

AGENDA
COLORADO LIMITED GAMING CONTROL COMMISSION

Meeting of January 16, 2025
Beginning at 9:15 a.m.
In-Person & Via Zoom

Division of Gaming
1707 Cole Blvd., Ste. 300
Lakewood, CO 80401

In addition to other matters that may properly be considered by the Colorado Limited Gaming Control Commission, the following items are scheduled for consideration and adoption on January 16, 2025. Times contained in the agenda are approximate.

PUBLIC SESSION

I. Call to Order

EXECUTIVE SESSION

Review of confidential background licensing reports scheduled for consideration during the public session. §§ 24-6-402(3)(a)(III), 44-30-521(1)(a), 44-30-526(1) & 44-30-1507(1), C.R.S.

PUBLIC SESSION (reconvened)

II. Consideration of Licensing Actions

Limited Gaming Licenses

Change of Ownership of the Retail, Master, and Manufacturer/Distributor Licenses for Kings, Queens, and Jacks, LLC d/b/a Saratoga Casino Black Hawk

Renewal of the Manufacturer/Distributor Licenses for F&E/Financial Equipment Company, Inc. Konami Gaming, Inc. AGS, LLC

Renewal of the Operator Licenses for Konami Gaming, Inc. AGS, LLC

Sports Betting Licenses

Renewal of the Vendor Major Licenses for Overdrive Marketing, Inc. MediaTroopers Inc

Renewal of the Vendor Minor Licenses for AKEYLESS SECURITY USA, INC. f/k/a Akeyless Security Ltd. Cappercon Event Group LLC CBS INTERACTIVE INC. GAMING INTELLIGENCE, INC. Gronk Endorsements LLC

GURMOB LTD
GWEB MEDIA
HVFTD SOLUTIONS OU
LRI Pty Ltd
Palsar Capital Limited
Ocean Media LLC
RMG Acquisition Services, Inc.
SHOTAKE INC.
SABIA MEDIA ISRAEL S.M LTD d/b/a Luns.io
Socure Inc.
Tallysight Inc
Three Spring Media Kft
The Athletic Media Company
Wizard Interactive LLC

- III. Opportunity for Public to Address the Commission
- IV. Consideration of Division Limited Gaming Financial Statements for November 2024
- V. Consideration of Division Sports Betting Financial Statements for November 2024
- VI. Consideration of Limited Gaming Rule 12
- VII. Consideration of Limited Gaming Rules 8 & 21
- VIII. Consideration of No Limit Games LLC Petition to the Colorado Limited Gaming Control Commission for Declaratory Order Pursuant to Regulation 30-601
- IX. Consideration of Organizational Matters
- X. Opportunity for Industry Members to Address the Commission on Current Issues and Events
- XI. Adjournment

At the discretion of the Commission, any or all of the above matters may be continued for consideration or adoption at a different time, may be considered out of order, or may be considered at the next meeting of the Commission.

Public Session

Item II

Approval of Licenses



COLORADO

Department of Revenue

Specialized Business Group - Division of Gaming

1707 Cole Blvd Suite 300
Lakewood CO 80401

142 Lawrence Street
Central City CO 80427

330 W Carr Avenue
Cripple Creek CO 80813

January 8, 2025

CONSENT AGENDA

For the January 16, 2025, Colorado Limited Gaming Control Commission meeting

Dear Members of the Colorado Limited Gaming Control Commission,

The Division of Gaming submits this Consent Agenda for review and approval by the Colorado Limited Gaming Control Commission at its January 16, 2025, meeting in accordance with Commission Policy 24-01 (approved March 29, 2024).

Under Commission Policy 24-01, the Commission may consider the listed matters as a group to be voted on and approved in mass upon a single motion. Upon a timely request, a Commissioner or the Director may remove any matter from the consent agenda for any reason. A request is timely if made prior to the vote on the consent agenda. If a matter is removed from this proposed consent agenda, then the Commission will consider and vote on the amended consent agenda before considering and voting on any removed matter(s) separately.

The Division proposes that the Commission approve the following new and renewal license applications for vendor minor sports betting licenses:

- *Renewal of Vendor Minor Licenses for:*
 - AKEYLESS SECURITY USA, INC. f/k/a Akeyless Security Ltd.
 - Cappercon Event Group LLC
 - CBS INTERACTIVE INC.
 - GAMING INTELLIGENCE, INC.
 - Gronk Endorsements LLC
 - GURMOB LTD
 - GWEB MEDIA
 - HVFTD SOLUTIONS OU
 - LRI Pty Ltd
 - Palsar Capital Limited
 - Ocean Media LLC
 - RMG Acquisition Services, Inc.
 - SHOTAKE INC.
 - SABIA MEDIA ISRAEL S.M LTD dba Luns.io
 - Socure Inc.
 - Tallysight Inc
 - Three Spring Media Kft
 - The Athletic Media Company
 - Wizard Interactive LLC



COLORADO

Department of Revenue

Specialized Business Group - Division of Gaming

1707 Cole Blvd Suite 300
Lakewood CO 80401

142 Lawrence Street
Central City CO 80427

330 W Carr Avenue
Cripple Creek CO 80813

Respectfully,

Andrew Fulton,
Agent in Charge Sports Betting and Fantasy Sports,
Colorado Division of Gaming

Item IV

Limited Gaming
Financial
Statements
November 2024



**STATEMENT OF GAMING REVENUES,
GAMING TAXES, AND EXPENDITURES**

(UNAUDITED)

FOR THE FIVE (5) MONTHS ENDED

NOVEMBER 30, 2024



COLORADO

Department of Revenue

Specialized Business Group—Gaming

1707 Cole Blvd., Suite 300
Lakewood, CO 80401

January 16, 2025

State Treasurer and Members of the Colorado Limited Gaming Control Commission:

Pursuant to Section 44-30-203 (i), C.R.S., the Colorado Division of Gaming is required to furnish monthly a, "report which contains a full and complete statement of the division's revenues and expenses."

The attached combined financial statements for November 30, 2024 have not been audited. They contain the most current data available. This information has been collected and recorded in accordance with generally accepted accounting principles.

Respectfully submitted,

Tseko Ivanov Digitally signed by Tseko Ivanov
Date: 2025.01.07 14:37:50 -0700

Tseko Ivanov
Division Controller

**COLORADO DIVISION OF GAMING
FINANCIAL STATEMENTS
(UNAUDITED)**

DISTRIBUTION

Honorable Jared Polis	Governor
Representative Julie McCluskie	Speaker of the House of Representatives
Senator James Coleman	President of the Senate
Senator Paul Lundeen	Senate Minority Leader
Representative Rose Pugliese	House Minority Leader
Senator Jeff Bridges	Chair, Joint Budget Committee
Mr. Kevin Armstrong	Chair, Limited Gaming Control Commission
Mr. John Tipton	Vice Chair, Limited Gaming Control Commission
Ms. Ahilya George	Limited Gaming Control Commission
Mr. Kevin Hyland	Limited Gaming Control Commission
Mr. Phil Workman	Limited Gaming Control Commission
Ms. Heidi Humphreys	Executive Director, Department of Revenue
Mr. Michael Phibbs	Senior Director, Specialized Business Group, Department of Revenue
Mr. Christopher Schroder	Director, Division of Gaming
Mr. Scott Koehler	Accounting Director, Department of Revenue
Mr. Dustin Hoover	Deputy Budget Director, Department of Revenue
Mr. Bob Jaros	State Controller
Mr. Charles Scheibe	Chief Financial Officer, Department of the Treasury
Ms. Aly Jabrocki	State Archivist
Ms. Kerri Hunter	State Auditor
Ms. Amanda King	Joint Legislative Library
Mr. Adrian Leiter	Deputy Director for Budget, Governor's Office
Colorado State Publications Depository and Distribution Center	State of Colorado Library

**DIVISION OF GAMING
STATEMENT OF REVENUES
GAMING TAXES, AND EXPENDITURES
(UNAUDITED)**

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**COLORADO DIVISION OF GAMING
TAX REVENUES COMPARISON
NOVEMBER 30, 2024 AND 2023**

The Colorado Limited Gaming Control Commission assesses taxes based on adjusted gross proceeds (AGP).

The tax rates for period ending June 30, 2025 are:

- 3% on AGP from charitable gaming
- .25% on amounts up to \$2 million
- 2% on amounts over \$2 million and up to \$5 million
- 9% on amounts over \$5 million and up to \$8 million
- 11% on amounts over \$8 million and up to \$10 million
- 16% on amounts over \$10 million and up to \$13 million
- 20% on amounts over \$13 million

The tax rates for year ending June 30, 2025 are the same as they were for year ending June 30, 2024.

