecting individual wagers must be explained by the rules.
- e) The wager(s) already selected by the Player must be displayed on the screen.
- f) The simulated ball spin must result in a location that unambiguously determines the winning number.

Appendix G: Dice Game Requirements

The following requirements apply only to simulations of Dice games:

- a) Each face must clearly show the number of spots.
- b) Simulated dice must be of the same layout as standard dice (e.g.: the 1 and 6, 2 and 5, and 3 and 4 respectively must be on opposite faces).
- c) It must be obvious which is the up face on each die, after the dice are thrown.
- d) The result of each die must be clearly visible or displayed.
- e) There must be a description of each wagering option available on the artwork. For example, the Craps wagers “Field” and “Hardway” must be clearly explained.
- f) All possible wagering options available and obtainable at any point in time must be displayed on the artwork by:
 - i) Describing the availability of all possible wagering options in help / rules screen for the game, or
 - ii) Altering the displayed artwork by "greying-out" any selection buttons that are unavailable for wagering.

Appendix H: Scratch Ticket Game Requirements

The following requirements apply only to simulations of Scratch Ticket games:

- a) A precise definition of which player options are required to complete the game must be shown on the artwork.
- b) Details of how payouts are won, and their amounts, must be shown on the artwork.
- c) All rules for symbols that may substitute in winning patterns must be displayed on the artwork.

Appendix I: Racing Game Requirements

The following requirements apply only to simulations of racing games:

- a) All participants in the race must have characteristics that make it unique in appearance (e.g.: number, jockey colours, etc...).
- b) The result of the race must be clearly obvious and not open to misinterpretation.
- c) If prizes are to be paid for combinations involving runners other than just the first place finisher, the order of the place getters that can be involved with these prizes must be clearly shown on the screen (e.g.: Result 8-4-7).
- d) Each meaningful result position must be available for display in all last game replays.
- e) The rules for alternative wagering options (e.g.: Quinella), and the expected payouts, must be clearly explained on the artwork.

Appendix J: General Card Game Requirements

The following requirements apply to any simulations of card games that involve the dealing of cards from a deck or deck(s):

- a) Card faces must clearly display the card value (e.g.: it must be obvious which is a Jack and which is a Queen).
- b) Card faces must clearly indicate the suit:
 - i) For a standard two-colour suit system, Hearts and Diamonds must be red; Clubs and Spades must be black, or
 - ii) For a four-colour suit system, Hearts are red, Spades are black, Diamonds are blue and Clubs are green.
- c) Jokers must be distinguishable from all other cards.
- d) It must be clearly stated if more than one deck of cards is used in the game.
- e) The artwork must clearly state if the rules of the game do not shuffle the deck after every game. In this instance, the artwork must indicate when shuffles actually do occur.
- f) At a minimum, the player must be able to view a payable that shows all winning hands and their payouts, while no game is in progress.

Note: Depending on the type of card game at hand, the requirements of Appendix K, L or M may also apply. Wherever the requirements of Appendix J are in conflict with the requirements of Appendix K, L or M (as applicable), the requirements of Appendix K, L or M (as applicable) shall prevail.

Appendix K: Single-Player Poker Game Requirements

The following requirements apply only to simulations of Single-Player Poker games:

- a) The artwork must provide clear indication if Stud Poker rules apply. Common Draw Poker must be assumed, if nothing is stated.
- b) The artwork must provide a definition of winning combinations outside the scope of standard Poker (e.g.: Royal Flush with / without Wild Cards, Four of a Kind “Jacks or Better”, Four Deuces (when Deuces are wild), etc...).
- c) Wild card rules must be clearly explained (e.g.: Jokers Wild or Deuces Wild).
- d) Held and non-held cards, including recommended holds (if implemented), in Draw Poker or equivalent must be clearly marked on the screen, and the method for changing Holds clearly displayed to the player.
- e) Winning hands must be clearly labelled as to the win category (e.g.: “Full House”).
- f) All special rules outside the scope of common Poker must be clearly explained.
- g) When player options outside the scope of common Poker are available, they must be clearly explained on the artwork.

