TEST REPORT

Issued by: **NMi Metrology & Gaming Ltd**
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Report to: **Instant Win Games**

Project name: **Instant Games RGS and RNG**

Jurisdiction: United Kingdom

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Executive summary

This report summarises an assessment of the the *Instant Games* RGS (Remote Gaming System) and RNG (Random Number Generator). Fincore Ltd supplied source code, documentation, remote access to an RNG test harness, and access to an online test site including a game and administration tools. Our assessment methods included source code review, RNG analysis, visual inspection, and an integration test in a staging environment. The final software submission was received on 17/03/2016.

Testing was performed on the following baseline:

- Platform Supplier: Instant Win Games
- Platform Version: 2.0.0

The RGS and RNG have been assessed for compliance with the applicable sections of the United Kingdom Gambling Commission (UKGC) "Remote gambling and software technical standards" (July 2015) and our RNG testing methodology complies with "Level 1" as defined in the "Testing strategy for compliance with remote gambling and software technical standards" (first published August 2009, updated July 2015). The games supported by the Instant Games RGS were not included in the scope of this test.

The RNG used by the software distribution package is the *Quantis* (hardware) RNG, which was determined to be acceptably random.

No issues are raised.

This report supersedes report NMI/204/001/UK/RTS/01, and subsequent revisions

Authorised by:

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Project Management Team Leader

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Introduction

NMi Metrology & Gaming Ltd ("NMi UK") is accredited to ISO/IEC 17025:2005 (by the United Kingdom Accreditation Service, UKAS) to undertake compliance testing of all categories of modern gaming systems and related equipment at their own and their customer's premises. NMi UK's ISO 17025 accreditation schedule is downloadable from the UKAS website.

Scope of ISO/IEC 17025:2005

All assessments in the following sections of this report are provided under ISO/IEC 17025:2005 except (as in the case of interpretations, opinions and suggestions) where otherwise stated.

Quality Control

The monitoring of this testing project was the responsibility of NMi's Quality Manager and every effort has been made to ensure the accuracy of the information contained in this report. If errors or omissions are discovered, please contact us with details as soon as possible. NMi reserves the right to revise and reissue this Test Report if additional information is presented or discovered.

Caveats

The results presented in this document are a summary of the testing work undertaken, and this report is subject to a number of caveats, including:

- All items provided for inspection and/or testing are declared by the customer to be configured identically to those in commercial use, with the exception of operator-configurable aspects that will not have a bearing on game fairness or player returns.
- All software and source code provided for empirical testing and/or code review is declared by the customer to behave identically to the software and code in commercial use.
- Decisions taken by the supplied software in automatic test modes / simulators are reasonable emulations of those that would be expected to be taken by real players.

All efforts have been taken to ensure that the testing undertaken has been as exhaustive as necessary to demonstrate compliance or non-compliance. NMi UK takes on trust that all test items (including all hardware and software), all documentation and all communications are accurate, truthful, and that there is no intention to deceive or subvert the assessment of compliance.

Test Item Details

Critical Components

RGS

SHA-1 checksum	File name
9dcd6dda2bf6fa339a81b1eea34466f1b41f3e3c	egames-rgs
3bab383469681cb148ab38ee5d72346aea1cbae2	rgs.conf

RNG

SHA-1 checksum	File name
9fb8a5a28309db774c029ed32390ed040dea457f	egames-rgs-rng
636228abcbe7fe80789df5b28ff0e80393a01085	rng.conf

Testing Overview

Customer Contacts

The customer liaison was Mateja Popovich.

Dates

Testing was undertaken during the following periods:

- 17/03/2016 - 30/03/2016

Locations

Testing was undertaken at the following locations:

- Llys Helyg, Parc Menai, Bangor LL57 4EZ, UK.
- 530-4445 Lougheed Highway, Burnaby, British Columbia, V5C 0E4, Canada.

Applicable Standards

Conformance with the following standards has been assessed, under the terms of NMi UK's ISO/IEC 17025:2005 accreditation:

Document	Abbreviation Used
Remote Gambling and Software Technical Standards (July 2015)	UK_RTS

Methods

Our assessment methods included source code review, RNG analysis, visual inspection, and an integration test in a stagaing environment.

Code Analysis

The submission consisted of Golang source code files and included the RNG and a test harness.

The RNG is a Golang interface to the certified third party *Quantis* (hardware) RNG.

Scope

This report is certifying the following methods:

- `RandomNumberGenerator.GetRandomNumber()`

Suitability

The RNG is considered to be cryptographically secure.

The RNG implementation is truly random and does not require an unpredictable background cycling mechanism.

Reproducibility

The RNG can not be feasibly activated with the same input.

Seeding

The hardware RNG used does not require a seed.

Outputs

The RNG can produce the following outputs:

- a single 64 bit floating point number in the interval (0.0, 1.0)

Scaling

The RNG did not include a mechanism for scaling. Suitable scaling methods are implemented in the RGS submitted alongside the RNG module.

Failure Monitoring

The RNG is monitored for failure. In the event of failure, the gambling system will cease to accept further bets and no more games will be initialised.

RNG Empirical Tests

A number of empirical tests have been proposed to analyse frequencies of occurrence and localised correlations, patterns and intervals between generated numbers. In our analyses the following tests are used for raw RNG output:

NIST Test Suite

The following tests from the NIST Test Suite were applied:

- Frequency (Monobits) Test
- Frequency Test within a Block
- Runs Test
- Test for the Longest Run of Ones in a Block
- Binary Matrix Rank Test
- Discrete Fourier Tansform (Specral) Test
- Non-Overlapping Template Matching Test
- Maurer's "Universal Statistical" Test
- Linear Complexity Test
- Serial Test
- Approximate Entropy Test
- Cumulative Sums (Cumsum) Test
- Random Excursions Test
- Random Excursions Variant Test

For a description of each test please refer to http://csrc.nist.gov/publications/nistpubs/800-22-rev1a/SP800-22rev1a.pdf

Diehard Battery of Tests of Randomness

The following tests from the Diehard Battery of Tests of Randomness were applied:

- Birthday Spacing
- Overlapping 5-permutations
- Binary Rank 31x31
- Binary Rank 32x32
- Binary Rank 6x8
- Bitstreams
- OPSO
- OQSO
- DNA
- Count the 1's - Specific Bytes
- Minimum Distance
- 3D Spheres
- Overlapping Sums
- Runs
- Craps

For a description of each test please refer to http://stat.fsu.edu/pub/diehard/

In our analyses the following tests are used for scaled RNG output:

Statistical Tests for Testing Random Numbers - Knuth

- Frequency test (Equidistribution test)
- Serial test (non-overlapping pairs)
- Gap test
- Poker test (Partition test)
- Permutation test
- Run test

All tests are based on the Pearson chi-squared test (also known as the Chi-square “goodness of fit” test) to compare the observed results against expected outcomes and determine a level of confidence.
In order to use the specified randomness tests (and to emulate the random number mapping algorithms used in IGG’s games).