For Periods Beginning July 1, 2023 and 2024 through November 30, 2023 and 2024

AGP Comparison				
Range	Prior Year AGP	Current Year AGP	Difference	Percent Change
\$0 - \$2 Million	\$ 1,027,267	\$ 5,236,102	\$ 4,208,835	409.71%
\$2 - \$5 Million	\$ 35,837,067	\$ 32,323,192	\$ (3,513,875)	(9.81)%
\$5 - \$8 Million	\$ 38,765,093	\$ 44,892,367	\$ 6,127,274	15.81%
\$8 - \$10 Million	\$ 45,615,541	\$ 26,610,787	\$ (19,004,754)	(41.66)%
\$10 - \$13 Million	\$ 34,424,111	\$ 54,196,578	\$ 19,772,467	57.44%
\$13+ Million	\$ 303,063,351	\$ 302,340,654	\$ (722,697)	(0.24)%
Total	\$ 458,732,430	\$ 465,599,680	\$ 6,867,250	1.50%

Tax Comparison				
Range	Prior Year Tax	Current Year Tax	Difference	Percent Change
\$0 - \$2 Million	\$ 152,568	\$ 158,090	\$ 5,522	3.62%
\$2 - \$5 Million	\$ 1,416,741	\$ 1,486,464	\$ 69,723	4.92%
\$5 - \$8 Million	\$ 4,298,858	\$ 4,400,313	\$ 101,455	2.36%
\$8 - \$10 Million	\$ 2,377,710	\$ 2,487,187	\$ 109,477	4.60%
\$10 - \$13 Million	\$ 3,107,858	\$ 3,071,452	\$ (36,406)	(1.17)%
\$13+ Million	\$ 47,612,670	\$ 47,468,131	\$ (144,539)	(0.30)%
Total	\$ 58,966,405	\$ 59,071,637	\$ 105,232	0.18%

Open Casinos Comparison			
Range	Prior Year No. of Tax Returns Filed by Casinos	This Year No. of Tax Returns Filed by Casinos	Difference
\$0 - \$2 Million	2	4	2
\$2 - \$5 Million	11	9	(2)
\$5 - \$8 Million	6	7	1
\$8 - \$10 Million	5	3	(2)
\$10 - \$13 Million	3	5	2
\$13+ Million	5	5	0
Total	32	33	1

Sir William Casino was closed in November FY24

**COLORADO DIVISION OF GAMING
COMBINED STATEMENT OF REVENUES,
EXPENDITURES, AND CHANGES IN FUND BALANCE (UNAUDITED)
FIVE MONTHS ENDED NOVEMBER 30, 2024 AND 2023**

	FY 2025				FY 2024			
	EXTENDED GAMING FUND	RESPONSIBLE GAMING GRANT FUND	LIMITED GAMING FUND	TOTAL GAMING FUNDS	EXTENDED GAMING FUND	RESPONSIBLE GAMING GRANT FUND	LIMITED GAMING FUND	TOTAL GAMING FUNDS
	REVENUES:							
Gaming Taxes	\$ 0	\$ 0	\$ 59,118,086	\$ 59,118,086	\$ 0	\$ 0	\$ 58,973,422	\$ 58,973,422
License and Application Fees	0	0	341,599	341,599	0	0	312,050	312,050
Background Investigations	0	0	91,080	91,080	0	0	33,011	33,011
Fines	0	0	4,200	4,200	0	0	420	420
Interest Income	167,096	41,425	1,004,513	1,213,034	167,798	25,482	1,002,174	1,195,454
Other Revenue	0	0	82	82	0	0	8,817	8,817
TOTAL REVENUES	167,096	41,425	60,559,560	60,768,081	167,798	25,482	60,329,894	60,523,174
OTHER FINANCING SOURCES / USES:								
Insurance Recoveries	0	0	0	0	0	0	10,919	10,919
TOTAL REVENUES & OTHER FIN. SOURCES	167,096	41,425	60,559,560	60,768,081	167,798	25,482	60,340,813	60,534,093
EXPENDITURES:								
Salaries and Benefits	0	50,256	4,249,226	4,299,482	0	3,823	3,694,545	3,698,368
Annual and Sick Leave Payouts	0	0	12,475	12,475	0	0	6,937	6,937
Professional Services	0	0	18,377	18,377	0	0	82,892	82,892
Travel	0	3,006	15,797	18,803	0	0	12,210	12,210
Automobiles	0	0	124,729	124,729	0	0	78,281	78,281
Printing	0	0	7,361	7,361	0	0	7,375	7,375
Police Supplies	0	0	71,745	71,745	0	0	16,929	16,929
Computer Services & Name Searches	0	0	39,310	39,310	0	0	39,278	39,278
Materials, Supplies, and Services	0	2,153	158,650	160,803	0	0	157,201	157,201
Postage	0	0	2,489	2,489	0	0	632	632
Telephone	0	228	37,153	37,381	0	0	33,588	33,588
Utilities	0	0	9,041	9,041	0	0	10,841	10,841
Other Operating Expenditures	0	0	22,493	22,493	0	0	38,138	38,138
Leased Space	0	0	57,765	57,765	0	0	75,869	75,869
Capital Outlay	0	0	0	0	0	0	10,180	10,180
EXPENDITURES - SUBTOTAL	0	55,643	4,826,611	4,882,254	0	3,823	4,264,896	4,268,719
STATE AGENCY SERVICES								
Division of Fire Prevention and Control	0	0	81,177	81,177	0	0	118,360	118,360
Colorado State Patrol	0	0	1,735,035	1,735,035	0	0	1,647,861	1,647,861
State Auditors	0	0	14,900	14,900	0	0	12,735	12,735
Indirect Costs - Department of Revenue	0	0	602,433	602,433	0	0	506,795	506,795
Colorado Department of Law	0	0	76,526	76,526	0	0	103,469	103,469
OIT Purchased Services	0	0	406,189	406,189	0	0	227,566	227,566
TOTAL STATE AGENCY SERVICES	0	0	2,916,260	2,916,260	0	0	2,616,786	2,616,786
Background Expenditures	0	0	29,251	29,251	0	0	1,122	1,122
TOTAL EXPENDITURES	0	55,643	7,772,122	7,827,765	0	3,823	6,882,804	6,886,627
Excess of Revenues Over Expenditures	167,096	(14,218)	52,787,438	52,940,316	167,798	21,659	53,458,009	53,647,466
FY24 & FY23 Extended Gaming Distr.	(46,434,925)	0	0	(46,434,925)	(44,135,150)	0	0	(44,135,150)
FUND BALANCE AT JULY 1, 2024 & 2023	46,434,925	3,583,759	2,706,136	52,724,820	44,135,150	2,550,658	2,520,682	49,206,490
TOTAL FUND BAL. NOVEMBER 30, 2024 & 2023	\$ 167,096	\$ 3,569,541	\$ 55,493,574	\$ 59,230,211	\$ 167,798	\$ 2,572,317	\$ 55,978,691	\$ 58,718,806

COLORADO DIVISION OF GAMING
STATEMENT OF BUDGET TO ACTUAL
FIVE MONTHS ENDED NOVEMBER 30, 2024
(UNAUDITED)