Appendix L: Multi-Player Poker Game Requirements

The following requirements apply only to simulations of Multi-Player Poker games:

- a) The artwork must provide a clear indication of which Poker rules apply.
- b) The artwork must provide a definition of winning combinations outside the scope of standard Poker (e.g.: Royal Flush with / without Wild Cards, Four of a Kind “Jacks or Better”, Four Deuces (when Deuces are wild), etc...).
- c) Wild card rules must be clearly explained (e.g.: Jokers Wild or Deuces Wild).
- d) All special rules outside the scope of common Poker must be clearly explained.
- e) When player options outside the scope of common Poker are available, they must be clearly explained on the artwork.
- f) If some features are available only at certain tables, this must be made clear to the players.
- g) The amount of rake taken by BCLC, as well as any additional fees (e.g.: special entry fees), must be displayed on the game page or available through a link.
- h) The artwork must clearly indicate any variation in the published rake schedule for the poker room based on the table, limit amount, number of players, or pot amount.
- i) The tournament prize structure, if applicable, must be clearly explained to the players.
- j) The disconnection protection policy must be clearly indicated on the game page or available through a link.
- k) Held and non-held cards, including recommended holds (if implemented), in Draw Poker or equivalent must be clearly marked on the screen, and the method for changing Holds clearly displayed to the player.
- l) The site must state that the use of automated end player devices or ancillary computer systems is not allowed. The site terms and conditions should state the consequences to players if these devices are detected.
- m) The artwork must clearly indicate the value of the player's table balance / chip count at any given point in the game. This amount must be updated every time the player places a wager or receives any prize amount.
- n) The artwork must clearly indicate the prize amount the players are playing for at all times during game play (i.e.: the players' stakes less BCLC's rake). This amount must be updated each time a wager is placed.
- o) Winning hands must be clearly labelled as to the win category (e.g.: “Full House”).
- p) Players shall not be permitted to play more than one hand at the same table.
- q) Players shall not be permitted to wager on another player's hand.

Appendix M: Blackjack Game Requirements

The following requirements apply only to simulations of Blackjack games:

- a) Insurance rules must be clearly explained if Insurance is available.
- b) Pair Split rules must be explained. Areas to be addressed include:
 - i) Split aces have only one card dealt to each ace, if this is the game rule,
 - ii) Further splits, if available, and
 - iii) Double-down after splits, if available.
- c) Double-down rules must be clearly explained, including limitations of which totals may allow a double down to be selected.
- d) The current total of all hands, including the Dealer's total, must be displayed during and at the end of the game. The term "Bust" or the equivalent may be used to indicate a hand whose total has exceeded 21.
- e) Dealer play rules must be clearly explained, including special treatment of a soft 17 count, if any.
- f) Any limits on the number of cards that may be drawn by player and / or dealer must be explained, including winners declared (if any) when the limit is reached (e.g.: Five Under wins).
- g) Surrender Rules must be explained, if any exist.
- h) If the player loses on "Dealer Push", this must be clearly explained.
- i) Winning hands must be clearly labelled as to the win category (e.g.: "Blackjack", "Six Under", or "Push").
- j) If Pair Splits have occurred, the results for each hand must be shown (total points, resultant win or loss category, amount won, amount wagered).
- k) Special rules, if any, must be clearly explained.
- l) All player options that are available at any point in time must be shown on the artwork.

Appendix N: Sports and Non-Sports Wagering

The following requirements apply only to wagering on sports / contests / matches and non-sporting events, where the player places wagers on events / markets which are to occur in the future and whose outcomes are determined by occurrences independent of BCLC.

The requirements in this section are general in nature and do not refer to specific types of sports / contests / matches and non-sporting events or wagers. The intent is to cover wager types currently known and permitted by law and to provide the framework for future types.

Each wager type requires GPEB approval.

N.1 Placing Wagers

The following sections describe the information which must be made available to the player regarding the events / markets (and associated wager types) available on the IGS, and the methods for placing a wager on the IGS.

N.1.1 Wagering Information

- a) A list, or equivalent representation, of all available wager types must be made available to the player.
- b) The player must be able to view descriptions of those wager types prior to placing a wager (e.g.: via a link to a help / rules screen).
- c) The description of each wager type must include all available betting options for that wager type.
- d) A list, or equivalent representation, of all active events / markets must be made available to the player.
- e) For fixed odds wagering (i.e.: where the odds / payouts might fluctuate over time, but are fixed for any given individual wager at the time that wager is placed):
 - i) Players must be able to access all current odds / payouts for all available events / markets at all times,
 - ii) The rules made available to the player must clearly state circumstances when it is permitted to dynamically modify the odds / payouts on an event / market,
 - iii) Players must be able to view when odds / payouts are changed,
 - iv) Subsequent access to odds / payouts, e.g.: via a link, must show the current values,
 - v) The rules made available to the player must clearly state circumstances when the odds / payouts are to be adjusted, such as multiple winning outcomes (e.g.: dead heats), withdrawn selections for which wagers are refunded, abandoned legs of parlays, and prorating, and
 - vi) It is accepted that the system will unavoidably be subject to a certain degree of synchronization delay for updates to this information as displayed on the player's screen, and information may only be updated at the player's next interaction with the website, which causes the on-screen information to be refreshed. In order to ensure player fairness, the system must identify situations where the player has placed a wager for which the associated odds / payouts have actually changed (but not yet refreshed on the player's screen), and notify the player accordingly and ask for confirmation of the wager given the new odds / payouts. It is acceptable that the player be given an option to pre-accept odds / payouts changes, thus alleviating the need for the aforementioned confirmation process, provided that sufficient information has been made available to the player (in advance) as to the operation of this feature.
- f) For wager types where individual wager amounts are gathered into pools (i.e.: where the odds / payouts may not be known until such time as the event / market is closed and the corresponding final prize pool is determined, which may occur after the player has placed their wager):
 - i) The player must be able to view reasonably up-to-date prospective odds / payouts information for simple wagering pools,
 - ii) The player must be able to view reasonably up-to-date values of total investments for all wagering pools,

