

Gaming machine testing strategy

Consultation responses

January 2014

Contents

- 1 Introduction**
- 2 Issues and responses to paper**
- 3 Conclusion**
- 4 Appendix A: List of respondents**

1 Introduction

- 1.1 Section 96 of the Gambling Act 2005 (the Act) gives the Gambling Commission (the Commission) powers to 'establish technical standards' for gaming machines and to 'make arrangements for any person for the administration of tests of compliance'. The *Gaming Machine Testing Strategy* and *Gaming Machine Testing Strategy: System integration supplement* were issued during August 2007 and December 2008 respectively.
- 1.2 In October 2013, the Commission published a consultation paper setting out our proposals for changes to the current Testing Strategy. The consultation was open for six weeks and closed on 28 November 2013.
- 1.3 There were 18 individual responses to the consultation paper. Of the responses; three were from test labs, two were from trade associations (BiSL and BACTA), and the rest were from various manufacturers and distributors of gaming machines with five companies choosing to adopt the BACTA response. A full list of the respondents is at Appendix A. We would like to thank all the organisations and individuals who formally responded to this consultation.
- 1.4 This document aims to reflect the views offered, but it does not purport to describe all of the responses in detail. The Commission has given careful consideration to the consultation responses before finalising its policy position.
- 1.5 As a result of the consultation, the Commission is proposing to amend the Gaming Machine Testing Strategy as follows:
 - Define game variants and testing requirements for random and compensated games.
 - Inclusion of additional guidance regarding acceptable forms of recording formal agreements where more than one party is responsible for testing.
 - Clarify testing requirements for game software execution code prior to release.
 - Requirement for PML (personal management licence holder)/responsible person to sign games off as compliant prior to release in all cases.
- 1.6 The final gaming machine testing strategy will be published during January 2014 but will be implemented on 1 May 2014 to provide the industry a minimum of 3 months to comply. The current version of the testing strategy will remain in force until replaced on 1 May 2014.

2 Issues and responses to the paper

Game variant testing

- Q1** Do you agree with the Commission's proposal to define each unique pay table to be a 'game title' for testing purposes (non-compensated)?
- Q2** Do you agree that for categories B1, B2, B3 and B3a gaming machines all game variants would need to be externally tested by a Commission accredited lab? If not please provide alternative testing arrangements for consideration.
- Q3** Do you agree with the Commission's proposal to require that the target return to player ('RTP') for each unique pay-table as a minimum, are tested in the case of compensated machines? If you do not agree, please provide your reasoning. In addition, please provide any alternative suggestions including reasoning for why they are considered preferable, and how the proposal will be able to evidence that game variants have been sufficiently tested prior to release, and operate as designed.

Consultation proposal

- 2.1** The Commission proposed to include a definition within section one (Introduction, *Gaming Machine Testing Strategy*) of what is considered 'a game title' to make more clear the requirements for testing of game variants.
- 2.2** The intention was to clarify what is required to be tested, either internally or via an accredited lab, to remove the possibility of misinterpretation or confusion.

Respondents' views

- 2.3 Q1** Despite some misunderstanding of what was meant by 'game title', (there seems to be a gulf in terminology between British and offshore manufacturers) which has now been clarified within the requirements for game variant testing, this proposal was overwhelmingly supported.
- 2.4 Q2** All respondents were eager to strike the right balance between integrity of testing and costs incurred. As such three options arose:
- 1) **That a third party test lab test all playable stake/RTP combinations** – This option would be the most expensive, but has been supported by some manufacturers on the basis that it provides the most extensive assurances. However most respondents were not supportive of this option due to the cost to test all game variants externally where required (categories B1, B2, B3 and B3A) which wasn't considered proportional to the risk.
 - 2) **The manufacturer tests their own games, and submits the results to the test lab, who would then re-run a set number of simulations to check for the accuracy of the manufacturers results** – This proposal was favoured by the majority of respondents.
 - 3) **Manufacturers test all of their games themselves, after having their testing processes audited by a test lab** – Whilst there was some support for this option, no respondent put forward proposals about how it would work in practice.