	BEGINNING BUDGET *	SUPPLE- MENTAL CHANGES / ROLLFORWARDS	ANNUAL REVISED ESTIMATED BUDGET **	41.7% OF BUDGETED AMOUNT EXCEPT FOR TAXES ***	YEAR-TO-DATE ACTUAL	OVER / (UNDER) ANNUAL BUDGET	% EARNED % EXPENDED OF ANNUAL BUDGET
REVENUES:							
Gaming Taxes	\$ 174,753,689	\$ 0	\$ 174,753,689	57,700,700	\$ 59,118,086	\$ (115,635,603)	33.83%
License and Application Fees	763,392	0	763,392	318,080	341,599	(421,793)	44.75%
Background Investigations	864,752	0	864,752	360,313	91,080	(773,672)	10.53%
Fines and Fees	0	0	0	0	4,200	4,200	100.00%
Interest Revenue	2,477,878	0	2,477,878	1,032,449	1,004,513	(1,473,365)	40.54%
Other Revenue	0	0	0	0	82	82	100.00%
TOTAL REVENUES	178,859,711	0	178,859,711	74,524,880	60,559,560	(118,300,151)	33.86%
EXPENDITURES:							
Personal Services	12,350,897	0	12,350,897	5,146,207	4,282,868	(8,068,029)	34.68%
Operating Expenditures	850,828	495,500	1,346,328	560,971	275,448	(1,070,880)	20.46%
Workers Compensation	29,064	0	29,064	12,110	12,110	(16,954)	41.67%
Risk Management	30,775	0	30,775	12,823	12,823	(17,952)	41.67%
Licensure Activities	126,078	0	126,078	52,533	43,080	(82,998)	34.17%
Leased Space	469,025	0	469,025	195,427	57,765	(411,260)	12.32%
Vehicle Lease Payments - Fixed	162,144	0	162,144	67,560	69,823	(92,321)	43.06%
Vehicle Lease Payments - Variable	83,600	0	83,600	34,833	54,906	(28,694)	65.68%
Utilities	28,925	0	28,925	12,052	9,041	(19,884)	31.26%
Legal Services	183,663	0	183,663	76,526	76,526	(107,137)	41.67%
CORE Operations	14,605	0	14,605	6,085	6,085	(8,520)	41.66%
Payments to Office of Information Technology	706,628	0	706,628	294,428	406,189	(300,439)	57.48%
IT Division - MIPC Phones & ISD	52,888	(6,634)	46,254	19,273	17,562	(28,692)	37.97%
Indirect Costs - Department of Revenue	1,452,282	(6,443)	1,445,839	602,433	602,433	(843,406)	41.67%
State Agency Services	5,030,021	0	5,030,021	2,095,842	1,816,212	(3,213,809)	36.11%
Division Expenditures	21,571,423	482,423	22,053,846	9,189,103	7,742,871	(14,310,975)	35.11%
Background Expenditures	700,000	0	700,000	291,667	29,251	(670,749)	4.18%
TOTAL EXPENDITURES	22,271,423	482,423	22,753,846	9,480,770	7,772,122	(14,981,724)	34.16%
EXCESS OF REVENUES OVER EXPENDITURES	\$ 156,588,288	N/A	\$ 156,105,865	65,044,110	\$ 52,787,438	\$ (103,318,427)	33.82%

* Represents original information given to the Commission in May 2024.
The percent of the fiscal year elapsed through November 30, 2024 is 41.7%.

** Amount includes Long Bill items and Supplemental Appropriations.

*** The original tax projection assumed an AGP increase of 1%, which was then applied to the existing casinos' graduated tax tiers. The \$57,700,700 is this tax projection through November, which is \$1,417,386 less than the actual taxes collected for the same period.

^^ Calculated number is not a sum, rather elapsed percentage of Annual Revised Estimated Budget.



Memo

To: Colorado Limited Gaming Control Commission
From: Tseko Ivanov, Gaming Controller
Cc: Chris Schroder
Date: January 16, 2025
Re: November 2024 Gaming Fund Financial Statement Presentation

Following are highlights from the Gaming Fund financial statements ending November 30, 2024.

Statement of Revenues, Expenditures, and Changes in Fund Balance

Gaming tax revenues have increased by \$144,664 or 0.3% over last year. Total Revenues for the Limited Gaming Fund as of November 30, 2024, were \$60,559,560, a 0.4% increase compared to November 2023.

Total expenditures for the period ending November 30, 2024, were approximately \$7.8 million. This represents a 3.0% increase over last year. The main reason for the increase is in the Salaries and Benefits line, which increased by \$554,681 or 15.0% over last year. The PERA Direct Distribution expenditure is \$94,272 more this fiscal year compared to last fiscal year. The OIT Purchased Services line increased by \$178,623 or 78.5% over last year. This was expected, as the appropriation is \$160,469 higher than it was in fiscal year 2024. Also, the utilization rate of the appropriation increased in fiscal year 2025 compared to fiscal year 2024. The Automobiles line increased by \$46,448 or 59.3%. That is due to the increased amount of vehicles assigned to Gaming and the increased cost of maintaining the vehicles.

The excess of total revenues over expenditures was \$52,787,438. This is a 1.3% decrease over last year and represents the amount we could distribute as of November 30.

Statement of Budget to Actual

Total revenues collected through November 30, 2024, were 33.9 % of budgeted. Total expenditures were 34.2% of budgeted, which is below the 41.7% of the fiscal year that has elapsed. In addition, the excess of revenues over expenditures was 33.8% of budgeted.

Please feel free to contact me if you have any questions on the Gaming Fund financial statements.

Item V

Sports Betting Financial Statements November 2024



**STATEMENT OF SPORTS BETTING REVENUES,
SPORTS BETTING TAXES, AND EXPENDITURES
(UNAUDITED)**

**FOR THE FIVE (5) MONTHS ENDED
NOVEMBER 30, 2024**

**DIVISION OF GAMING
STATEMENT OF REVENUES
SPORTS BETTING TAXES, AND
EXPENDITURES
(UNAUDITED)**

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COLORADO DIVISION OF GAMING
SPORTS BETTING COMBINED STATEMENT OF REVENUES,
EXPENDITURES, AND CHANGES IN FUND BALANCE
FIVE MONTHS ENDED NOVEMBER 30, 2024 AND 2023
(UNAUDITED)

	FY 2025			FY 2024		
	HOLD-HARMLESS	SPORTS	TOTAL SPORTS	HOLD-HARMLESS	SPORTS	TOTAL SPORTS
	FUND	BETTING FUND	BETTING FUNDS	FUND	BETTING FUND	BETTING FUNDS
REVENUES:						
Sports Betting Taxes	\$ 0	\$ 15,228,527	\$ 15,228,527	\$ 0	\$ 11,541,290	\$ 11,541,290
License and Application Fees	0	102,130	102,130	0	95,034	95,034
Sports Betting Operations Fees	0	1,622,400	1,622,400	0	1,922,700	1,922,700
Background Investigations	0	26,034	26,034	0	96,497	96,497
Fines	0	252	252	0	84	84
Interest Income	44,837	360,711	405,548	25,540	310,429	335,969
Other Revenue	0	0	0	0	1,044	1,044
TOTAL REVENUES	44,837	17,340,054	17,384,891	25,540	13,967,078	13,992,618
EXPENDITURES:						
Salaries and Benefits	0	1,344,773	1,344,773	0	1,095,106	1,095,106
Annual and Sick Leave Payouts	0	4,272	4,272	0	30,481	30,481
Professional Services	0	40,000	40,000	0	44,812	44,812
Travel	0	9,814	9,814	0	6,023	6,023
Automobiles	0	7,158	7,158	0	7,169	7,169
Printing	0	1,745	1,745	0	1,615	1,615
Police Supplies	0	1,614	1,614	0	652	652
Computer Services & Name Searches	0	6,197	6,197	0	6,968	6,968
Materials, Supplies, and Services	0	19,918	19,918	0	27,426	27,426
Postage	0	44	44	0	37	37
Telephone	0	6,201	6,201	0	5,583	5,583
Other Operating Expenditures	0	5,318	5,318	0	10,177	10,177
Leased Space	0	14,444	14,444	0	14,175	14,175
Capital Outlay	0	55,000	55,000	0	0	0
EXPENDITURES - SUBTOTAL	0	1,516,498	1,516,498	0	1,250,224	1,250,224
STATE AGENCY SERVICES						
State Auditors	0	14,900	14,900	0	12,735	12,735
Indirect Costs - Department of Revenue	0	92,118	92,118	0	64,426	64,426
Colorado Department of Law	0	35,847	35,847	0	52,589	52,589
OIT Purchased Services	0	113,834	113,834	0	30,879	30,879
TOTAL STATE AGENCY SERVICES	0	256,699	256,699	0	160,629	160,629
Background Expenditures	0	1,157	1,157	0	20,602	20,602
TOTAL EXPENDITURES	0	1,774,354	1,774,354	0	1,431,455	1,431,455
EXCESS OF REVENUES OVER EXPENDITURES	44,837	15,565,700	15,610,537	25,540	12,535,623	12,561,163
OTHER FINANCING SOURCES (USES):						
Sports Betting Distribution	0	(26,793,679)	(26,793,679)	0	(23,900,959)	(23,900,959)
Transfer to Hold-Harmless Fund	0	(1,740,000)	(1,740,000)	0	(1,536,814)	(1,536,814)
Transfer from Sports Betting Fund	1,740,000	0	1,740,000	1,536,814	0	1,536,814
FUND BALANCE AT JULY 1, 2024 & 2023	2,398,738	29,980,188	32,378,926	1,271,076	25,454,129	26,725,205
TOTAL FUND BAL. NOVEMBER 30, 2024 & 2023	\$ 4,183,575	\$ 17,012,209	\$ 21,195,784	\$ 2,833,430	\$ 12,551,979	\$ 15,385,409

COLORADO DIVISION OF GAMING
SPORTS BETTING STATEMENT OF BUDGET TO ACTUAL
FIVE MONTHS ENDED NOVEMBER 30, 2024
(UNAUDITED)