- iii) It is accepted that the system will unavoidably be subject to a certain degree of synchronization delay for updates to this information as displayed on the player's screen, and information may only be updated at the player's next interaction with the website, which causes the on-screen information to be refreshed. In order to ensure player fairness, the system must identify situations where the player has placed a wager for which the associated odds / payouts have actually changed (but not yet refreshed on the player's screen), and notify the player accordingly and ask for confirmation of the wager given the new odds / payouts, and
- iv) For complex wagering pools, it is accepted that there may be reasonable limitations to the real-time accuracy of the pool estimates displayed to the player.
- g) The rules available to the player must clearly state circumstances where BCLC will attempt to reduce the potential liability in events / markets by any means such as:
 - i) Prorating – abatement of large winners in an event / market when the overall payout liability is large,
 - ii) Liability limits – wagers are automatically rejected if the liability for an event / market would exceed a predefined limit established by BCLC, and
 - iii) Partial wager acceptance / wager rejection – circumstances where BCLC accepts only part of a wager or totally rejects a wager. This is commonly followed by a change of the odds / payouts.

N.1.2 Wagers

- a) No wager amount may be greater than the current balance of the player's account.
- b) The method of placing a wager is to be straightforward, with all selections (including their order, if relevant) being clearly obvious to a typical player.
- c) When the wager involves combining events / markets (e.g.: Doubles / Trebles bets), such groupings must be clearly obvious to the player, given the combination of information on the betting page and help / rules screen.
- d) There must be a clear notification that the wager has been accepted by the system and details of the actual wager accepted must be provided to the player once the wager is accepted (e.g. displayed as a betting ticket with wager details, in combination with generic wager information presented in the help / rules screen)
- e) If the wager attempt is rejected (in full or in part) by the IGS, the player is to be informed of the reason(s) for the rejection.
- f) The player's account balance is to be debited by the amount of the wager when notification of acceptance of the wager by the system is received.
- g) Wager confirmation should include the amount of the wager actually accepted by the IGS.
- h) For fixed odds wagering:
 - i) If the wager could have involved more than one odds / payout, the IGS must store, and the confirmation must indicate, to which odds / payout it applies, and
 - ii) If the wager is a type where the odds / payouts may change dynamically, the system must store, and the confirmation must indicate, the odds / payouts that will apply to this wager should it be a winner.

N.1.3 Event / Market Close

- a) The system must implement an automatic close of event / market wagering when the scheduled time for the event / market is reached. Note that this does not preclude the implementation of in-running betting.
- b) There may be a manual override to the automatic close time.
- c) The players still in session must be able to view when an event / market is closed (upon the player's next interaction with the website, which causes the on-screen information to be refreshed).
- d) It shall not be possible to place wagers on the event / market once it has closed.
 - i) This requirement does not preclude the implementation of in-running betting.
- e) It is possible to re-open an event / market when the circumstances permit. Players must be able to view when an event / market re-opens (upon the player's next interaction with the website, which causes the on-screen information to be refreshed).

N.1.4 In-Running Betting

- a) The help / rules screen and / or terms & conditions for the website must contain an explanation to the player that system delays are implemented to mitigate the impact of players who have more up-to-date information or faster Internet connections.

N.2 Posting Results

N.2.1 Event / Market Results

- a) The IGS must inform the player of how reliable official results for the sports / contests / matches / non-sporting events are obtained and published.
- b) The IGS must clearly inform the player of the means by which a winning wager will be determined.
- c) The rules available to the player must clearly state what is to occur when there is potential for multiple events / markets to share the same winning outcome (e.g.: a dead heat).
- d) The rules available to the player must describe the situation of winning results being entered for sport / contest / match outcomes that were not offered for wagering.
- e) The rules available to the player must clearly state what is to occur when only a portion of a sport / contest / match or non-sporting event is withdrawn, covering subjects such as:
 - i) Circumstances when all wagers on that portion of the sport / contest / match / non-sporting event are lost when withdrawn,
 - ii) Circumstances when all wagers on that portion of the sport / contest / match / non-sporting event are refunded when withdrawn, and
 - iii) Handling of the withdrawn portion of the sport / contest / match / non-sporting event for wagers involving multiple events / markets (e.g.: parlays).
- f) If a sport / contest / market / non-sporting event is abandoned for any reason, all wagers involving solely events / markets associated with that event are to be refunded in full.
- g) Wager types that involve multiple events / markets (e.g.: parlays) are to be treated as if every selection for that leg of the abandoned event / market is a winning wager (in order to allow the parlay wager to remain active) but with a 1.00 payout (i.e.: no profit to the player), which in turn causes the potential payout for the overall parlay wager to be adjusted accordingly.

