

RANDOMNESS EVALUATION REPORT

FOR

NG ENTERTAINMENT LTD.

MYSTIC OCEAN

HTML5-DESKTOP

1.0

CONFIDENTIAL
CERTIFICATE NUMBER: 28540NGMALM



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SECTION 1. GENERAL INFORMATION

License Holder: NG Entertainment Ltd.

97 Windsor Street

Sliema SLM 1853 Malta

Game Name: Mystic Ocean

Game Type: Casino Slot

Platform Type: HTML5-Desktop

Game Version: 1.0

Applicable Technical Standards: Licensing requirements of the Malta Gaming Authority ('MGA')

Subsidiary Legislation 438.04 Remote Gaming Regulations Third Schedule, Regulation 25

Testing Laboratory: eGaming Compliance Services Limited, trading as 'eCOGRA'

2/F Berkeley Square House

Berkeley Square London W1J 6 BD United Kingdom

Test Engineers: Joanne Johnson, Dario Pillay, Tyrone Rajah

Supervisor: Craig Nichol

Request for Report: 10 August 2020

Report Date: 21 August 2020

Certificate Number: 28540NGMALM

In our opinion the game listed as tested in this report complies with the relevant sections of the licensing requirements of the Malta Gaming Authority ('MGA').

The test results obtained for NG Entertainment Ltd.'s Mystic Ocean HTML5-Desktop 1.0 game produced statistically acceptable random numbers that were free of any significant statistical bias or predictability.

Gary Lupton-Smith,

Technical Services Manager



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SECTION 2. INTRODUCTION

eCOGRA has been appointed by NG Entertainment Ltd. to evaluate and certify the following Slot game for compliance with the relevant licensing requirements Subsidiary Legislation 438.04 Remote Gaming Regulations, Third Schedule, Regulation 25 of the Malta Gaming Authority ('MGA').

Mystic Ocean (1.0) - NG Entertainment Ltd.

This certification report highlights our key findings as a result of the evaluation conducted on HTML5 - Desktop, Platform 1.0, which is the pre-production environment which is essentially the same as the live environment. The testing was conducted on the aforementioned platform established at NG Entertainment Ltd. during the period 11 August 2020 to 17 August 2020.

Please note that this is an initial certification conducted over Mystic Ocean, HTML5-Desktop, 1.0 and therefore this game certificate does not supersede any previous certifications.





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SECTION 3. RNG COMPONENTS

The Random Number Generator (RNG) as detailed in Section 2 and used by NG Entertainment Ltd. in their Mystic Ocean 1.0 product was previously certified by GLI UK Gaming (GLI UK) refer to RNG report: 413-19-001-UK-RTS-01-Report_en. The scope of eCOGRA's randomness testing was limited to testing the randomness of the game output of the Mystic Ocean 1.0 game.

Software Provider:	NG Entertainment Ltd.	
Software Provider Address:	97 Windsor Street	
	Sliema	
	SLM 1853	
	Malta	
Product Name:	Random Number Generator	
Product Description:	RNG Version 1.0	
Jurisdiction:	Malta Gaming Authority, Malta	
Jurisdiction address:	Building SCM 02-03,	
	Level 4, SmartCity Malta,	
	Ricasoli SCM1001,	
	Malta	
Test entity:	GLI UK Gaming Ltd (GLI UK)	
Test entity address:	Llys Helyg,	
	Parc Menai,	
	Bangor LL57 4EZ,	
	United Kingdom	
Date:	21 June 2019	
Approval:	Dr. Richard Edwards, Director	



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SECTION 4. TEST RESULTS

Numerous recognised statistical and mathematical tests were performed on a 1,000,000 rows of sample data, provided by NG Entertainment Ltd., of the game output to verify the RNG operates in a random and fair manner. This included tests for probability (to ensure the expected number of occurrences), randomness (so that the following occurrence cannot be predicted with any degree of certainty) and uniformity (to determine that each possible outcome is equally likely over the long-term). The acceptance criteria for the statistical tests is a pass at a 95% confidence level.



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SECTION 5. GAME DESCRIPTION

Mystic Ocean (1.0)

Game Description:

Mystic Ocean is an online slot game with 10 fixed pay lines, featuring "Free Spins with Expanding Symbols" and a "Gamble" Feature.

Further details regarding the betting characteristics, features and detailed game rules can be found in the game instructions which can be provided upon request.



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SECTION 6. PERCENTAGE RETURN TO PLAYER ('RTP')

Game Name	Theoretical RTP %	eCOGRA RTP % Recalculation	
Mystic Ocean	96.50%	96.69%	

The Theoretical RTP percentage indicated in the table above is extracted from the game documentation as provided by NG Entertainment Ltd. eCOGRA recalculated the RTP percentage by performing additional independent mathematical calculations on the output of simulation game data.