	BEGINNING BUDGET *	SUPPLE- MENTAL CHANGES / ROLLFORWARDS	ANNUAL REVISED ESTIMATED BUDGET **	41.7% OF BUDGETED AMOUNT	YEAR-TO-DATE ACTUAL	OVER / (UNDER) ANNUAL BUDGET	% EARNED % EXPENDED OF ANNUAL BUDGET
REVENUES:							
Sports Betting Taxes	\$ 32,300,199	\$ 0	\$ 32,300,199	\$ 13,458,416	\$ 15,228,527	\$ (17,071,672)	47.15%
License and Application Fees	216,624	0	216,624	90,260	102,130	(114,494)	47.15%
Sports Betting Operations Fees	3,070,194	0	3,070,194	1,279,248	1,622,400	(1,447,794)	52.84%
Background Investigations	192,984	0	192,984	80,410	26,034	(166,950)	13.49%
Fines and Fees	0	0	0	0	252	252	100.00%
Interest Revenue	591,094	0	591,094	246,289	360,711	(230,383)	61.02%
TOTAL REVENUES	36,371,095	0	36,371,095	15,154,623	17,340,054	(19,031,041)	47.68%
EXPENDITURES:							
Personal Services	4,112,793	0	4,112,793	1,713,664	1,455,539	(2,657,254)	35.39%
Operating Expenditures	175,038	0	175,038	72,933	39,295	(135,743)	22.45%
Workers Compensation	8,174	0	8,174	3,406	3,406	(4,768)	41.67%
Risk Management	8,655	0	8,655	3,606	3,606	(5,049)	41.66%
Licensure Activities	37,701	0	37,701	15,709	6,238	(31,463)	16.55%
Leased Space	50,433	0	50,433	21,014	14,444	(35,989)	28.64%
Vehicle Lease Payments - Fixed	20,324	0	20,324	8,468	6,336	(13,988)	31.17%
Vehicle Lease Payments - Variable	4,200	0	4,200	1,750	822	(3,378)	19.57%
Legal Services	86,032	0	86,032	35,847	35,847	(50,185)	41.67%
CORE Operations	4,108	0	4,108	1,712	1,712	(2,396)	41.67%
Payments to Office of Information Technology	198,739	0	198,739	82,808	113,834	(84,905)	57.28%
Indirect Costs - Department of Revenue	387,109	1,300	388,409	161,837	92,118	(296,291)	23.72%
Division Expenditures	5,093,306	1,300	5,094,606	2,122,754	1,773,197	(3,321,409)	34.81%
Non Personal Services Background Expenditures	106,551	0	106,551	44,396	1,157	(105,394)	1.09%
TOTAL EXPENDITURES	5,199,857	1,300	5,201,157	2,167,150	1,774,354	(3,426,803)	34.11%
EXCESS OF REVENUES OVER EXPENDITURES	\$ 31,171,238	N/A	\$ 31,169,938	\$ 12,987,473	\$ 15,565,700	\$ (15,604,238)	49.94%

* Represents original information given to the Commission in April of 2024.
The percent of the fiscal year elapsed through November 30, 2024 is 41.7%.
** Amount includes Long Bill items and Supplemental Appropriations.



Memo

To: Colorado Limited Gaming Control Commission
From: Ryan Golden, Deputy Gaming Controller
Cc: Christopher Schroder
Date: January 16, 2024
Re: November 2024 Sports Betting Fund Financial Statements

Following are highlights from the Sports Betting Fund financial statements ending November 30, 2024.

Statement of Revenues, Expenditures, and Changes in Fund Balance

Current fiscal year Sports Betting Tax revenue was \$15,228,527 which is an increase of \$3,687,237 or 32% over the prior fiscal year. The current fiscal year increase in Sports Betting Tax revenue is due in part to the year over year increase in Net Sports Betting Proceeds of 34%.

Total Sports Betting Fund revenues through November 2024 increased by \$3,372,976 or 24% over November 2023.

Total Sports Betting Fund expenditures through November 2024 were \$1,774,354 which is an increase of 24% over November 2023. The increase is due primarily to the increase of \$249,667 in salaries and benefits. Capital Outlay expenditures through November 2024 increased \$55,000 for the development of data software to be used for reporting.

Statement of Budget to Actual

Total revenues collected through November 2024 were about 48% of budgeted. Total expenditures were about 34% of budgeted, which is below the 42% of the fiscal year that has elapsed. Excess of revenues over expenditures was 50% of budgeted.

Please feel free to contact me if you have any questions on the Sports Betting Fund financial statements.

Item VI

Consideration of Limited Gaming Rule 12



Memo

To: Colorado Limited Gaming Commission
CC: Chris Schroder, Director

From: Georgia McBride, Chief Technology Officer
John Modeck, Technical Systems Manager

Date: January 16, 2025

Re: Update of Rule 30-1279 Wireless applications and the supporting wireless local area networks

The Division is seeking approval for changes to Regulation 30-1279 Wireless applications and the supporting wireless local area network.

This amendment will broaden the scope of wireless technology and bring the Regulation up to date. Wireless technology includes the use of Bluetooth, Near Field Communications (NFC), 802.11, Radio-frequency identification (RFID) and Cellular networks such as 4G or 5G.

Any use of wireless technology will require prior approval by the Division before implementation.

The current Regulation 30-1279 specifically allows for Wireless Handheld Validation Units. They will now be included in the amendment as part of wireless technology.

Detailed requirements for wireless technology will be included in the ICMPs.

Use of wireless technology for surveillance systems will be addressed in ICMP 13 Surveillance Systems Standards as indicated in the amendment.

BASIS AND PURPOSE FOR RULE 12

The purpose of Rule 12 is to establish a procedure for the testing and approval by the Commission of gaming devices and equipment, to establish requirements for the gaming devices and equipment to be used in limited gaming in Colorado, and to establish procedures for the storage of gaming devices and equipment in compliance with section 44-30-302 (2), C.R.S. The statutory basis for Rule 12 is found in sections 44-30-201, C.R.S., 44-30-203, C.R.S., 44-30-302, C.R.S., and 44-30-806, C.R.S.

RULE 12 GAMING DEVICES AND EQUIPMENT

30-1279 **Wireless applications and the supporting wireless local area network.** *Amended 3/30/16*

THE USE OF WIRELESS TECHNOLOGY IN NETWORKS, DEVICES OR SYSTEMS CAN BE IMPLEMENTED FOR GAMING ACTIVITIES THAT MONITOR, CREATE, COLLECT, OR REPORT GAMING TRANSACTION DATA OR TO CALCULATE ADJUSTED GROSS PROCEEDS AND GAMING TAXES. WIRELESS TECHNOLOGY MUST BE APPROVED BY THE DIVISION PRIOR TO IMPLEMENTATION.

REFER TO ICMP 13 SURVEILLANCE SYSTEMS STANDARDS FOR ADDITIONAL INFORMATION.

THE COMMISSION ADOPTS AND INCORPORATES AS PART OF THIS REGULATION THE COLORADO DIVISION OF GAMING'S INTERNAL CONTROL MINIMUM PROCEDURES EFFECTIVE JUNE 1, 2024, POSTED ONLINE AT [HTTPS://SBG.COLORADO.GOV/SITES/SBG/FILES/DOCUMENTS/COMBINED%20ICMP%20EFFECTIVE%20JUNE%201%20C%202024_0.PDF](https://sbg.colorado.gov/sites/sbg/files/documents/combined%20icmp%20effective%20june%201%20c%202024_0.pdf). THIS REGULATION DOES NOT INCLUDE AMENDMENTS TO OR LATER EDITIONS OF THE DIVISION'S INTERNAL CONTROL MINIMUM PROCEDURES. CERTIFIED COPIES OF THE COMPLETE TEXT OF THE MATERIAL INCORPORATED ARE MAINTAINED AT THE COLORADO DIVISION OF GAMING, 1707 COLE BLVD., SUITE 300, LAKEWOOD, COLORADO 80401, AND MAY BE INSPECTED BY CONTACTING THE RECORDS CUSTODIAN AT THAT ADDRESS DURING NORMAL BUSINESS HOURS. THE INCORPORATED MATERIAL MAY ALSO BE EXAMINED AT ANY STATE PUBLICATIONS DEPOSITORY LIBRARY. CERTIFIED COPIES SHALL BE PROVIDED AT COST UPON REQUEST.