N.2.2 Entering Results

- a) Results cannot be entered for an event / market unless the event / market is closed.
 - i) This does not preclude the settling of events / markets within any given sport / contest / match / non-sporting event before that event is concluded.
- b) Results entry must include the entry of all information which may affect the outcome of all wager types offered for that event / market, whether any such wagers were actually placed or not.
- c) Results may be altered but not after they are confirmed, except in the case of resettlement.

N.2.3 Displaying Results

- a) It is accepted that the system will unavoidably be subject to a certain degree of results confirmation and synchronization delay for updates to the information as displayed on the player's screen, and it is possible that information may only be updated at the player's next interaction with the website, which causes the on-screen information to be refreshed.
- b) The players still in session must be able to view the results when an event / market is closed.
- c) The player must be able to view the results of any decided event / market, once they have been confirmed.
- d) Players must be able to view any change of results.
- e) Where individual wager amounts are gathered into pools, the player must be able to view the dividends of all decided wagers, once they have been confirmed.

N.3 Payment of Winnings

Winning wagers are to be directly credited to the player's account when the results of the event / market are entered, confirmed and settled.

N.3.1 Rounding

Where the calculation of payouts may involve rounding, information on how the system handles

these circumstances must be provided to the player through the help / rules screen, which must clearly specify what is to occur:

- a) Rounding to what level (e.g.: 5 cents) must be discussed
- b) Rounding up, down (truncation), true rounding, must be discussed, and
- c) Metering of rounding amounts must be discussed.

N.4 Logging Transactions

- a) In addition to the Data Logging Requirements as specified in Section 2.3 of this TSD (as applicable to sports and non-sports wagering), the following wagering transactions must be logged by the IGS:
 - i) Wagering acceptance (sells) and cancels,
 - ii) Wins added to player accounts,
 - iii) Change of odds / payouts, commissions, percentages, or other payout selections (not including dynamic odds / payouts setting),
 - iv) Change of event / market status:
 - 1) Start / stop wagering,
 - 2) Results entry / modifications / confirmation,
 - 3) Withdrawal / reinstatement of wager types within the event / market,
 - 4) Abandoned events / markets, and
 - 5) Alteration / override or start times.

N.4 Applicability of Other Requirements

The requirements presented within the body of this TSD (i.e.: Sections 1 through 4) apply to sports and non-sports wagering, with the following exceptions:

- Section 2.1.1 General Statement,
- Section 2.2.5 Incomplete Games, parts (a) and (b),
- Section 4.1 RNG Requirements,
- Section 4.2.1 Game Fairness, parts (a), (b) and (c),
- Section 4.2.3 No Adaptive Behaviour by Games,
- Section 4.2.6 Game Design,
- Section 4.2.9.1 Instructions and Information, parts (h), (i) and (j), and
- Section 4.2.9.2 Bet Display, parts (a) and (b).

Appendix O: Live Dealer Games

The following requirements apply where betting takes place through an internet interface of the IGS involving live Dealers operating physical table games. The entire process is viewed by all remote players through a combination of real-time remote audio and video feed and a graphical interface. The IGS receives instructions from each player through the internet interface to facilitate player decisions where required.

O.1 General Statements

The following statements in this Section O.1 are for general information purposes only and do not require ATF testing to verify compliance.

The requirements in this Appendix are general in nature and do not refer to specific types of table games.

Each game type requires GPEB approval for implementation as a Live Dealer Game on the IGS.

As Live Dealer Games introduce the possibility of human error, effort shall be made to correct any error to the extent that the outcome of the game should reflect what would have happened had the error not occurred.

To maintain the integrity of the game outcome determination process, live dealer providers may be subject to additional GPEB verification and auditing.

Live Dealer Games will comply with the prevailing game rules, policies and procedures as found in the appropriate policy and / or procedure document. ATF testing will not be required to verify compliance with these policies and procedures.

GPEB will maintain the right to inspect the facility and to audit game operations for compliance.

O.2 Dealers

The IGS must be solely responsible for the acceptance and settlement of monetary wagers. Dealers operating physical devices shall be restricted to causing the result for the game round. The Dealer shall not be responsible for collecting wagers from losing players nor distributing winnings to winning players.