- 2.5 Q3** There was even support among responders between testing the target RTP and testing the upper and lower RTPs for compensated machines.

The Commission's position

- 2.6** The Commission will include the proposed definition of what is considered a game variant and how they should be treated in respect to testing with an amendment, to take into account of the responses to question 3 (Q3), allowing either the 'upper and lower target percentage' and/or 'target percentage' to be used for the purpose test and evaluation of the game (for example, ensuring the advertised RTP is not misleading).
- 2.7** In addition, and in response to question 2 (Q2), the Commission will adopt a testing requirement for game variants based on option 2 above. Manufacturers, which for the purpose of this paper include any party responsible for testing, will be given the option to either have all game variants tested externally or test internally and provide appropriate data to the accredited lab for evaluation. The test lab may perform testing on a sample basis as opposed to all game variants to confirm the manufacturer's own results.
- 2.8** The Commission does not intend to define how many game variants should be tested as this will be dependent upon the complexity and structure of the game and will therefore leave it to the manufacturer and/or test lab to decide the scope of sample testing required.
- 2.9** Test labs should highlight any deficiencies in the data provided by the manufacturer and/or discrepancies in test results clearly within the body of the test report. It is the responsibility of the manufacturer to ensure any problems/risks highlighted are mitigated prior to game release. Should a problem subsequently arise, it will be the manufacturer's (or party responsible for testing) responsibility to evidence that adequate testing had been conducted, with a successful outcome, prior to game release.
- 2.10** One minor change from the original proposal will be to include game variant testing under its own heading following on from section 10 as opposed to including it within the introduction. This is considered more appropriate as the requirements for testing have expanded, and will read as follows:

Game variant testing

- 2.11** A 'game title' in the context of the Testing Strategy refers to each unique maths table made available, also described as 'game variants'. Each unique maths table must be considered a game in its own right and be tested in accordance with the requirement for a 'game title'.
- 2.12** In the case of random games it would be expected that, as a minimum, all target return to player percentages available be confirmed, by testing, for each stake and prize combination.
- 2.13** In the case of compensated and/or controlled games it would be expected that, as a minimum, the most extreme upper and lower target percentage and/or the most representative target percentage(s) available be confirmed, by testing, for each stake and prize combination.
- 2.14** Where games are required to be externally tested, the manufacturer may opt to test game variants themselves and provide appropriate data to the test lab for evaluation. The test lab may, on the direction of the manufacturer, test a sample of game variants to confirm that tests reported by the manufacturer are true and accurate.

- 2.15** The Commission does not intend to define the scope of sample testing required as that is a matter for the manufacturer and test lab to decide based on the complexity and range of game variants available. However it is required that at least one, at a minimum, of the variants is confirmed by external testing.
- 2.16** Manufacturers should ensure that any game variant testing conducted, either internally or externally is adequate for the purpose intended and in particular provides adequate assurances that any advertised RTP percentages are not misleading.

Integration testing and fairness testing (contractual arrangements)

- Q4.** Do you agree with the Commission's proposals for clearer contractual arrangements where the software vendor and hardware/terminal provider are different parties, in respect of both integration and fairness testing?

If you do not agree please provide your reasoning. In addition, please provide any alternative suggestions including reasoning for why this is considered preferable. In particular please describe how that proposal will mitigate the risk of misunderstanding between interested parties regarding responsibilities, in respect of both fairness and integration testing, prior to game release.

Consultation proposal

- 2.17** The Commission proposed to stipulate more clearly the need for software vendors and hardware/terminal providers, where different parties, to have clear, unambiguous contractual arrangements setting out which entity is responsible for game testing.
- 2.18** The purpose was to mitigate the risk of games being inadvertently released prior to the completion of the necessary testing as a result of misunderstandings between parties.