- ~~(1) Wireless handheld validation units may be used with a supporting wireless local area network (WLAN) for activities that impact gaming transactions provided the following security precautions are observed:~~
 - ~~(a) The wireless local area network must comply with industry standards, defined in the Internal Control Minimum Procedures;~~
 - ~~(b) An authentication process must comply with industry standards, defined in the Internal Control Minimum Procedures, to maintain network security;~~
 - ~~(c) Licensees will provide an encryption/decryption process which complies with industry standards, defined in the Internal Control Minimum Procedures, to maintain network security;~~
 - ~~(d) Each unit and user must be authenticated to the gaming system before transactions can proceed. Users must be authorized and registered in the gaming system to perform transactions; Amended 11/30/14~~
 - ~~(e) All wireless access points and units must be controlled to prevent unauthorized physical and virtual access;~~
 - ~~(f) Each wireless access point must communicate through a firewall. The firewall must reside between the WLAN and the Local Area Network (LAN);~~
 - ~~(g) An Intrusion Detection System (IDS) and an Intrusion Protection System (IPS) must be used to identify and prevent attacks from unauthorized users and devices. The IDS/IPS~~

must have a system produced audit trail, and must be provided to the Division upon request;

- (h) — Each wireless access point and device must be configured so that the settings are different from the default values and must not identify the casino, Service Set Identifier (SSID) or domain name;
 - (i) — The licensee must perform periodic review and testing of the unit and the supporting WLAN as defined in the Internal Control Minimum Procedures;
 - (j) — The licensee will be held responsible for proper use of the unit and the supporting WLAN as defined in the Internal Control Minimum Procedures; and
 - (k) — Wireless handheld transactions cannot occur outside the licensed premises.
- (2) — Other wireless applications that do not impact gaming transactions, must be reviewed and approved by the division.

Item VII

Consideration of Limited Gaming Rules 8 & 21



Memo

To: Colorado Limited Gaming Commission
From: Michael Payne, Table Games Chair
CC: Christopher Schroder, Kirsten Gregg, Kenya Collins and Allen Hiserodt
Date: January 8, 2025
Re: Proposed Rule Changes - Summary

On January 16th, 2025, I will be presenting Rule changes to the Commission on behalf of the Division of Gaming. The proposed changes will affect Gaming Rule 8, Rules for Blackjack, and Gaming Rule 21, Rules for Blackjack-Poker Combination games.

Proposed Regulation 30-899.29 is a new Blackjack game called Rocket Aces Progressive. Rocket Aces Progressive is owned by Aces Up Gaming of Brighton Colorado, who submitted the application in April 2024.

A successful 7 month field trial was held at Bally's West and North Casinos in Black Hawk between May 24th, 2024 through December 12, 2024. During the field trial at both Bally's locations, Rocket Aces Progressive had a final hold of approximately 42.12% at Bally's West, and 37.51% at Bally's North. Player's comments were positive, there were no negative comments received. Bally's North and West are both planning on keeping the game on the floor. The progressive is being played in Nevada with no reported issues.

The Table Games Committee has reviewed the rules of the Progressive, and it is compliant with Rule 8. The Table Games Committee, Aces Up Gaming, and Bally's North and West Casinos all recommend the approval of Rocket Aces Progressive so it can be offered for play in Colorado.

The next game I will be presenting is Regulation 30-2119 Ride Free Blackjack, which is a Blackjack-Poker Variation game owned by Galaxy Gaming of Law Vegas Nevada. Ride Free Blackjack was first submitted in August 2023. The original casino that was going to host the game, backed out before the game could start.

Ride Free Blackjack completed a successful a 46 day field trial at the Brass Ass Casino in Cripple Creek between November 1st, through December 17th. During the field trial at the Brass Ass, Ride Free Blackjack had a final hold of 29.9%. There were no negative comments about the game. It did seem to take some time for it to catch on by the Patrons. The Brass Ass Casino is planning on keeping the game on the floor. This game is also being played in Iowa, Indiana, Nevada and Washington. There are no known problems with this game in those jurisdictions.

The Table Games Committee has reviewed the rules of the game and it is compliant with Rule 21. The Table Games Committee, Galaxy Gaming and The Brass Ass Casino all recommend the approval of Ride Free Blackjack, so it can be played in Colorado.

BASIS AND PURPOSE FOR RULE 8

The purpose of Rule 8 is to establish playing rules for blackjack and procedures for conducting blackjack games in compliance with section 44-30-302 (2). The statutory basis for Rule 8 is found in sections 44-30-201, C.R.S., 44-30-203, C.R.S., 44-30-302, C.R.S., 44-30-816, C.R.S., and 44-30-818, C.R.S.

RULE 8 RULES FOR BLACKJACK

30-899.29 THE PLAY – ROCKET ACES BLACKJACK PROGRESSIVE.

ROCKET ACES BLACKJACK PROGRESSIVE IS TRADEMARKED AND PATENT-PENDING PROGRESSIVE WAGER THE RIGHTS TO WHICH ARE OWNED BY ACES UP GAMING OF BRIGHTON, COLORADO AND WHICH MAY BE TRANSFERRED OR ASSIGNED.

THE ROCKET ACES BLACKJACK PROGRESSIVE IS AN OPTIONAL WAGER FOR STANDARD BLACKJACK GAMES FROM TWO (2) – SIX (6) STANDARD 52 CARD DECKS.

ROCKET ACES BLACKJACK PROGRESSIVE IS AVAILABLE TO GO WITH ANY APPROVED BLACKJACK SIDE BETS IN COLORADO.

(1) **THE RULES ARE DESCRIBED AS FOLLOWS:**

- (A) **THE PLAYER WILL MAKE A PROGRESSIVE WAGER OF THE CORRECT DENOMINATION IN THE DESIGNATED BETTING AREA OR ON THE BET SENSOR.**
- (B) **THE DEALER WILL LOCK IN THE PROGRESSIVE WAGERS AND THE BETS ARE NOW ACTIVE.**
- (C) **THE DEALER WILL THEN START DEALING THE GAME.**
- (D) **THE PLAYER WINS WITH THE DESIGNATED CARDS FORM A HAND DESCRIBED IN THE PAY TABLE.**

(2) **THE PAY TABLES FOR ALL THE ROCKET ACES BLACKJACK PROGRESSIVE CONFIGURATIONS AND STRUCTURES, ARE AS FOLLOWS:**

QUICK WITH SINGLE ACE BASE – 2 DECKS	
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-100%
PLAYER 2 ACES SUITED	- 100 FOR 1
PLAYER 2 ACES	- 20 FOR 1
PLAYER SINGLE ACE	- 2 FOR 1
ALL OTHER HANDS	- LOSE

QUICK WITH SINGLE ACE BASE – 6 DECKS	
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-100%
PLAYER 2 ACES SUITED	- 100 FOR 1
PLAYER 2 ACES	- 12 FOR 1
PLAYER SINGLE ACE	- 2 FOR 1
ALL OTHER HANDS	- LOSE

MEDIUM WITH SINGLE ACE BASE – 2 DECKS	
PLAYER 2 ACES OF SPADES & DEALER BLACKJACK SUITED	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-10%
PLAYER 2 ACES SUITED	- 100 FOR 1
PLAYER 2 ACES	- 25 FOR 1
PLAYER SINGLE ACE	-2 FOR 1
ALL OTHER HANDS	- LOSE

MEDIUM WITH SINGLE ACE BASE – 2 DECKS	
PLAYER 2 ACES OF SPADES & DEALER BLACKJACK SUITED	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-10%
PLAYER 2 ACES SUITED	- 100 FOR 1
PLAYER 2 ACES	- 20 FOR 1
PLAYER SINGLE ACE	-2 FOR 1
ALL OTHER HANDS	- LOSE

MEDIUM WITH BLACKJACK BASE - 2 ACES - 2 DECKS	
PLAYER 2 ACES SUITED & DEALER BLACKJACK SUITED	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-5%
PLAYER 2 ACES & DEALER BLACKJACK	- 50 FOR 1
PLAYER 2 ACES	- 10 FOR 1
PLAYER BLACKJACK	-3 FOR 1
DEALER BLACKJACK	-2 FOR 1
ALL OTHER HANDS	- LOSE

MEDIUM WITH BLACKJACK BASE - 2 ACES - 6 DECKS	
PLAYER 2 ACES SUITED & DEALER BLACKJACK SUITED	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-5%
PLAYER 2 ACES & DEALER BLACKJACK	- 50 FOR 1
PLAYER 2 ACES	- 10 FOR 1
PLAYER BLACKJACK	-3 FOR 1
DEALER BLACKJACK	-2 FOR 1
ALL OTHER HANDS	- LOSE

MEDIUM WITH BLACKJACK BASE - 2 BLACKJACKS - 2 DECKS	
PLAYER 2 ACES SUITED & DEALER BLACKJACK SUITED	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-5%
PLAYER 2 ACES & DEALER BLACKJACK	- 50 FOR 1
PLAYER & DEALER BLACKJACK	-10 FOR 1
PLAYER BLACKJACK	-3 FOR 1
DEALER BLACKJACK	-2 FOR 1
ALL OTHER HANDS	-LOSE