O.3 Applicability of Other Requirements

All applicable requirements from all sections within this technical standard apply to Live Dealer Games with the following exceptions:

- Section 2.2.5 – Incomplete Games
- Section 4.1.1 through 4.1.4.5 – RNG Requirements
- Section 4.2.7 – Mapping
- Appendix “F” (Roulette Simulations),
- Appendix “G” (Dice Simulations),
- Appendix “J” (Card Game Simulations),
- Appendix “K” (Single-Player Poker Simulations)
- Appendix “L” (Multi-Player Poker Simulations)
- Appendix “M” (Blackjack Simulations)

O.3.1 Information to be Displayed

Information shall be provided to the remote player in real time. In addition to the game requirements detailed in Section 4.2 of this TSD the following shall be included for the purposes of the Live Dealer application:

- a) Table Identifier
- b) Number of Decks used, if applicable,

O.4 Game Outcome Data

Game Outcome Data is any result generated by the Mechanical-Based RNG during the game up to and including the final result of the player's wager including any intermediate phases that impact the end result, as determined by the IGS.

- a) Game Outcome Data must be transmitted to the player immediately following its generation (subject to the natural limitations of system processing and Internet communication delays).
- b) With the exception of a human error or an error correctable with a manual override, at any time during the game the Game Outcome Data must match the outcome generated by the Mechanical-Based RNG. Where a discrepancy between the Mechanical-Based RNG and the Game Outcome Data exists, the Mechanical-Based RNG result shall be considered correct. (See Section O.8.2 - Manual override)
- c) Game Outcome Data must be recorded by the system and made available to the player for review after the game is complete in substantially the same fashion as would be done with a RNG-driven version of the game.

O.5 Player Unable to Complete a Game

In the event that a player cannot or does not complete an action required of them to allow a game to continue within the allotted time:

- a) The Live Dealer Game must complete the game according to the specific Game Help / Rules for that particular game.
- b) Any winnings arising from the game must be credited to the player's account,
- c) Any losses arising from the game are retained in accordance with the rules of the game, and
- d) The system shall be designed such that one player not completing an action in the required time shall not impact any other players at the same table or game instance with regards to completing the game round and being credited for wins or debited for losses.

O.6 Game Fairness

In addition to the applicable conditions set out in Section 4.2 of this TSD the following information shall be readily available to the player:

- a) Rules which describe procedures in place to deal with game interruptions caused by the discontinuity of data flow, video and voice from the network server during a game (e.g. internet connection outage or wagering terminal malfunction).
- b) Notice that "live" transmissions may be subject to delay or interruption.
- c) Notice that any betting opportunity relying on "live" monitoring of an event is subject to delay or interruption.
- d) Notice that where a delay is apparent or created by the system, the scale of the delay should be disclosed to the player. Verbal notice from the Dealer is acceptable as outlined in the appropriate policy and / or procedure document.
- e) Game rules that indicate to the player the possibility of human error by the live dealer and system error by the specialized device and how errors are resolved.
- f) Notice to all players of the minimum system requirements required by the player to participate in Live Dealer Games. It will be acceptable, if the Live Dealer Games minimum system requirements are the same as the IGS as a whole, for BCLC to display one minimum system requirement for the entire site.

O.7 Mechanical RNG

- a) Live Dealer Games are deemed to contain Mechanical-based RNG's which include a mechanical component and employ the laws of physics and probability in any way to generate a random outcome. Examples include current industry accepted devices such as: roulette wheels, a die or dice, ball draws, and physically-dealt playing cards.
- b) Mechanical-based RNG outcomes shall be digitized and securely transmitted to the IGS via specialized devices for processing without alterations unless approved by GPEB.

O.8 Specialized Devices

O.8.1 General

- a) Game symbols applied in live dealer games may be automatically registered by specialized devices that perform automated recognition. A specialized device must transmit the exact outcome determined by the Mechanical-based RNG to the IGS.
- b) All consumable or fixed gambling supplies (if any) that will be subjected to this hardware must be checked for defects prior to processing as per the appropriate policy and / or procedure document.
- c) All specialized devices and consumable or fixed gambling supplies must be approved by GPEB prior to implementation in the live environment. GPEB will determine on an individual basis whether a specialized device requires ATF compliance testing.

O.8.2 Manual Override

Specialized devices used in Live Dealer applications must be equipped with a manual operation mode that allows corrections of an erroneous result (where the detection equipment misreads a card, the position of the ball, etc.) A player must be informed when the manual mode has been activated and tracking should be enabled to allow for further review.

O.9 Simulcast Control Server

O.9.1 General

Games for remote players shall utilize a simulcast control server for the purposes of recording all wagering activity and game results. The simulcast control server shall:

- a) Provide the remote player with real time visual access to the live game being played,
- b) Prevent anyone from accessing the wagering outcome prior to finalizing a wager, and
- c) Be equipped with a mechanism to void game results if necessary.