Frequency Test

The Frequency Test is designed to ensure that the random numbers are uniformly distributed throughout a given interval. The generated numbers were assigned to bins of equal width and the observed values were compared to the expected populations (of equal numbers). The variation in observed distribution against the theoretical value is used to calculate the chi-squared function. The value of chi-squared then maps to a probability that provides a measure of confidence in the observed outcomes.

Serial Test

The Serial Test checks that pairs of numbers are uniformly distributed in an independent manner. To carry out the serial test we distribute the random numbers into a number of equal bins. We then checked the frequencies of occurrence of all of the possible sequence pairs (i.e. for 8 bins: 1 followed by 1, 1 followed by 2 ... 8 followed by 8). If the numbers are uncorrelated (i.e. no sequence pairs are favoured over any others), we expect to see an equal distribution.

Gap Test

The Gap Test examines the length of ‘gaps’ between occurrences of specific numbers; e.g. the average gap between a 1 and the next 1 should be the same as that between a 2 and the next 2. To apply the gap test, the generated random numbers were distributed into a number of equal bins, the gaps between occurrences of numbers in each bin were collated, and the frequencies of occurrence were compared with the expected probabilities. In the Gap Test, the expected probability of a gap of length r (between occurrences of a given value) in a range with probability p of occurrence is

$$\frac{p}{(1-p)^r}$$

and the chances of $r > t$ (an upper limit) are:

Poker Test

The Poker Test uses the analogy of a 5 card hand in a poker game; it considers groups of five successive integers and observes which of the following 5 patterns is matched by each quintuple:

- 5 values (all different)
- 4 values (one pair)
- 3 values (two pairs or three of a kind)
- 2 values (full house or 4 of a kind)
- 1 value (five of a kind)

The generated numbers are assigned across a number of bins and the frequency counts in each of the 5 bins are compared with expectation values. In the Poker Test, the expected probability of achieving *r* distinct values in a group of *k* numbers with *d* possible values is given by:

$$P_r = \frac{d\left(d-1\right)\ldots\left(d-r+1\right)}{d^k}$$

multiplied by *S(k,r)*, the Sterling Number of the second kind (the number of ways to partition a set of *k* elements into *r* non-empty subsets).

Permutation Test

The Permutation Test divides the number sequence into n groups of t elements. In our specific application, we considered groups of 3 numbers and counted the occurrence of each of the 6 different relative orderings:

- t1 > t2 > t3
- t1 > t3 > t2
- t2 > t1 > t3
- t2 > t3 > t1
- t3 > t1 > t2
- t3 > t2 > t1

Again, we expect an equal distribution. Where there is the significant chance of equality it can be calculated as

$$P_e = \frac{1}{t-1} + \left(\frac{t-2}{t-1} \times \frac{2}{t-2}\right)$$

Run Test

A sequence of random numbers will typically contain subsequences in which the numbers are increasing (they “run up”) and subsequences in which they are decreasing (they “run down”). In the runs test, we split the sequence into segments in which the length is determined by whether or not the next number is higher (in the case of runs up), or lower (in the case of runs down). The number immediately following a run is discarded in order to make runs independent and make the chi-square test applicable. We are able to compare the observed values with a theoretical value , and hence determine a level of confidence. In the Run Test, the number of independent runs of each length up to a value compared with the expected values. The expected probability of a run of and a total of lengths greater than consecutive numbers is are compiled and and the chances of are

REFERENCES

"The Art of Computer Programming, Volume 2, Seminumerical Algorithms" by Donald E. Knuth
http://csrc.nist.gov/publications/nistpubs/800-22-rev1a/SP800-22rev1a.pdf
http://stat.fsu.edu/pub/diehard/

Test Results

The results are summarised as follows:

Analysis of 1 set of 30 million raw numbers between 0 and 2^32 - 1 (inclusive)

Test Name	Sample Size	Test Result
Frequency (Monobits) Test	30,000,000	PASS
Frequency Test within a Block	30,000,000	PASS
Runs Test	30,000,000	PASS
Longest Run of Ones in a Block	30,000,000	PASS
Binary Matrix Rank Test	30,000,000	PASS
Discrete Fourier Tansform (Specral) Test	30,000,000	PASS
Non-Overlapping Template Matching Test	30,000,000	PASS
Maurer's "Universal Statistical" Test	30,000,000	PASS
Linear Complexity Test	30,000,000	PASS
Serial Test	30,000,000	PASS
Approximate Entropy Test	30,000,000	PASS
Cumulative Sums (Cumsum) Test	30,000,000	PASS
Random Excursions Test	30,000,000	PASS
Random Excurions Variant Test	30,000,000	PASS

The numbers passed the NIST suite of tests at 95% confidence, confirming that the software RNG is functioning correctly from a bitwise randomness perspective.

Analysis of 3 sets of 3 million raw numbers between 0 and 2^32 - 1 (inclusive)

Test Name	Sample Size	Test Result
Birthday Spacing	3x 3,000,000	PASS
Overlapping 5-permulations	3x 3,000,000	PASS
Binary Rank 31x31	3x 3,000,000	PASS
Binary Rank 32x32	3x 3,000,000	PASS
Binary Rank 6x8	3x 3,000,000	PASS
Bitstreams	3x 3,000,000	PASS
OPSO	3x 3,000,000	PASS
OQSO	3x 3,000,000	PASS
DNA	3x 3,000,000	PASS
Count the 1's - Specific Bytes	3x 3,000,000	PASS
Minimum Distance	3x 3,000,000	PASS
3D Spheres	3x 3,000,000	PASS
Overlapping Sums	3x 3,000,000	PASS
Runs	3x 3,000,000	PASS
Craps	3x 3,000,000	PASS

The numbers passed the DIEHARD suite of tests at a 95% confidence, confirming that the software RNG is functioning correctly from a bitwise randomness perspective.