MEDIUM WITH BLACKJACK BASE - 2 BLACKJACKS - 6 DECKS	
PLAYER 2 ACES SUITED & DEALER BLACKJACK SUITED	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-5%
PLAYER 2 ACES & DEALER BLACKJACK	- 50 FOR 1
PLAYER & DEALER BLACKJACK	-10 FOR 1
PLAYER BLACKJACK	-3 FOR 1
DEALER BLACKJACK	-2 FOR 1
ALL OTHER HANDS	-LOSE

LONG PROGRESSIVE - PAY TABLE 1 - 6 DECKS	
PLAYER 2 ACES OF SPADES & DEALER BLACKJACK OF SPADES	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK SUITED	-25%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	- 2 %
PLAYER 2 ACES & DEALER BLACKJACK	-100 FOR 1
PLAYER 2 ACES SUITED	-75 FOR 1
PLAYER AND DEALER BLACKJACK	-15 FOR 1
PLAYER 2 ACES	-10 FOR 1
PLAYER BLACKJACK	-5 FOR 1
DEALER BLACKJACK	3 FOR 1
ALL OTHER HANDS	-LOSE

LONG PROGRESSIVE - PAY TABLE 2 - 6 DECKS	
PLAYER 2 ACES OF SPADES & DEALER BLACKJACK OF SPADES	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK SUITED	-25%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	- 3 %
PLAYER 2 ACES & DEALER BLACKJACK	-100 FOR 1
PLAYER 2 ACES SUITED	-75 FOR 1
PLAYER AND DEALER BLACKJACK	-15 FOR 1
PLAYER 2 ACES	-10 FOR 1
PLAYER BLACKJACK	-5 FOR 1
DEALER BLACKJACK	3 FOR 1
ALL OTHER HANDS	-LOSE

LONG PROGRESSIVE - PAY TABLE 3 - 6 DECK INDEPENDENT METERS	
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PLAYER 2 ACES OF SPADES & DEALER BLACKJACK OF SPADES	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK SUITED	-100%
PLAYER 2 ACES SUITED & DEALER BLACKJACK	-100 %
PLAYER 2 ACES & DEALER BLACKJACK	-100 FOR 1
PLAYER 2 ACES SUITED	-75 FOR 1
PLAYER AND DEALER BLACKJACK	-15 FOR 1
PLAYER 2 ACES	-10 FOR 1
PLAYER BLACKJACK	-5 FOR 1
DEALER BLACKJACK	3 FOR 1
ALL OTHER HANDS	-LOSE

BASIS AND PURPOSE FOR RULE 21

The purpose of Rule 21 is to establish playing rules for authorized types of games which combine the play of blackjack with the play of poker, and management procedures for conducting blackjack-poker combination games in compliance with section 44-30-302 (2), C.R.S. The statutory basis for Rule 21 is found in sections 44-30-201, C.R.S., 44-30-302, C.R.S., 44-30-816, C.R.S., and 44-30-818, C.R.S. *Amended 8/14/16*

RULE 21 RULES FOR BLACKJACK-POKER COMBINATION GAMES

30-2119 THE PLAY – RIDE FREE.

- (1) RIDE FREE IS A TRADEMARKED BLACKJACK-POKER VARIATION GAME, THE RIGHTS TO WHICH ARE OWNED BY GALAXY GAMING OF LAS VEGAS, NEVADA AND WHICH MAY BE TRANSFERRED OR ASSIGNED. RIDE FREE MUST BE PLAYED ACCORDING TO THE FOLLOWING RULES. RIDE FREE IS PLAYED IN THE SAME WAY AS TRADITIONAL BLACKJACK, EXCEPT THAT PLAYERS CAN SPLIT AND/OR DOUBLE SPECIFIC HANDS FOR FREE, AND A DEALER TOTAL OF 22 PUSHES ALL ACTIVE HANDS OTHER THAN A BLACKJACK.
- (2) RIDE FREE INCLUDES OPTIONAL BONUS WAGERS. AVAILABLE ARE HEDGE 22, SILVER STACK, BUST BONUS, 21+3 CLASSIC, 21+3 XTREME, TOP 3, LUCKY LADIES, 21+3 PROGRESSIVE, AND LUCKY LADIES PROGRESSIVE OPTIONAL BONUS WAGERS. THE RETAIL LICENSEE MAY CHOOSE TO OFFER ANY COMBINATION OF THE OPTIONAL BONUS WAGERS LISTED IN THESE RULES OF PLAY.
- (3) RIDE FREE MAY ONLY BE PLAYED ON APPROVED TABLE EQUIPMENT WITH THE NECESSARY SIGNAGE AND WHICH DISPLAYS THE RIDE FREE TABLE LAYOUT. AT THE DISCRETION OF THE RETAIL LICENSEE, PLAYERS MAY BE REQUIRED TO MAKE A STANDARD BLACKJACK WAGER IN ORDER TO MAKE ANY OF THE CONFIGURED OPTIONAL BONUS WAGERS.
- (4) THE RETAIL LICENSEE WILL DETERMINE AND POST ALL MINIMUM AND MAXIMUM WAGERING LIMITS FOR BOTH STANDARD AND OPTIONAL BONUS WAGER, ALONG WITH ANY APPLICABLE AGGREGATE PAY OUT LIMITS.
- (5) DEALING AND RECONCILING THE GAME.
- (6) TO BEGIN EACH ROUND, PLAYERS MUST PLACE A STANDARD BLACKJACK WAGER (IF APPLICABLE) AND MAY ALSO PLACE WAGER(S) ON ANY OF THE AVAILABLE OPTIONAL BONUS WAGERS ON THEIR DESIGNATED SPOTS ON THE LAYOUT.
- (7) PLAYERS MAY OPTIONALLY PLACE A WAGER FOR THE BENEFIT OF THE DEALER. THAT WAGER IS PLACED IMMEDIATELY IN FRONT OF (THE DEALER'S SIDE) THE STANDARD WAGER(S), ANY OPTIONAL BONUS WAGER(S), OR BOTH. PLAYERS MAY NOT PLACE A WAGER FOR THE BENEFIT OF THE DEALER ON THE 21+3 PROGRESSIVE OR THE LUCKY LADIES PROGRESSIVE OPTIONAL BONUS WAGERS.
- (8) ONCE ALL WAGERS ARE PLACED, STANDARD BLACKJACK DEALING PROCEDURES ARE FOLLOWED, WHERE EACH PLAYER RECEIVES TWO CARDS FACEUP, WHILE THE DEALER RECEIVES ONE CARD FACEUP AND ONE CARD FACEDOWN.
 - (A) DEALER HITS ON SOFT 17.
 - (B) BLACKJACKS PAYS 3 TO 2.
 - (C) OPERATORS CAN CHOOSE TO CONFIGURE RIDE FREE WITH OR WITHOUT LATE SURRENDER. (I.E., AFTER THE DEALER CHECKS FOR A BLACKJACK, BUT BEFORE ANY ACTION ON PLAYER HANDS).