O.9.2 Security of Servers

All gambling servers and communications equipment shall be sited and protected to reduce the risks from:

- a) Environmental threats and hazards,
- b) Opportunities for unauthorized access,
- c) Power failures,
- d) Other disruptions caused by failures in supporting utilities.

O.10 Live Dealer Studio Environment

The Studio will be required to meet the applicable aspects of the BCLC appropriate policy and / or procedure document as determined by BCLC in consultation with GPEB. Specifically, the studio will be required to install, maintain, and operate at all times a surveillance system that shall have the capability to monitor and record continuous unobstructed views of all live game play.

Appendix P: Physical Lottery Ticket Scanner & Redeemer Requirements

The following requirements apply only to Physical Lottery Ticket Scanner (and Redeemer, if so equipped) applications:

- a) Each gaming channel that implements a Physical Lottery Ticket Scanner (and Redeemer, if so equipped) must convey sufficient information to allow a reasonable user to understand how to use that Physical Lottery Ticket Scanner (and Redeemer, if so equipped), and actual functionality must align with those instructions.
- b) Each gaming channel that implements a Physical Lottery Ticket Scanner (and Redeemer, if so equipped) must convey information explaining to the user exactly which BCLC lottery games and ticket types are supported by that Physical Lottery Ticket Scanner (and Redeemer, if so equipped).
- c) The Physical Lottery Ticket Scanner (and Redeemer, if so equipped) must be designed so as to scan physical tickets for any BCLC lottery game advertised as being supported by that Physical Lottery Ticket Scanner (and Redeemer, if so equipped) (i.e.: if any given gaming channel purports to be able to scan a physical ticket for a particular BCLC lottery game, then it must actually be able to do so).
- d) The Physical Lottery Ticket Scanner must have the ability to correctly and accurately scan a physical lottery ticket, execute a call to the applicable lottery system to request a look-up of that ticket, and receive the resulting information from that system's database.
- e) Upon receipt of information from the applicable lottery system, the Physical Lottery Ticket Scanner must display the outcome to the player, using messaging that clearly, correctly and accurately conveys that outcome. The ticket outcome messaging must not be misleading or deceptive to the player. The ticket scanning feature must not misread a damaged or otherwise invalid ticket (e.g.: displaying messaging that a losing ticket is a winner, or vice versa, is not permitted).
- f) In the event of an error (e.g.: ticket damaged and cannot be scanned, ticket not located in the system's database, ticket corresponds to a draw that has not yet taken place, etc...), appropriate messaging must be displayed to the player upon scanning that ticket.
- g) Upon the scan of a ticket, the Physical Lottery Ticket Scanner must execute a call to the ticket history in the applicable lottery system to leave a record that the ticket was scanned, wherever deemed necessary by BCLC.
- h) The Physical Lottery Ticket Redeemer (if present) must permit the redemption of qualifying wins for deposit into the player's account only when the player is logged into their account.
- i) The amount of the funds deposited into the player's account via the Physical Lottery Ticket Redeemer (if present), for any given physical lottery ticket, must match with the winning amount presented to the player via the Physical Lottery Ticket Scanner.
- j) As a component of the redemption process, the Physical Lottery Ticket Redeemer (if present) must execute a call to the applicable lottery system to update the redemption status of the applicable lottery ticket in the database. Through this control, it must not be possible to redeem any given physical lottery ticket more than once.
- k) As a component of the redemption process, the Physical Lottery Ticket Redeemer (if present) must execute a call to the applicable lottery system ticket history software to leave a record that the ticket was redeemed.
- l) To support any necessary investigations into prize claims, each gaming channel that implements a Physical Lottery Ticket Scanner & Redeemer (if so equipped) must facilitate events logging (e.g.: the applicable lottery system ticket history software) and manual adjustments to correct and / or reverse transactions as needed.

Appendix Q: Player Identity Systems

The following requirements apply only to player identity systems that accomplish support functionality for PlayNow and / or other gaming applications:

- a) Where the player identity system is being used manually with gaming applications:
 - i. The player identity system must correctly and accurately record any information that is entered manually about the identity of players. The information must not be lost or otherwise corrupted, except as per the intended design of the system (e.g.: purposeful modification or deletion of data in approved circumstances).
 - ii. The Player identity system must correctly and accurately report on / respond with information that was entered manually about the identity of players. The player identity system must report / respond with information that matches with what was entered / recorded.
- b) Where the player identity system is directly integrated with gaming applications:
 - i. The player identity system must correctly and accurately record any information that is entered automatically (e.g.: via import or synchronisation) about the identity of players. The information must not be lost or otherwise corrupted, except as per the intended design of the system (e.g.: purposeful modification or deletion of data in approved circumstances).
 - ii. The Player identity system must correctly and accurately report on / respond with information that was entered automatically (e.g.: via import or synchronization) about the identity of players. The player identity system must report / respond with information that matches with what was entered / recorded.
- c) The player identity system must secure player identity information against unauthorized access or update (i.e.: other than approved methods). This includes internal access by unauthorized BCLC staff, and external access by unauthorized parties.