Analysis of 30 sets of 1 million scaled numbers between 0 and 36 (inclusive)

Test Name	Sample Size	Test Result
Frequency test (Equidistribution test)	30,000,000	PASS
Serial test (non-overlapping pairs)	30,000,000	FAIL (13.33%)
Gap test	30,000,000	PASS
Poker test (Partition test)	30,000,000	PASS
Permutation test	30,000,000	PASS
Runs test	30,000,000	PASS

A binomial assessment was applied to repeated tests using the statistical test methods described above at the 95% confidence level. A Serial Test failure (above the threshold of the expected failure rate of 5% of tests) was observed. The frequency of occurrences of the possible outcomes was as expected for a random distribution and the outcomes covered the full range of possibilities.

Analysis of 30 sets of 1 million scaled numbers between 0 and 51 (inclusive)

Test Name	Sample Size	Test Result
Frequency test (Equidistribution test)	30,000,000	PASS
Serial test (non-overlapping pairs)	30,000,000	PASS
Gap test	30,000,000	PASS
Poker test (Partition test)	30,000,000	PASS
Permutation test	30,000,000	PASS
Runs test	30,000,000	PASS

A binomial assessment was applied to repeated tests using the statistical test methods described above at the 95% confidence level. The results did not exceed the expected failure rate of 5% of tests. The frequency of occurrences of the possible outcomes was as expected for a random distribution and the outcomes covered the full range of possibilities.

Analysis of 30 sets of 1 million scaled numbers between 0 and 126 (inclusive)

Test Name	Sample Size	Test Result
Frequency test (Equidistribution test)	30,000,000	PASS
Serial test (non-overlapping pairs)	30,000,000	PASS
Gap test	30,000,000	PASS
Poker test (Partition test)	30,000,000	PASS
Permutation test	30,000,000	PASS
Runs test	30,000,000	PASS

A binomial assessment was applied to repeated tests using the statistical test methods described above at the 95% confidence level. The frequency of occurrences of the possible outcomes was as expected for a random distribution and the outcomes covered the full range of possibilities.

Appendix A: Requirements Met

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2:1, 3.2A, 3.2A.a)
Requirement:	
To enable the customer to understand the value and content of their transactions.	
The remote gambling system must be designed to make available clear information about the amount of money being gambled by the customer, including any conversions from one form of currency to another, or from currency to credits, chips or other tokens etc, at the point of conversion. For telephone gambling, this information is to be delivered by the customer service agent or automated response system.	
a. It is preferable for the amount being gambled to be displayed either in the currency of the customer's account or in the currency of the product. The use of credits, chips or other tokens with no face value should be avoided wherever possible.	
Assessment:	
The RGS records the amount of money and currency being gambled by the customer.	

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2A.c, 3.2A.c.i)
Requirement:	
c. Information about the value of the gamble should be displayed including, as appropriate:	
i. unit stake and total stake, whether currency, credit, tokens, chips, or any other form of payment	
Assessment:	
The RGS records the player unit stake and total stake.	

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2B.a, 3.2B.a.i, 3.2B.a.ii, 3.2B.a.iii)
Requirement:	
a. The following items provide guidelines about the type of information that may be relevant:	
i. selections – the items the customer has chosen to gamble on;	
ii. the bet type	
iii. the accepted odds, for example current odds, starting price, first show, etc.	
Assessment:	
The RGS records all game play information.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7:1, 3.7A:1)
Requirement:	
To ensure that games and other virtual events operate fairly.	
Random number generation and game results must be 'acceptably random'. Acceptably random here means that it is possible to demonstrate to a high degree of confidence that the output of the RNG, game, lottery and virtual event outcomes are random, through, for example, statistical analysis using generally accepted tests and methods of analysis. Adaptive behaviour (i.e. a compensated game) is not permitted.	
Assessment:	
The RNG was determined to be acceptably random, unpredictable, and not reproducible for all of the ranges assessed. No evidence of compensatory or adaptive behaviour was observed in the RNG source code supplied.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.a, 3.7A.a.i)
Requirement:	
a. RNG's should be capable of demonstrating the following qualities:	
i. the output from the RNG is uniformly distributed over the entire output range and game, lottery, or virtual event outcomes are distributed in accordance with the expected/theoretical probabilities	
Assessment:	
The output from the RNG passed applicable empirical tests for randomness.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.a, 3.7A.a.ii)
Requirement:	
a. RNG's should be capable of demonstrating the following qualities:	
ii. the output of the RNG, game, lottery, and virtual event outcomes should be unpredictable, for example, for a software RNG it should be computationally infeasible to predict what the next number will be without complete knowledge of the algorithm and seed value	
Assessment:	
Analysis of the RNG confirmed that it would be computationally infeasible to predict the next number of any generated sequence.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.a, 3.7A.a.iii)
Requirement:	
a. RNG's should be capable of demonstrating the following qualities:	
iii. random number generation does not reproduce the same output stream (cycle), and that two instances of a RNG do not produce the same stream as each other (synchronise)	
Assessment:	
Statistical analysis of the numbers drawn has demonstrated that the numbers are statistically independent.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.a, 3.7A.a.v)
Requirement:	
a. RNG's should be capable of demonstrating the following qualities:	
v. any scaling applied to the output of the random number generator maintains the qualities above.	
Assessment:	
Suitable scaling of the RNG output has been observed in the RGS.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10:1, 3.10A)
Requirement:	
To ensure that customers are treated fairly in the event of interrupted play or betting and that they are aware of how they will be treated if interruptions occur.	
Operators must take all reasonable steps to ensure that their policies for instigating or dealing with service interruptions are fair and do not systematically disadvantage customers.	
Assessment:	
The RGS maintains the game information and restores after service interruptions.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10A.a, 3.10A.a.i, 3.10A.a.ii, 3.10A.a.iii)
Requirement:	
a. For gaming the following policies should be applied:	
i. where an interruption occurs after the operator receives notification of the customer's gamble and where the customer can have no further influence on the outcome of the event or gamble the results of the gamble should stand	
ii. where an interruption to a single-participant single stage event occurs before an outcome has been generated the customer should have any deducted stake returned to their balance	
iii. for stateful games (games where there are multiple stages or decision points), all reasonable steps should be taken to restore the game to its last known state to enable the customer to complete the game	
Assessment:	
The RGS restores games to their last known state to enable the customer to complete an incomplete game.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10B.a, 3.10B.a.i)
Requirement:	
a. For gaming the system should:	
i. be capable of voiding gambles and restoring the amount gambled to the customer automatically, or in conjunction with manual operational controls; and	
Assessment:	
The RGS is capable of recovering from failures that cause interruption of gambling and restore events to their pre-failure state .	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10B.a.ii, 3.10B.a.ii:5, 3.10B.a.ii:6)
Requirement:	
ii. implement all reasonable measures to maintain sufficient information to be capable of automatically restoring an event to its pre-failure state so that it may be completed by the customer. The following information should be restored, as appropriate: • the state of any gambles, e.g. who has staked what on what outcome • bets placed or offered.	
Assessment:	
The RGS maintains this information.	