- (9) STANDARD BLACKJACK RULES/PROCEDURES ARE FOLLOWED UNTIL THE GAME IS COMPLETED, EXCEPT FOR THE RIDE FREE DOUBLE, RIDE FREE SPLIT, PUSH 22, AND PROCEDURES DETAILED BELOW:
- (A) IF A PLAYER WITH AN ACTIVE HEDGE 22 WAGER BUSTS THEIR ORIGINAL HAND OR HAS A BLACKJACK, THEIR CARDS SHOULD BE LEFT ON THE TABLE UNTIL THE HEDGE 22 WAGER IS RECONCILED.
- (B) IF ALL PLAYERS WITH ACTIVE HEDGE 22 WAGERS BUST THEIR ORIGINAL HAND OR HAVE A BLACKJACK, THE DEALER MUST PLAY OUT THEIR HAND (DRAW) IN ORDER TO RECONCILE THE HEDGE 22 WAGER.
- (10) **RIDE FREE DOUBLE.**
- (11) PLAYERS MAY DOUBLE ON ANY 2-CARD HARD TOTAL OF 9, 10, OR 11 FOR FREE USING A RIDE FREE LAMMER IN PLACE OF THE ADDITIONAL WAGER, INCLUDING AFTER SPLITTING (STANDARD AND RIDE FREE SPLITS). PLAYERS RECEIVE A LAMMER FOR EACH RIDE FREE DOUBLE HAND.
- (A) IF A PLAYER WINS ANY OF THEIR RIDE FREE DOUBLE HANDS, THEY ARE PAID BY REPLACING EACH LAMMER WITH AMOUNT EQUAL TO ORIGINAL WAGER, AND THE LAMMERS ARE COLLECTED.
- (B) IF A PLAYER LOSES OR TIES ANY OF THEIR RIDE FREE DOUBLE HANDS, ONLY THE LAMMERS ARE COLLECTED.
- (12) IF A PLAYER HAS MADE A SILVER STACK WAGER, THE LAMMERS ARE MOVED TO A SPOT IN FRONT OF THE SILVER STACK WAGER, REGARDLESS OF THE HAND'S OUTCOME.
- (13) ANY TWO-CARD HANDS NOT ELIGIBLE FOR A RIDE FREE DOUBLE CAN STILL BE DOUBLED FOLLOWING STANDARD PROCEDURES WITH AN ADDITIONAL WAGER, INCLUDING AFTER SPLITTING.
- (14) **RIDE FREE SPLIT.**
- (15) PLAYERS MAY SPLIT ANY PAIR FOR FREE, EXCEPT 10-VALUED CARDS, USING A RIDE FREE LAMMER IN PLACE OF THE ADDITIONAL WAGER. PLAYERS MAY RE-SPLIT HANDS, RECEIVING A LAMMER FOR EACH ADDITIONAL SPLIT (UP TO FOUR HANDS).
- (A) IF A PLAYER WINS ANY OF THEIR RIDE FREE SPLIT HANDS, THEY ARE PAID BY REPLACING EACH LAMMER WITH AN AMOUNT EQUAL TO ORIGINAL WAGER, AND THE LAMMERS ARE COLLECTED.
- (B) IF A PLAYER LOSES OR TIES ANY OF THEIR RIDE FREE SPLIT HANDS, ONLY THE LAMMERS ARE COLLECTED.
- (16) IF A PLAYER HAS MADE A SILVER STACK WAGER, THE LAMMERS ARE MOVED IN FRONT OF THE SILVER STACK WAGER, REGARDLESS OF THE HAND'S OUTCOME.
- (17) HANDS NOT ELIGIBLE FOR A RIDE FREE SPLIT CAN STILL BE SPLIT FOLLOWING STANDARD PROCEDURES WITH AN ADDITIONAL WAGER.
- (A) UP TO FOUR SPLIT HANDS.
- (B) ACES MAY BE RE-SPLIT, ONE CARD TO SPLIT ACES.
- (18) NOTE THAT IF A PLAYER BUSTS THEIR ORIGINAL HAND, THEIR CARDS SHOULD BE PLACED FACE DOWN WITH THE ORIGINAL BET ON TOP. THIS BET IS A REFERENCE FOR THE VALUE OF ANY OF THE PLAYER'S WINNING RIDE FREE LAMMERS FROM SPLIT HANDS. THE BUSTED HAND AND ITS BET SHOULD BE COLLECTED AFTER ALL OF THEIR RIDE FREE SPLIT HANDS ARE RECONCILED.
- (19) IF THE DEALER'S TOTAL IS 22 THEN ALL ACTIVE HANDS PUSH EXCEPT FOR A BLACKJACK.
- (20) HANDS ARE EVALUATED AND PAID OUT IN STANDARD BLACKJACK PROCEDURE. BONUS WAGERS ARE PAID OUT BASED ON THEIR RESPECTIVE PAY TABLE.
- (21) **OPTIONAL BONUS WAGERS.**
- (A) HEDGE 22: A PLAYER WAGERS THAT THE DEALER WILL BUST WITH A TOTAL OF 22 AND THE PLAYER'S HAND WILL NOT EXCEED 29. THE WAGER PAYS ACCORDING TO THE CORRESPONDING PAY TABLE BELOW.
- (B) SILVER STACK: A PLAYER WAGERS THAT THEY WILL ACCUMULATE THE NUMBER OF "RIDE FREE" LAMMERS THAT WILL PAY BASED ON THE CORRESPONDING PAY TABLE BELOW.
- (C) BUST BONUS: A PLAYER WAGERS THAT THE DEALER'S HAND WILL RESULT IN A BUST (THE PLAYER'S HAND CANNOT BE A POINT TOTAL OF 30). THE WAGER IS PLACED AFTER THE INITIAL ROUND OF CARDS HAVE BEEN DEALT, BUT PRIOR TO THE DEALER REVEALING THEIR FACE-DOWN CARD. ON WINNING WAGERS,

PAYS ARE BASED ON THE DEALER'S INITIAL UP-CARD AND ACCORDING TO THE CORRESPONDING PAY TABLE BELOW.

(D) 21+3 (CLASSIC, XTREME, TOP 3): A PLAYER WAGERS THAT THEIR THREE-CARD HAND (FORMED FROM THE PLAYER'S INITIAL TWO CARDS AND THE DEALER'S UP CARD) ACHIEVES A TRIGGERING EVENT BASED ON THE CORRESPONDING PAY TABLE BELOW.

(E) LUCKY LADIES (FELT): A PLAYER WAGERS THAT THEIR INITIAL TWO CARDS WILL EQUAL A TOTAL OF 20 AND ACHIEVE A TRIGGERING EVENT BASED ON THE CORRESPONDING PAY TABLE BELOW.

(F) 21+3 PROGRESSIVE: A PLAYER WAGERS THAT THEIR THREE-CARD HAND (FORMED FROM THE PLAYER'S INITIAL TWO CARDS AND THE DEALER'S UP CARD) ACHIEVES A TRIGGERING EVENT BASED ON THE CORRESPONDING PAY TABLE BELOW.

(G) LUCKY LADIES PROGRESSIVE: A PLAYER WAGERS THAT THEIR INITIAL TWO CARDS WILL EQUAL A TOTAL OF 20 AND ACHIEVE A TRIGGERING EVENT BASED ON THE CORRESPONDING PAY TABLE BELOW.

(22) OPTIONAL BONUS WAGER PAY TABLES.

(23) HEDGE 22.

TRIGGERING EVENT	PT-FLT-SB1-01	PT-FLT-SB1-02	PT-FLT-SB1-03
DEALER 22 (SUITED)	50	50	11
DEALER 22 (SAME COLOR)	20	20	11
DEALER 22 (OTHER)	8	7	11
OTHER	LOSS	LOSS	LOSS

(A) NOTES:

(I) ALL PAYS ARE "TO 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) OPERATORS MAY POST A MAXIMUM AGGREGATE AMOUNT PER ROUND OR PER HAND.

(24) SILVER STACK.

NUMBER OF FREE RIDE LAMMERS COLLECTED	PT-FLT-SB2-01	PT-FLT-SB2-02
7	1000	100
6	300	100
5	100	100
4	60	50
3	30	30
2	10	12
1	3	3

(A) NOTES:

(I) ALL PAYS ARE "TO 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) OPERATORS MAY POST A MAXIMUM AGGREGATE AMOUNT PER ROUND OR PER HAND.

(25) BUST BONUS.

DEALER'S UP-CARD	PT-FLT-BB-01	
	PAYS WITH DEALER'S OFF-SUIT BUST CARDS	PAYS WITH DEALER'S SUITED BUST CARDS
ACE	3	50

2	1	25
3	1	15
4	1	10
5	1	5
6	1	3
7	2	15
8	2	10
9	2	20
10	2	20
8-8-8	25	75

(A) NOTES:

(I) ALL PAYS ARE "TO 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) CAN BE CONFIGURED WITH 1-8 DECKS.

(IV) THE 8-8-8 AWARD IS BASED ON A DEALER BUST WITH THREE EIGHT-VALUED CARDS.

(V) A PLAYER DOES NOT WIN THEIR BUST BONUS WAGER IF THEIR HAND IS A BUST WITH A TOTAL OF 30.

(26) 21+3 CLASSIC.

HAND	PT-FLT-213-01	PT-FLT-213-03
	2 DECKS	6 DECKS
STRAIGHT FLUSH	2.5	9
THREE-OF-A-KIND	2.5	9
STRAIGHT	2.5	9
FLUSH	2.5	9
PAIR	2.5	LOSS

HAND	PT-FLT-213-E01		PT-FLT-213-E02		PT-FLT-213-E03		PT-FLT-213-E04			
	8 DECKS								1, 2, OR 6 DECKS	
	PAYS	ENVY	PAYS	ENVY	PAYS	ENVY	PAYS	ENVY		
STRAIGHT FLUSH	8	\$1	25	\$10	25	\$10	25	\$10		
THREE-OF-A-KIND	8	\$1	15	\$5	15	\$5	15	\$5		
STRAIGHT	8	\$1	8	\$2	10	\$2	10	\$2		
FLUSH	8	\$1	5	\$1	5	\$1	5	\$1		

(A) NOTES:

(I) ALL PAYS ARE "TO 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) CAN BE CONFIGURED WITH 6 DECKS.

(IV) THE DEALER WILL RECEIVE A FIXED DEALER ENVY PAY FOR EACH PLAYER'S 21+3 HAND THAT ACHIEVES A TRIGGERING EVENT THAT INCLUDES A DEALER ENVY AWARD.