Glossary of Terms

Term	Description
%RTP	Percentage Return to Player. The %RTP is the expected percentage of wagers that a specific game will return to the player in the long run. The %RTP can be calculated via either a theoretical or simulated approach. The method used for calculation depends on the game type.
Accumulator Game	A game within a Bingo game offering a growing prize element that is paid under certain conditions. The accumulator is automatically included with the game purchase offering the accumulator and all players purchasing the designated game product are eligible to win the accumulator if game conditions are met. May be combined with a fixed progressive game.
AGCC	Alderney Gambling Control Commission. The regulatory body for online gambling within the jurisdiction of Alderney, British Channel Isles.
Artwork	Artwork is any graphical and auditory IGS information that is sent to the end-player device for presentation to the player. In other words, any graphical information shown on the end-player device screen, and any auditory information emanating from the end-player device speakers, constitutes Artwork. Unless explicitly or implicitly indicated

Term	Description
	otherwise in relation to any given TGS5 technical requirement, compliance with that requirement may be achieved using the Artwork within the game (e.g.: directly on the game screen) and / or the artwork within the help / rules screen(s), as appropriate.
ATF	Accredited Testing Facility
Background Cycling / Activity	If the software-based RNG is cycling in the background, it means that there is a constant string of random numbers being generated by the RNG, even if they are not actually required by the game at that time. Without background cycling / activity, one could predict the result of the next iteration of the function used to produce the random numbers if they knew the current values and the algorithm.
BCLC	British Columbia Lottery Corporation
Diversion Pool	A secondary progressive jackpot pool to which player contributions are diverted once the primary progressive jackpot has grown to a prescribed quantity of funds. Once the primary progressive jackpot has been won, the secondary progressive jackpot amount is used to seed the primary progressive jackpot in preparation for the next cycle.
EFT	Electronic Funds Transfer
EGD	Electronic Gambling Device
Event / Market	For sports wagering, refers to a specific category or circumstance on which a wager may be placed (e.g.: Team X to defeat Team Y, Person X to rank higher than Person Y, Person X to score before Person Y, etc...).
FIPPA	Freedom of Information and Protection of Privacy Act of BC
Fixed Progressive (Bingo)	A game within a Bingo game in which a prize is won by a player achieving a designated pattern within a specified number of ordinals (balls called). The prize in a progressive game does not grow (as in an accumulator game); it just becomes progressively easier to win. This is achieved by progressively increasing the number of ordinals. May be combined with an accumulator game.
Game	'Game' refers to IGS software that is specific to each individual game that is hosted / offered on the gambling platform. Each game is to be treated as a separate and distinct entity.
Gambling Platform	"Gambling Platform" refers to IGS elements that drive the features that are common to all of the games, and form the primary interface to the IGS for both the player and BCLC: <ul style="list-style-type: none"> i) The Gambling Platform provides the player with the means to register an account, log in to / out of their account, modify their account information, deposit and withdraw funds to / from their account, request account activity statements / reports, and close their account. In addition, any web pages displayed to the player that relate to gambling offered on the IGS, but are not an actual game screen, are considered to be part of the Gambling Platform, and ii) The Gambling Platform provides BCLC with the means to review player accounts, enable / disable games, generate various gambling/ financial transaction and account reports, input game outcomes for sports betting events, enable / disable player accounts, and set any configurable parameters.
GPEB	Gaming Policy and Enforcement Branch
ID	Identification
IDS	Intrusion Detection System
IGS	Internet Gambling System
Inactive Account	An account is considered to be inactive if the player has not logged into the account for a time period to be specified by BCLC in the