Appendix B: Requirements Not Applicable

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7:1, 3.7A:2)
Requirement:	
To ensure that games and other virtual events operate fairly.	
Where lotteries use the outcome of other events external to the lottery, to determine the result of the lottery (for example, using numbers from the National Lottery) the outcome must be unpredictable and externally verifiable.	
Assessment:	
External events are not used.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.a, 3.7A.a.iv)
Requirement:	
a. RNG's should be capable of demonstrating the following qualities:	
iv. any forms of seeding and re-seeding used do not introduce predictability	
Assessment:	
The RNG is based on a hardware RNG that does not require a seed.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.b, 3.7A.b.i, 3.7A.b.ii, 3.7A.b.iii)
Requirement:	
b. For lotteries using external events - where it is not practical to demonstrate 7a. - the events outcomes should be:	
i. unpredictable, that is, events should be selected only where they may reasonably be assumed to be random events	
ii. unable to be influenced by the lottery operator (or external lottery manager)	
iii. publicly available and externally verifiable, for example, events that are published in local or national press would be acceptable.	
Assessment:	
External events are not used.	

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.c, 3.7A.c.i, 3.7A.c.ii, 3.7A.c.iii)
Requirement:	
c. For games or virtual events that use the laws of physics to generate the outcome of the game (mechanical RNGs), the mechanical RNG used should be capable of meeting the requirements in a. where applicable and in addition:	
i. the mechanical pieces should be constructed of materials to prevent decomposition of any component over time (e.g. a ball shall not disintegrate)	
ii. the properties of physical items used to choose the selection should not be altered	
iii. players should not have the ability to interact with, come into physical contact with, or manipulate the mechanics of the game.	
Assessment:	
This was not a test of a mechanical RNG.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10B.a.ii, 3.10B.a.ii:1)
Requirement:	
ii. implement all reasonable measures to maintain sufficient information to be capable of automatically restoring an event to its pre-failure state so that it may be completed by the customer. The following information should be restored, as appropriate:	
• the state of a deck of cards, and any hands that have been dealt	
Assessment:	
There are no card games integrated with the RGS at this time.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10B.a.ii, 3.10B.a.ii:2)
Requirement:	
ii. implement all reasonable measures to maintain sufficient information to be capable of automatically restoring an event to its pre-failure state so that it may be completed by the customer. The following information should be restored, as appropriate: • number of tokens collected	
Assessment:	
Games integrated with the RGS do not use token accumulation at this time.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10B.a.ii, 3.10B.a.ii:3)
Requirement:	
ii. implement all reasonable measures to maintain sufficient information to be capable of automatically restoring an event to its pre-failure state so that it may be completed by the customer. The following information should be restored, as appropriate: • any other predetermined information, such as maps or prize layouts	
Assessment:	
Games integrated with the RGS do not, at this time, have pre-determined layouts.	

Appendix C: Applicable Requirements Not In Scope

Reference:	UK_RTS / RTS - 1 Customer account information (3.1:1, 3.1A, 3.1A.a, 3.1B, 3.1B.a, 3.1B.b)
Requirement:	
To provide customers with easily accessible information about their current balances.	
Where customers hold a credit or debit balance, the pages or screens used to move money into and out of accounts or products must be designed to display the customer's current account or product balance, either in the currency of their account or the currency of the gambling product (e.g. dollars, euros or pounds sterling), whenever that customer is logged in. For telephone betting this information is to be delivered at the customer's request by the customer service agent or automated response system.	
a. Where funds are moved between products (for example, from a betting product to a gaming product) the balance does not necessarily have to represent all of the balances that a customer may hold with an operator in respect of those products.	
Where customers hold a credit or debit balance, the pages or screens used for gambling must be designed to display the customer's current account or product balance, or where this is not practical to display a link to a page or screen that shows the balance, whenever that customer is logged in. Balances are to be presented either in the currency of the customer's account or the currency of the gambling product (e.g. dollars, euros or pounds sterling). For telephone betting this information is to be delivered at the customer's request by the customer service agent or automated response system.	
a. Where funds are moved between products, the balance does not necessarily have to represent all of the balances that a customer may hold with an operator in respect of other products.	
b. Gambling pages and screens include virtual game pages, sports betting coupons, and poker and other virtual gaming 'tables'.	
Assessment:	
This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2:1, 3.2A.b)
Requirement:	
To enable the customer to understand the value and content of their transactions.	
b. Any conversion from one currency to another should be clearly presented to the customer and any conversion rules are also to be presented. Where currency is converted into tokens, chips or credits, etc, the conversion should be clearly displayed.	
Assessment:	
This was a "platform only" assessment of the RGS game server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2A.c, 3.2A.c.ii)
Requirement:	
c. Information about the value of the gamble should be displayed including, as appropriate:	
ii. entry fees, for example, payment for entry to poker tournaments	
Assessment:	
Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer poker games.	

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2A.c, 3.2A.c.iii, 3.2A.d, 3.2B)
Requirement:	
c. Information about the value of the gamble should be displayed including, as appropriate:	
iii. the price of lottery tickets and the number of draws entered.	
d. For subscription lotteries, sending a confirmation by email or post and/or displaying the stake and the number of draws entered when the customer subscribes is sufficient.	
The gambling system must be designed to display sufficient relevant information about the customer's gamble so that the content of the gamble is clear. This information must be made available before the customer commits to the gamble including, for example, in the artwork and textual information displayed during gaming, or on an electronic equivalent of a betting slip or lottery ticket. For telephone betting, this information is to be delivered by the customer service agent or automated response system.	
Assessment:	
Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer lottery games.	

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2B.a:1, 3.2B.b)

Requirement:

These items, where relevant, are required on applications designed for use on restricted display devices.

b. For telephone gambling the content of the customer's bet should be read back to them before the bet is confirmed.

Assessment:

Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer telephone gambling.

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2B.a:1, 3.2B.c)

Requirement:

These items, where relevant, are required on applications designed for use on restricted display devices.

c. Where the customer is able to choose, through the use of a third party user-interface, to override the display of this information, this must not be the default option. That is, the customer must make an active choice not to have the information available or to install a user-interface that does not contain the information. The remote gambling system should continue to make available or send the information to the customer; it should not assume that the information is not required.