Respondents' views

- 2.19** All respondents agreed that having clearly understood testing responsibilities within the manufacturing and supply chain was beneficial. A number of respondents however considered that requiring any such agreements to be a legally binding contract would be onerous and potentially difficult to maintain, and the requirement would be better achieved by memoranda of understanding.
- 2.20** One manufacturer also pointed out that the bullet 'as to who is responsible for the contract/memorandum of understanding or other similar formal understanding, and if amended, how those changes will be disseminated to appropriate staff to ensure that working practices replicate that agreed' is more suited to company policies and procedures as opposed to any contractual arrangements.
- 2.21** Additionally one trade association suggested the Commission would need to monitor the wording of any contracts if it was required to be legally binding.

The Commission's position

- 2.22** The original intention of the proposal was not to require that any contractual arrangements in respect to testing responsibilities be legally binding but contained either within a 'contractual' or 'formal agreement' or 'memorandum of understanding' or 'legally binding contract'.
- 2.23** Given the confusion we propose to remove the term 'legally binding contract' from the requirement to make clear that any such arrangement can be in the form of a documented contractual arrangement or memorandum of understanding (or any other similar formal understanding).
- 2.24** Additionally we will amend the bullet referred to in paragraph 15 above so that it is documented within company policies and procedures as opposed to contractual arrangements.
- 2.25** A failure to make clear the basis of any division of testing responsibilities¹ may be considered a breach of a licence condition.

Fairness testing methodology

- Q5.** Do you agree with the Commission's proposals to require suitable testing to ensure the correct operation of the executable game code prior to release?

If you do not agree please provide your reasoning. In addition please provide any alternative suggestions including reasoning for why this is considered preferable. In particular please describe in detail how that proposal will mitigate the risk of foreseeable software errors within the executable code from being released following any testing.

Consultation proposal

- 2.26** The proposal is intended to ensure that the execution software code of the game is tested, either by the manufacturer and/or accredited test laboratory prior to release. This is to ensure, as far as practicable, that the game will operate correctly and in particular that the RTP advertised is not misleading following game release.
- 2.27** This requirement is not designed to ensure that all software bugs which are not detectable during normal game operation are eliminated since the Commission recognises this is not practicable.

Respondents' views

- 2.28** Domestic manufacturers didn't see the requirement as a problem since it is standard practice within the industry to test the execution code prior to release.
- 2.29** Overseas manufacturers however interpreted the requirement as meaning that all game variants would need to be auto-run via the execution code to confirm their correct operation which would be extremely time consuming and potentially expensive to conduct.

¹ which should be documented in the manner described in the Commission's testing strategy

The Commission's position

- 2.30** The intention of this requirement was to confirm that the execution code operates as designed and that there are no obvious software bugs which would be detected in normal game operation (for example, underperforming RTP).
- 2.31** It would therefore be permissible to test game variants via testing methodologies other than using the game execution code (for example, maths modelling). However a secondary test (conducted using one game variant as a minimum) would be required to confirm that the output derived from the actual game execution software code produced the expected results (for example, correct RTP/operation of any game features).
- 2.32** It remains the manufacturer's responsibility to mitigate the risk of any foreseeable problems arising post production by suitable testing. Should problems subsequently arise the manufacturer would be expected to provide the Commission, on request, suitable evidence that all reasonable steps had taken to mitigate any issue(s) identified.
- 2.33** The Commission does not however expect that such testing would mitigate the risk of unforeseeable problems arising (as an example, intermittent software bugs which would not normally be detected during standard testing procedures) as this would not be considered practicable.
- 2.34** When discussed further with the manufacturer that raised concerns it was clear that the intention of the requirements had been misinterpreted and it was concluded that the proposal would not create any additional burdens in respect to testing already conducted.
- 2.35** The Commission therefore intends to adopt the proposal outlined.