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SECTION 7. GAME SOFTWARE DETAILS

The scope of the game evaluation and certification applies solely to the critical game files, game versions and associated hashes provided in the tables below:

Game Files

File Name / Identifier	Version Date	Version Number	SHA-1 Hash Sum
configurationMO.txt	07-08-2020	1.0	2B1C16A55AECD5D08E280438891AB47D087EBAE6
line_wins_handler.inc.php	20-01-2020	1.0	4265BFE2ACF6549D2A8C2708DDCCC26E6657D396



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SECTION 8. REVIEW FINDINGS

Re	note Gaming Regulations	Rating	Comments
	rd Schedule - Regulation 25 - Technical requirem	_	
1.	The gaming system must:	<u> </u>	
	 a. faithfully follow the game rules published by the operator; and 	Compliant	Further testing to be conducted at operator integration.
	 b. provide over time no more than the expected house advantage to the operator. 	Not applicable	Not applicable to this game type.
2.	Both the gaming and financial transactions must be congruent and secure.	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.
3.	The gaming system must satisfy the following cri	iteria for randomness	s, following Schneier:
	 the data must be randomly generated, passing appropriate statistical tests of randomness; 	Compliant	Refer to RNG certificate: 413-19-001-UK-RTS-01-Report_en
	 the data must be unpredictable, i.e. it must be computationally infeasible to predict what the next number will be, given complete knowledge of the algorithm or hardware generating the sequence, and all previously generated numbers; 	Compliant	Refer to RNG certificate: 413-19-001-UK-RTS-01-Report_en
	c. the series cannot be reliably reproduced, i.e. if the sequence generator is activated again with the same input (as exactly as is reasonably possible) it will produce two completely unrelated random sequences.	Compliant	Refer to RNG certificate: 413-19-001-UK-RTS-01-Report_en
4.	The outcome of any game event, and the return to the player, must be independent of the CPU, memory, disk or other components used in the playing device used by the player.	Compliant	Refer to RNG certificate: 413-19-001-UK-RTS-01-Report_en



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Rei	note Gaming Regulations	Rating	Comments
Thi	rd Schedule - Regulation 25 - Technical requirem	ent for gaming syste	m
5.	The game or any game event outcome must not be affected by the effective bandwidth, link utilisation, bit error rate or other characteristic of the communication channel between the gaming system and the playing device used by	Compliant	
	the player.		
6.	The gaming system must be able to display for ear a page directly accessible from the current page	=	ng information on the current page or on
	a. the name of the game;	Compliant	
	b. restrictions on play;	Compliant	Further testing to be conducted at operator integration.
	 instructions on how to play, including a pay-table for all prizes and special features; 	Compliant	
	d. the player's current account balance;	Compliant	
	e. unit and total bets permitted;	Compliant	
	f. the rules of the game.	Compliant	
7.	All financial reports produced by the gaming system must be congruent with gaming transaction reports and conversely: Provided that all such reports shall be readily and freely available to the Authority.	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.
8.	The gaming system must: a. be capable of producing monthly auditable and aggregate financial statements of gaming transactions, and	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.
	b. calculate accurately all taxation and other monies due to the Authority.	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.



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Remote Gar	ning Regulations	Rating	Comments
Third Sched	ule - Regulation 25 - Technical requirem	ent for gaming syste	m
	ning system must maintain information a		
a.	the identity of the player;	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.
b.	the time the game began as recorded on the game's server;	Not applicable	To be tested at Operator Integration.
c.	the balance on the player's account at the start of the game;	Not applicable	To be tested at Operator Integration.
d.	the stakes placed in the game (time stamped by the games server);	Not applicable	To be tested at Operator Integration.
e.	the game status (in progress, complete, etc.);	Not applicable	To be tested at Operator Integration.
f.	the result of the game (time stamped by the games server);	Not applicable	To be tested at Operator Integration.
g.	the time the game ended as recorded by the games server;	Not applicable	To be tested at Operator Integration.
h.	the amount won or lost by the player; and	Not applicable	To be tested at Operator Integration.
i.	the balance on the player's account at the end of the game.	Not applicable	To be tested at Operator Integration.
10. The gan	ning system must maintain information a	bout significant even	nts as follows:
a.	large wins;	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.



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Remote Gaming Regulations	Rating	Comments	
Third Schedule - Regulation 25 - Technical requirement for gaming system			
b. transfers of funds in excess of such amount as the Authority may from time to time direct by notice in writing to the operator;	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.	
c. changes made by the operator to game parameters.	Not applicable	The certification testing included in this report is limited to relevant game requirements that can be assessed at game supplier level. The certification testing excludes the assessment of compliance against any requirements where the game functionality or information is not directly managed by the game supplier.	
11. Any variations to any of the requirements specified in this Schedule shall be submitted to the Authority for its approval by notice in writing.	Not applicable	No variations identified for the product under certification.	