Assessment:

Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer third party user-interfaces.

Reference:	UK_RTS / RTS - 2 Displaying transactions (3.2B.a:1, 3.2B.d)

Requirement:

These items, where relevant, are required on applications designed for use on restricted display devices.

d. For subscription lotteries, sending a confirmation by email or post and/or displaying the first draw and the number of draws for which the customer will be entered is sufficient.

Assessment:

Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer lottery games.

Reference:	UK_RTS / RTS - 3 Rules, game descriptions and the likelihood of winning (3.3:1, 3.3A, 3.3A.a, 3.3A.b, 3.3A.c)

Requirement:

To enable customers to make informed decisions about whether to gamble based on their chances of winning, the way the game, lottery or event works, the prizes or payouts on offer and the current state of multi-state games or events.

An explanation of the applicable rules must be easily available to the customer before they commit to gamble. The content including artwork and text must be accurate, and sufficient to explain all of the applicable rules and how to participate. All reasonable steps must be taken to ensure that the content is understandable.

a. Explanatory content includes information in artwork and text displayed within the virtual event, in 'help' or 'how to play' pages, or other supporting material.

b. Links to the information should be prominently placed, for example on home pages for gaming sections, game selection pages or menus, or within individual games, so that customers can easily locate them.

c. As a minimum, restricted display devices should provide explanatory content via a menu item or other link.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 3 Rules, game descriptions and the likelihood of winning (3.3A.d, 3.3A.d.i, 3.3A.d.ii, 3.3A.d.iii, 3.3A.d.iv, 3.3A.d.v, 3.3A.d.vi, 3.3A.d.vii, 3.3A.d.viii, 3.3B)

Requirement:

d. The following items provide guidelines on the type of explanatory content that may be relevant and should be considered for inclusion:

i. the name of the game, lottery or virtual event

ii. the applicable rules, including clear descriptions of what constitutes a winning outcome

iii. restrictions on play or betting, such as any play duration limits, maximum wins, etc

iv. the number of decks or frequency of shuffles in virtual card games

v. whether there are contributions to jackpots (progressives) and the way in which the jackpot operates, for example, whether the jackpot is won by achieving a particular outcome

vi. instructions on how to interact with the game

vii. rules pertaining to metamorphosis of games, for example, the number and type of tokens that need to be collected in order to qualify for a feature or bonus round and the rules and behaviour of the bonus round

viii. the rules for entering a single lottery draw or a series of lottery draws and the frequency of the draws.

Where relevant, as the game or event progresses, information that may reasonably be expected to enable the customer to understand the current state must be displayed.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 3 Rules, game descriptions and the likelihood of winning (3.3B:1, 3.3B:1.a, 3.3B:1.b)

Requirement:

The following items provide guidelines on the type of information that may be relevant.

a. Where a game builds up a collection of tokens (symbols etc), the current number collected.

b. An indication of which rules are currently relevant, such as displaying ‘bonus round’ or other feature labels.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 3 Rules, game descriptions and the likelihood of winning (3.3C:1, 3.3C:1.i, 3.3C:1.ii, 3.3C:1.iii, 3.3C:1.iv)

Requirement:

For each virtual event, game (including bingo), or lottery, information that may reasonably be expected to enable the customer to make an informed decision about his or her chances of winning must be easily available before the customer commits to gamble. Information must include:

i. a description of the way the game works and the way in which winners are determined and prizes allocated;

ii. house edge (or margin);

iii. the return to player (RTP) percentage; or

iv. the probability (likelihood) of winning events occurring.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 3 Rules, game descriptions and the likelihood of winning (3.3C.a, 3.3C.a.i, 3.3C.a.ii, 3.3C.a.iii, 3.3C.a.iv, 3.3C.a.v, 3.3C.b, 3.3C.c, 3.3D, 3.3D.a, 3.3D.b, 3.3D.c, 3.3D.d, 3.3D.e, 3.3D.f)

Requirement:

a. The following items provide further guidance on acceptable types of information about the likelihood of winning:

i. for types of peer-to-peer games where the likelihood of winning may depend on skill and/or the actions of other participants, a description of the way the game works and how winners are determined will be sufficient;

ii. for bingo, and some types of lottery or other games where it is not possible to determine the likelihood of winning because it depends on the eventual number of participants, a description of the way in which prizes are allocated will be sufficient.

iii. the average theoretical return to player percentage. Where an event (other than peer-to-peer) involves an element of skill, return to player percentage should be calculated using either the auto-play strategy or a standard/published strategy;

iv. the house edge, margin or over-round, for example for a virtual race;

v. the probability of each winning event occurring, or such information as may reasonably be expected to allow the customer to calculate the probability that the event will occur. The nature of some games may mean that the game itself provides sufficient information, for example, the likelihood of rolling a six on a six-sided die would not require further explanation.

b. Information may be included in artwork and text displayed within the virtual game or event, in ‘help’ or ‘how to play’ pages, or other supporting material.

c. Information should be easily accessible, for example by placing links on home pages for gaming or virtual event sections, game selection pages or menus, or within individual games.

For each virtual event, game (including bingo), or lottery, content describing the potential prizes and payouts or the means by which these are calculated or determined must be easily available before the customer commits to gamble.

a. Information should be made available about the amounts that customers may potentially win, for example in the form of pay-tables, or by showing the odds paid for particular outcomes.

b. For peer-to-peer games where the prize is determined based on the actions of the participants, a description of the way the game works and the rake or commission taken will be sufficient.

c. For lotteries and other types of events where the potential amount or prize paid out may not be known before the customer commits to gamble, describing the way in which the prize amount is determined will be sufficient.

d. Information may be included in artwork and text displayed within the virtual event, in ‘help’ or ‘how to play’ pages, or other supporting material.

e. Information should be easily accessible, for example by placing links on home pages for gaming sections, game selection pages or menus, or within individual games.

f. Displays of jackpot amounts that change over time (‘progressives’) should be updated as frequently as practicable, particularly after the amount has been reset following a win.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 4 Time-critical events (3.4:1, 3.4A)

Requirement:

To reduce the risk that customers are unfairly disadvantaged by technical factors that may affect speed of response, where response time has a significant impact on the likelihood of winning.