Term	Description
	documented and published Terms & Conditions for the IGS.
Instructions	Also referred to as "Game Instructions", "Instructions on Play", "Instructions of play", etc... Instructions are any Artwork that is aimed at explaining the rules of the game to the player. As such, unless explicitly or implicitly indicated otherwise in relation to any given TGS5 technical requirement, compliance with that requirement may be achieved using the Instructions within the game (e.g.: directly on the game screen) and / or the Instructions within the help / rules screen(s), as appropriate.
IP	Internet Protocol
ISO	International Organization for Standardization
ISP	Internet Service Provider
ISS	Information Systems Security. Refers to the Administrative Controls, Technical Controls and Physical & Environment Controls necessary for the secure, safe and auditable operation of the IGS by BCLC.
LAN	Local Area Network
Live Dealer Games	Games utilizing internet interfaces limited to table games conducted by a real dealer using real gambling equipment with video and audio sent to all remote players and instructions received from each player through a graphical interface with streaming, narrowcast, broadcast or other technology.
Live Environment	Any BCLC website offering / hosting actual gambling games for live use by the general public (i.e.: through registered accounts, 'play for real') is considered to be operating in the live environment.
Mapping	Mapping is the process by which the scaled number is given a symbol or value that is usable and applicable to the current game. For example, the scaled number 51 might be mapped to an ACE OF SPADES.
MCS	Monitoring and Control Systems
Multi-Stage Game	A game having one or more intermediate steps that require player input in order to proceed. Poker and Blackjack are two examples of multi-stage games.
OS	Operating System
OSSTMM	Open Source Security Testing Methodology Manual
Paytable	A graphical and / or textual display that clearly communicates all potential win types within a game, including the associated win amount for each win type.
Period	Period is how long before the 'random' sequence repeats. Is the output from the RNG sufficient to provide all possible outcomes? In a 52-card deck, requiring an ordered straight flush on the first hand, and assuming that one draws all ten numbers (replacements included) at the beginning of the game, the required number of ORDERED outcomes so that each outcome may be achieved is ${}^{52}P_{10} = 5.74 \times 10^{16}$. 20 balls drawn from a pot of 80 balls requires ${}^{80}C_{20} = 3.54 \times 10^{18}$ possible outcomes.
Permitted Provincial Jurisdiction	Any provincial government that has entered into an agreement with the government of British Columbia to conduct and manage a lottery scheme in that Province under the provisions of s. 207(1)(a) of the Criminal Code of Canada.
PST	Pacific Standard Time
Progressive Jackpot	For the purpose of this TSD, a game is deemed to include a Progressive Jackpot component when the game has an integrated or stand-alone incremental prize that increases based on a function of credits that are wagered. This includes games that award progressive jackpots or a "pool" based on criteria other than obtaining winning

Term	Description
	<p>symbols, such as mystery jackpots, bad-beat jackpots etc. There are three main types of Progressive Games:</p> <ol style="list-style-type: none"> 1) Stand-Alone Progressive Game – A stand-alone progressive game is a game that is not linked to any other games. 2) Multiple Game (Linked) Progressives – A linked progressive is more than one game that offers a common progressive jackpot and which are linked to a progressive jackpot controller within the IGS. 3) Multiple Site (Linked) Progressive Game – Multiple site progressive games are games that offer a common progressive jackpot and which are interconnected between the IGS designated for British Columbia and: <ol style="list-style-type: none"> a. Any IGS designated for another jurisdiction; or b. A land-based progressive jackpot controller/system, located in either British Columbia, another jurisdiction, or both; or c. Any combination of a) and b) concurrently or independently. <p>Therefore, traditional peer-to-peer poker games and traditional draw games with carryover jackpots (i.e.: Lotto 6/49) are not deemed to include a progressive jackpot component.</p>
Progressive Jackpot Parameter Change	A change to any element of the progressive jackpot design, such as contribution rate, start-up / seed value, diversion pool, etc...
Raw Values	The unscaled output of an RNG.
Range	Range is the actual size of the output from the RNG. A 32-bit RNG provides 2^{32} possible outcomes (4.29×10^9). If one considers a 64-bit output, one can achieve 1.8×10^{19} different RNG outcomes.
Reseeding	Reseeding is when the RNG algorithm is restarted (given new initial seed values).
RNG	Random Number Generator. Refers to IGS hardware or software or mechanical devices that determine random outcomes for use by all of the games hosted / offered on the gambling platform.
Scaling	Raw output from an RNG will normally have a range far in excess of that required for its intended use. For example, 32-bit RNGs have over two billion possible outcomes, but (for example) we have only to determine which of 52 cards to draw. Scaling is required to divide the raw output into smaller and usable numbers. These 'scaled' numbers can then be mapped to particular card numbers, record numbers, symbols, etc... Consequently, raw output from an RNG will sometimes have a range far <u>smaller</u> than that required for its intended use (for example, $0 < \text{raw output} < 1$). In these cases, scaling is required to <u>expand</u> the RAW output into larger usable numbers.
Seed	The common misconception is that a seed is the INITIAL VALUE of an RNG, and once started there is no use for a seed unless the RNG is restarted. The term 'seed' is frequently misused in the case of algorithmic RNGs. For these RNGs, the seed is the value used as the basis for the next iteration of the function that forms the RNG algorithm (i.e.: in most cases, the last value).
Seeding	Seeding is the method used to seed RNGs in the very first instance (i.e.: upon initialization).
TSD	Technical Standards Document
VLAN	Virtual Local Area Network
Wager Type	For sports wagering, refers to the various types of wagers that are available for any given event / market.