Game sign off

- Q6.** Do you agree with the Commission's proposal to require that all games be signed off as compliant by a PML or an appropriate responsible person in the case of a small scale operator, prior to release?

If you do not agree please provide your reasoning. In addition please provide any alternative suggestions including reasoning for why this is considered preferable.

Consultation proposal

- 2.36** The Commission proposed to extend the current requirement for games tested internally by the manufacturer to be signed off by a Personal Management Licence holder or an appropriate responsible person in the case of a small scale operator, prior to release, including those externally evaluated by an accredited lab.

Respondents' views

- 2.37** The industry unanimously supported this proposal.

The Commission's position

- 2.38** The Commission will adopt the proposal.
- 2.39** Whilst it will remain the manufacturer's decision to decide whether a game is compliant and to release it into the market, the Commission would expect that the appropriate Personal Management Licence holder or responsible person in the case of a small scale operator is able to evidence how any decision(s) were made, should they and/or the company (manufacturer) choose to disregard any advisory notes and/or concerns/issues raised within any test report provided in respect of the game title.

Aside

- 2.40** The Commission also received a number of requests from the manufacturing sector to provide sufficient time prior to the introduction of the revised Testing Strategy to allow for the required changes to be implemented and in particular any revisions to current contractual arrangements. Respondents generally considered 3 months to be sufficient for this purpose.

The Commission's position

- 2.41** The Commission will provide a lead of time of no less than 3 months from date of release for the revisions to the Testing Strategy to take effect. However the Commission's expectation will be for the industry to work towards the introduction as quickly as possible and should any manufacturer/supplier wish to adopt the revised testing strategy in full prior to this date they may do so.

3 Conclusion

- 3.1** The Commission is grateful for the responses received to this consultation and the information that has been provided. We have made a number of amendments and have set out in the responses document some of the key issues that were discussed in the consultation and consequently changes made to the Testing Strategy, including any rationale for future reference.
- 3.2** In conclusion, and from figures provided by the industry, the Commission believes that the changes implemented will both reduce the risk of machine faults occurring in the market by the use of more robust testing procedures and substantially reduce the cost to test each new game title.
- 3.3** We have been informed by the industry that the cost saving for each game title will be significant, though estimates vary, but equally important they will derive further benefit since the revisions will allow for greater innovation which may have been stifled due to spiralling external costs required to test individual game variants.

- 3.4** The Commission would ask the industry to provide feedback on the net effect of the changes so that we can fully evaluate the impact, as appropriate. This will help the Commission gain a better understanding of how such changes benefit the industry, which will inform us of the likely impact of any future changes should they be requested and/or become a necessary requirement as a result of problems identified.
- 3.5** Please provide any relevant feedback to the e-mail address below and include the header 'Gambling Commission Testing Strategy industry feedback and for the attention of gaming machine sector team'.

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Keeping gambling fair and safe for all

For further information or to register your interest in the Commission please visit our website at:
www.gamblingcommission.gov.uk

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Appendix A: List of respondents

Respondents	Category
24 Seven Gaming Ltd	Manufacturer
Ace Gaming Ltd	Manufacturer
Astra Games Ltd	Manufacturer
BACTA	Trade association
Bell-Fruit Group Ltd	Manufacturer
BiSL	Trade association
Blueprint Gaming	Manufacturer
Carnaby Gaming Machines Ltd.	Manufacturer
Empire Games Ltd.	Manufacturer
Games Warehouse	Manufacturer
GLI Europe BV	Test lab
Inspired Gaming (UK) Ltd.	Manufacturer
International Game Technology	Manufacturer
JPM Group	Manufacturer
NMi	Test lab
Sceptre Leisure Solutions Ltd	Manufacturer
SG Gaming (Barcrest / Global Draw)	Manufacturer
SIQ (Slovenian Institute of Quality and Metrology)	Test lab