Where speed of interaction has a significant effect on the customer’s chance of winning, operators must assess the level of risk and demonstrate to the Commission that they are taking reasonable steps to reduce the risk to customers.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 4 Time-critical events (3.4A:1, 3.4A:1.a, 3.4A:1.b, 3.4A:1.c)

Requirement:

Examples of possible approaches include:

a. estimating the degree of network latency (delay) a customer is experiencing and displaying regularly updated information to the customer about any disadvantage that they may be operating under (e.g. high, medium, low)

b. applying a handicapping system based on estimated performance and/or system latency

c. treating winning responses that arrive within a period of time as simultaneous and implementing a policy on how simultaneous wins are to be dealt with.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 5 Result determination (3.5:1, 3.5A:1, 3.5A:2, 3.5A.a, 3.5A.b, 3.5A.c)

Requirement:

To ensure that the gambling system implements the operator's rules, game rules and betting rules as they are described to the customer.

All reasonable steps should be taken to ensure that gambles are accepted, processed and settled in accordance with the operator's published terms and rules, and the rules of the specific game, event, or bet.

Where unexpected system flaws, faults, or errors that affect the customer occur, steps are to be taken as soon as practicable to remedy the problem and ensure that the customer is treated fairly according to the circumstances.

a. Under normal operation, in the absence of technical faults, the system should act in accordance with the rules.

b. Reasonable steps include testing of systems and new products against the published rules.

c. Customers should be notified when errors that affect them, for example, incorrectly settled bets, have occurred as soon as practicable after the event occurs. Steps should be taken to rectify the error, for example, by manually adjusting the customer's account.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 6 Result determination for play-for-fun games (3.6:1, 3.6A, 3.6A.a)

Requirement:

To minimise the risk that customers are misled about the likelihood of winning due to the behaviour of play-for-fun games.

Play-for-fun games must implement the same game rules as the corresponding play-for-money games. Operators must take all reasonable steps to ensure that play-for-fun games accurately represent the likelihood of winning and prize distribution in the play-for-money game. For the purpose of this requirement playing a game includes participating in a lottery and/or betting on a virtual event.

a. The play-for-free game should use the same RNG as the corresponding play-for-money games, another RNG that fulfils the requirements set out in RTS requirement 7A, or a publicly available RNG, (such as those available as standard within operating systems) that may reasonably be expected to produce no systematic bias.

Assessment:

Evaluation of free play games was not included in the scope of this assessment.

Further Notes (not under ISO17025):
We recommend that the provenance of free play game outcomes be assessed during operator integration testing.

Reference:	UK_RTS / RTS - 6 Result determination for play-for-fun games (3.6A.b, 3.6A.b.i, 3.6A.b.ii, 3.6A.c)

Requirement:

b. Where 6a is not reasonably possible, it should be demonstrated that the method of producing outcomes does not introduce a systematic bias, for example:

i. if tables of random numbers are used, they should be sufficiently long to support a large number of games without repeating

ii. the method should represent game probabilities accurately, ie it should not produce a higher than expected proportion of winning outcomes.

c. The prize distribution should accurately represent the play-for-money game. For example, where play-for-fun games use virtual cash, the virtual cash payouts should be the same as the corresponding play-for-money game, and where tokens are used, the allocation of tokens as prizes should be proportionate to the stakes and prizes in the play-for-money game.

Assessment:

Evaluation of free play games was not included in the scope of this assessment.

Further Notes (not under ISO17025):
We recommend that the provenance of free play game outcomes be assessed during operator integration testing.

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7A.d, 3.7B, 3.7B.a, 3.7B.b, 3.7B.c, 3.7B.d, 3.7C, 3.7C.a, 3.7C.b, 3.7C.c, 3.7C.d, 3.7C.e, 3.7C.f, 3.7D, 3.7D.a, 3.7D.b)

Requirement:

d. Restricting adaptive behaviour prohibits automatic or manual interventions that change the probabilities of game outcomes occurring during play. Restricting adaptive behaviour is not intended to prevent games from offering bonus or special features that implement a different set of rules, if they are based on the occurrence of random events.

As far as is reasonably possible, games and events must be implemented fairly and in accordance with the rules and prevailing payouts, where applicable, as they are described to the customer.

a. Games should implement the rules as described in the rules available to the customer before play commenced.

b. The mapping of the random inputs to game outcomes should be in accordance with prevailing probabilities, pay tables, etc.

c. When random numbers, scaled or otherwise, are received, e.g. following a game requesting a sequence of random numbers, they are to be used in the order in which they are received. For example, they may not be discarded due to adaptive behaviour.

d. Numbers or sequences of numbers are not to be discarded, unless they fall outside the expected range of numbers required by the virtual event – such an occurrence should result in an error being logged and investigated.

Game designs or features that may reasonably be expected to mislead the customer about the likelihood of particular results occurring are not permitted, including substituting losing events with near-miss losing events and simulations of real devices that do not simulate the real probabilities of the device.

a. Where a virtual event simulates a physical device, the theoretical game probabilities should match the probabilities of the real device (for example, the probability of a coin landing heads must be 0.5 every time the coin is tossed).

b. Where multiple physical devices are simulated the probabilities of each outcome should be independent of the other simulated devices.

c. Games may not falsely display near-miss results, that is, the event may not substitute one losing outcome with a different losing outcome.

d. Where the event requires a pre-determined layout (for example, hidden prizes on a map), the locations of the winning spots should not change during play, except as provided for in the rules of the game.

e. Where games involve an element of skill, every outcome described in the virtual event rules or artwork should be possible, that is, the customer should have some chance of achieving an advertised outcome regardless of skill.

f. Where a customer contributes to a jackpot pool, that customer should be eligible to win the jackpot whilst they are playing that game, in accordance with the game and jackpot rules.

The rules, payouts and outcome probabilities of a virtual event or game may not be changed while it is available for gambling, except as provided for in the rules of the game, lottery or virtual event. Such changes must be brought to customer’s attention.

a. Changes to game or event rules, paytables or other parameters that change the way in which a game, lottery, or event works, the winnings paid, or likelihood of winning (except as described in 7Dc.), should be conducted with the game or event taken offline or suspended.

b. Altered games, lotteries, and events should display a notice that informs customers that the game or event has been changed, for example, ‘rules changed’, ’new odds’, or ’different payouts’. The notice should be displayed on game selection screens and on the events themselves if it is possible for the customer to go straight to the event without using a selection screen.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 7 Generation of random outcomes (3.7D.c, 3.7D.c.i, 3.7D.c.ii, 3.7D.c.iii, 3.7D.c.iv, 3.7D.c.v, 3.7E:1, 3.7E:2)

Requirement:

c. This requirement is not intended to prevent games and virtual events where specified changes occur legitimately, in accordance with the game or event rules, for example:

i. virtual events, such as virtual racing products where the odds differ from event to event depending on the virtual runners

ii. virtual games, such as bingo where the odds of winning are dependent on the number of entrants

iii. games with progressive jackpots, where the amount that can be won changes over time

iv. games with bonus rounds where different rules apply, so long as these rounds are properly described to the customer

v. unspecified changes to rules, paytables or other parameters that change the way in which a game, lottery or event works are not permitted, for example, rules that state ‘game rules may be changed at any time’ would not be acceptable.

Except in the case of subscription lotteries, the system must be designed to clearly and accurately display the result of the game or event and the customer’s gamble. The result must be displayed for a length of time that may reasonably be expected to be sufficient for the customer to understand the result of the game or event in the context of their gamble.

The game artwork and text should be sufficient to provide the customer with all of the information required to determine whether they have lost or won, and the value of any winnings.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS 8 – Auto-play functionality (3.8:1, 3.8A, 3.8A.a, 3.8A.b, 3.8A.c)

Requirement:

To ensure that the customer is still in control of the gambling where auto-play functionality is provided.

Auto-play must be implemented in such a way that the customer is able to control the amount gambled through selecting the stake and the number of auto-play gambles. The number of auto-play gambles may not exceed 25 in one batch.

a. The customer should choose the stake and either the number of auto-play gambles or the total amount to be gambled

b. During auto-play the customer should be able to stop the auto-play regardless of how many auto-play gambles they initially chose or how many remain

c. Auto-play should not override any of the display requirements (for example, the result of each gamble must be displayed for a reasonable length of time before the next gamble commences, as set out in RTS 7E).

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 8 Auto-play functionality (3.8A, 3.8A.a, 3.8A.a.i, 3.8A.a.ii, 3.8A.a.iii, 3.8A.b, 3.8A:1, 3.8A:a)

Requirement:

The gambling system must provide easily accessible facilities that:

(a) make available the following three controls, each of which stops auto-play functionality when it is triggered-

(i) ‘loss limit’, ie where the player selects an option to not lose more than X from their starting balance, where X is an amount that can be selected by the player. A ‘loss’ in this context equates to accumulated auto-play bets minus accumulated auto-play wins.

(ii) ‘single win limit’ ie single win greater than Y where Y is an amount that can be selected by the player and

(iii) ‘jackpot win’ (where applicable).

(b) require auto-play to be implemented in such a way that each time a customer chooses to use auto-play they must select the stake, the number of auto-play gambles and at least the first of the above three controls.

The number of auto-play gambles must not exceed 100 in one batch. During auto-play the customer must be able to stop the auto-play regardless of how many auto-play gambles they initially chose or how many remain.

a. Auto-play should not override any of the display requirements (for example, the result of each gamble must be displayed for a reasonable length of time before the next gamble commences, as set out in RTS 7E).

Assessment:

This requirement is not yet enforced.

Reference:	UK_RTS / RTS - 9 Skill and chance games with auto-play (3.9:1, 3.9A)
Requirement:	
To minimise the risk that auto-play functionality disadvantages a customer or that autoplay or other strategy advice is misleading.	
Strategy advice and auto-play functionality must be fair, not misleading and must not represent a poor choice.	
Assessment:	
This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 9 Skill and chance games with auto-play (3.9A.a, 3.9A.a.i, 3.9A.a.ii)
Requirement:	
a. In implementing this control, the following should be considered, where appropriate:	
i. if there is a standard strategy, for example, for well known games like blackjack, the standard strategy should be used	
ii. strategies or auto-play should (theoretically) produce at least the average Return to Player (RTP) for the game over time.	
Assessment:	
This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10A.a, 3.10A.a.iv)
Requirement:	
a. For gaming the following policies should be applied:	
iv. games with multiple participants (equal chance or otherwise) should be dealt with fairly on a case-by-case basis	
Assessment:	
This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10A.a, 3.10A.a.v)
Requirement:	
a. For gaming the following policies should be applied:	
v. progressive jackpot values should be restored to their pre-failure state.	
Assessment:	
Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer progressive jackpots.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10A.b, 3.10A.b.i, 3.10A.b.ii, 3.10B)
Requirement:	
b. For peer-to-peer betting the following policies should be applied:	
i. where a service interruption is caused by failures in the gambling system, operators should suspend betting on all betting markets that have been affected by a significant event before service is restored	
ii. other failures should be dealt with fairly on a case-by-case basis.	
Systems must be capable of recovering from failures that cause interruptions to gambling, including where appropriate, the capability to void gambles (with or without manual intervention), the capability to suspend betting markets, and taking all reasonable steps to retain sufficient information to be able to restore events to their pre-failure state.	
Assessment:	
Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer peer-to-peer betting.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10B.a.ii, 3.10B.a.ii:4)
Requirement:	
ii. implement all reasonable measures to maintain sufficient information to be capable of automatically restoring an event to its pre-failure state so that it may be completed by the customer. The following information should be restored, as appropriate: • the value of any progressive jackpots	
Assessment:	
Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer progressive jackpots.	

Reference:	UK_RTS / RTS - 10 Interrupted gambling (3.10B.a.ii, 3.10B.b)
Requirement:	
ii. implement all reasonable measures to maintain sufficient information to be capable of automatically restoring an event to its pre-failure state so that it may be completed by the customer. The following information should be restored, as appropriate: b. For peer-to-peer betting, it should be possible to suspend betting markets manually or automatically.	
Assessment:	
Evaluation of compliance with this requirement was not included in the scope of this assessment as the RGS does not currently offer peer-to-peer betting.	

Reference:	UK_RTS / RTS - 11 Limiting collusion/cheating (3.11:1, 3.11A, 3.11A.a)
Requirement:	
To reduce the risk that cheating or collusion by players unfairly disadvantages another player. Measures intended to deter, prevent, and detect collusion and cheating must be implemented. Gambling systems must retain a record of relevant activities to facilitate investigation and be capable of suspending or disabling player accounts or player sessions. a. The Information Provision Annex standard 7 provides guidance on the minimum information that should be made available to deter cheating.	
Assessment:	
This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 11 Limiting collusion/cheating (3.11A.b, 3.11A.b.i, 3.11A.b.ii, 3.11A.b.iii, 3.11A.c, 3.11A.c.i)
Requirement:	
b. Relevant activities to be recorded will vary by game but may include: i. which players played at which tables ii. the amounts won from and lost to accounts iii. game activities to an individual bet/action level. c. Where appropriate, prevention measures may include: i. taking steps to prevent a player from occupying more than one seat at any individual table.	
Assessment:	
This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 11 Limiting collusion/cheating (3.11A.d, 3.11A.d.i, 3.11A.d.ii, 3.11A.d.iii, 3.11A.e)
Requirement:	
d. Detection measures may include, detecting and investigating the following, where appropriate: i. players who frequently share the same tables ii. players from same address who share the same table iii. suspicious patterns of play (such as chip dumping). e. Customer complaints about cheating should be investigated.	
Assessment:	
This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.	

Reference:	UK_RTS / RTS - 12 Financial limits (3.12, 3.12A:1, 3.12A:2, 3.12A.a, 3.12A.b)

Requirement:

To provide customers with facilities that may assist them in sticking to their personal budgets for gambling with the operator.

The gambling system must provide easily accessible facilities that make it possible for customers to impose their own financial limits. Customers must be given the opportunity to set a limit as part of the registration process (or at the point at which the customer makes the first deposit or payment).

For lotteries, where the customer's spend is controlled through subscriptions, additional facilities do not have to be provided.

a. For telephone gambling (except lotteries), customers should be asked if they would like to set a deposit or spend limit when they register. Customers should be able to request a limit at any point after registration. The limit should be implemented as soon as practicable after the customer's request. The customer should be informed when the limit will come into force.

b. For other access media (including internet, interactive TV and mobile), customers should be offered the opportunity to select a deposit/spend limit from a list which may contain a 'no limit' option or to enter a limit of their choice as part of the registration or first deposit process. The 'no limit' option should not be the default option.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 12 Financial limits (3.12A.c, 3.12A.c.i, 3.12A.c.ii, 3.12A.c.iii)

Requirement:

c. Limits could be in the form of:

i. deposit limits: where the amount a customer deposits into their account is limited over a particular duration

ii. spend limits: where the amount a customer spends on gambling (or specific gambling products) is restricted for a given period – this type of limit may be appropriate where the customer does not hold a deposit account with the operator

iii. loss limits: where the amount lost (ie winnings subtracted from the amount spent) is restricted (for instance when a customer makes a £10 bet and wins £8, the loss is £2).

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 12 Financial limits (3.12A.d, 3.12A.d.i, 3.12A.d.ii, 3.12A.d.iii)

Requirement:

d. The period/duration of the limits on offer should include:

i. 24 hours.

ii. 7 days; and

iii. one month

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 12 Financial limits (3.12A.e, 3.12A.e.i, 3.12A.e.ii, 3.12A.e.iii, 3.12A.e.iv, 3.12B, 3.12B.a)

Requirement:

e. In addition

i. limits may be implemented per customer, per account, or other means

ii. limits could also be implemented across all products or channels or for individual products or channels

iii. financial limit facilities should be provided via a link on the home page

iv. facilities should be available on deposit pages/screens or via a link on these pages/screens

All reasonable steps must be taken to ensure that customer-led limits are only increased at the customer's request, only after a cooling-off period of 24 hours has elapsed and only once the customer has taken positive action at the end of the cooling off period to confirm their request.

a. Where possible (for instance, unless systems/technical failures prevent it) limit reductions are to be implemented within 24 hours of the request being received. In addition, at the point at which the customer requests a decrease in their limit, they should be informed when the limit reduction will take effect.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - Time requirements and reality checks (3.13:1, 3.13A, 3.13A.a, 3.13A.b, 3.13A.c, 3.13A.d, 3.13A.e)

Requirement:

To provide customers with facilities to assist them to keep track of the time they spend gambling.

Where the gambling system uses full screen client applications that obscure the clock on the customer's device the client application itself must display the time of day or the elapsed time since the application was started, wherever practicable.

a. Time of day should either be taken from the customer's own device or 'server time' and should be displayed in hours and minutes.

b. Operators will not be expected to detect whether or not customers have hidden their clocks.

c. Elapsed time should be displayed in minutes and hours.

d. For restricted display devices, time of day or elapsed time should be displayed where the device supports it.

e. In addition, customers may be offered the ability to set a session or game-play duration reminder.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - Time requirements and reality checks (3.13B, 3.13B:1, 3.13B:a, 3.13B:b, 3.13B:c, 3.13B:d)

Requirement:

The below additions to this provision come into effect on 30 April 2016

The gambling system must provide easily accessible facilities that make it possible for customers to set a frequency at which they will receive and see on the screen a reality check within a gaming session. A 'reality check' means a display of the time elapsed since the session began. The customer must acknowledge the reality check for it to be removed from the screen.

a. The customer should be offered the opportunity to set a reality check and select a frequency at which the reality check will appear on the screen prior to commencing game play. The customer should be offered a range of time periods from which to select.

b. The reality check should continue to appear at the selected time intervals until the customer's gaming session ends.

c. The reality check should offer the facility to exit the gambling session.

d. The reality check should provide a link to the customer's account history.

Assessment:

This requirement is not yet enforced.

Reference:	UK_RTS / RTS - 14 Responsible product design (3.14:1, 3.14A)

Requirement:

To ensure that products are designed responsibly and to minimise the likelihood that they exploit or encourage problem gambling behaviour.

Gambling products must not actively encourage customers to chase their losses, increase their stake or increase the amount they have decided to gamble, or continue to gamble after they have indicated that they wish to stop.

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

Reference:	UK_RTS / RTS - 14 Responsible product design (3.14A.a, 3.14A.a.i, 3.14A.a.ii, 3.14A.a.iii, 3.14A.b)

Requirement:

a. By actively encourage, we mean the inclusion of specific features, functions or information that could reasonably be expected to encourage a greater likelihood of the behaviours described occurring. For example:

i. the amount of funds taken into a product should not be topped up without the customer choosing to do so on each occasion, e.g. when a customer buys-in at a poker table they should have to choose to purchase more chips to play at the table - automatic re-buys should not be provided

ii. written or graphical information should not encourage customers to try to win back their losses

iii. customers who have chosen to exit a game should not be encouraged to continue playing by, for example, being offered a free game.

b. This requirement is not intended to prevent operators from offering special features or well-known games such as blackjack that allow customers to increase their stake on the occurrence of specific events (e.g. split).

Assessment:

This was a "platform only" assessment of the RGS server. Evaluation of compliance with this requirement was not included in the scope of this assessment.

END OF REPORT