(27) 21+3 EXTREME.

HAND	PT-FLT-213XT-01	PT-FLT-213XT-03	PT-FLT-213XT-04
	1-8 DECKS	4-8 DECKS	
SUITED THREE-OF-A-KIND	-	100	100
STRAIGHT FLUSH	30	40	30
THREE-OF-A-KIND	20	25	20
STRAIGHT	10	10	10
FLUSH	5	5	5

(A) NOTES:

(I) ALL PAYS ARE "TO 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) CAN BE CONFIGURED WITH 1 TO 8 DECKS.

(28) 21+3 TOP 3.

HAND	PT-FLT-TOP3-01	PT-FLT-TOP3-02
THREE-OF-A-KIND (SUITED)	270	1000
STRAIGHT FLUSH	180	100
THREE-OF-A-KIND	90	70

(A) NOTES:

(I) ALL PAYS ARE "TO 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) CAN BE CONFIGURED WITH 2-8 DECKS AND IN CONJUNCTION WITH 21+3 CLASSIC OR XTREME.

(IV) PLAYERS CAN ONLY MAKE A TOP 3 WAGER IF THEY HAVE MADE A 21+3 CLASSIC OR XTREME.

(29) LUCKY LADIES (FELT).

TRIGGERING EVENT	PT-FLT-LL-01	PT-FLT-LL-02	PT-FLT-LL-03
	2 DECKS	4 DECKS	6-8 DECKS
QUEEN OF HEARTS PAIR WITH DEALER BLACKJACK	1000	1000	1000
QUEEN OF HEARTS PAIR	200	150	125
MATCHED 20	25	20	19
SUITED 20	10	9	9
ANY 20	4	4	4

(A) NOTES:

(I) ALL PAYS ARE "TO 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) TRIGGERING EVENTS CAN BE SUMMARIZED AND REFERRED TO AS "FIRST 2 CARDS EQUAL 20" ON THE LAYOUT BET SPOT.

(30) 21+3 PROGRESSIVE.

HAND	PT-BJS-213-01	PT-BJS-213-04	PT-BJS-213-07	PT-BJS-213-10
THREE ACES OR KINGS (SPECIFIC SUIT)	100%	100%	100%	100%
THREE ACES OR KINGS (SUITED)	100%	100%	\$2000	\$3000
THREE-OF-A-KIND (SUITED)	\$125	\$150	\$150	\$200
STRAIGHT FLUSH	\$25	\$40	\$40	\$30
THREE-OF-A-KIND (OFFSUIT)	\$20	\$20	\$20	\$20
STRAIGHT	\$7	\$7	\$5	\$10
FLUSH	\$3	\$3	\$3	-

HAND	PT-BJS-213-02	PT-BJS-213-05	PT-BJS-213-08
THREE ACES, KINGS, OR QUEENS (SPECIFIC SUIT)	100%	100%	100%
THREE ACES, KINGS, OR QUEENS (SUITED)	100%	100%	\$2000
THREE-OF-A-KIND (SUITED)	\$125	\$150	\$125
STRAIGHT FLUSH	\$25	\$40	\$40
THREE-OF-A-KIND (OFFSUIT)	\$20	\$20	\$20
STRAIGHT	\$6	\$7	\$6
FLUSH	\$2	\$2	\$2

HAND	PT-BJS-213-03	PT-BJS-213-06	PT-BJS-213-09	PT-BJS-213-11
THREE ACES (SPECIFIC SUIT)	100%	100%	100%	100%
THREE ACES (SUITED)	100%	100%	\$2000	\$3000
THREE-OF-A-KIND (SUITED)	\$125	\$150	\$150	\$200
STRAIGHT FLUSH	\$25	\$40	\$40	\$30
THREE-OF-A-KIND (OFFSUIT)	\$20	\$20	\$20	\$20
STRAIGHT	\$7	\$7	\$5	\$10
FLUSH	\$3	\$3	\$3	-

(A) NOTES:

(I) ALL PAYS ARE "FOR 1."

(II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.

(III) CAN BE CONFIGURED WITH 3-8 DECKS.

(IV) THE ABOVE PAY TABLES ARE BASED OFF A \$1 WAGER. IF THE PROGRESSIVE IS CONFIGURED WITH A DIFFERENT BASE WAGERING UNIT, THE SEED/RESEED AND PAYS SHOULD BE MULTIPLIED ACCORDINGLY.

(V) WITH PAY TABLES THAT ARE CONFIGURED WITH A RESERVE METER, THE RETAIL LICENSEE MAY CONFIGURE THE PROGRESSIVE WITH ANY INITIAL SEED AMOUNT, AS IT DOES NOT HAVE AN EFFECT ON LONG-TERM HOUSE EDGE.

(VI) WITH PAY TABLES THAT ARE CONFIGURED WITH A FIXED SEED/RESEED AMOUNT, THE RETAIL LICENSEE MUST CONFIGURE THE PROGRESSIVE WITH THE SPECIFIED FIXED

SEED/RESEED AMOUNT (SCALED TO THE FIXED WAGER AMOUNT) IN ORDER TO MAINTAIN THE THEORETICAL HOUSE EDGE.

(31) LUCKY LADIES PROGRESSIVE.

TRIGGERING EVENTS	2-8 DECKS	2 DECKS		
	PT-BJS-LL-26	PT-BJS-LL-27	PT-BJS-LL-28	PT-BJS-LL-29
QUEEN OF HEARTS PAIR WITH DEALER BLACKJACK (SUIT SPECIFIC)	100%	100%	100%	100%
QUEEN OF HEARTS PAIR WITH DEALER BLACKJACK (SUITED)	100%	100%	100%	100%
QUEEN OF HEARTS PAIR WITH DEALER BLACKJACK	100%	100%	25%	\$1000
QUEEN OF HEARTS PAIR	\$200	\$200	\$250	\$200
MATCHED 20	\$25	\$20	\$50	\$50
SUITED 20	\$10	\$10	\$10	\$10
ANY 20	\$2	\$3	\$2	\$2

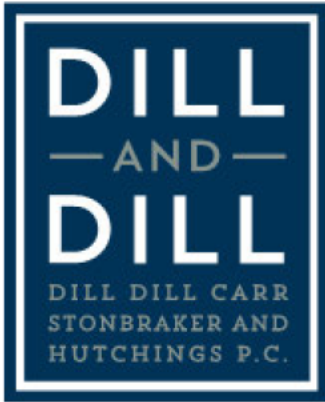
TRIGGERING EVENTS	4-8 DECKS					
	PT-BJS-LL-30	PT-BJS-LL-31	PT-BJS-LL-32	PT-BJS-LL-33	PT-BJS-LL-34	PT-BJS-LL-35
QUEEN OF HEARTS PAIR WITH DEALER BLACKJACK (SUIT SPECIFIC)	100%	100%	100%	100%	100%	100%
QUEEN OF HEARTS PAIR WITH DEALER BLACKJACK (SUITED)	100%	100%	100%	100%	25%	\$3000
QUEEN OF HEARTS PAIR WITH DEALER BLACKJACK	100%	100%	25%	\$750	10%	\$1000
QUEEN OF HEARTS PAIR	\$250	\$150	\$200	\$150	\$250	\$150
MATCHED 20	\$30	\$20	\$25	\$25	\$25	\$25
SUITED 20	\$10	\$10	\$10	\$10	\$10	\$10
ANY 20	\$2	\$3	\$2	\$2	\$2	\$2

(A) NOTES:

- (I) ALL PAYS ARE "FOR 1."
- (II) ONLY THE HIGHEST QUALIFYING HAND IS PAID.
- (III) THE ABOVE PAY TABLES ARE BASED OFF A \$1 WAGER. IF THE PROGRESSIVE IS CONFIGURED WITH A DIFFERENT BASE WAGERING UNIT, THE SEED/RESEED AND PAYS SHOULD BE MULTIPLIED ACCORDINGLY.
- (IV) WITH PAY TABLES THAT ARE CONFIGURED WITH A RESERVE METER, THE RETAIL LICENSEE MAY CONFIGURE THE PROGRESSIVE WITH ANY INITIAL SEED AMOUNT, AS IT DOES NOT HAVE AN EFFECT ON LONG-TERM HOUSE EDGE.
- (V) WITH PAY TABLES THAT ARE CONFIGURED WITH A FIXED SEED/RESEED AMOUNT, THE RETAIL LICENSEE MUST CONFIGURE THE PROGRESSIVE WITH THE SPECIFIED FIXED SEED/RESEED AMOUNT (SCALED TO THE FIXED WAGER AMOUNT) IN ORDER TO MAINTAIN THE THEORETICAL HOUSE EDGE.

Item VIII

Consideration of Petition for Declaratory Order



Brandon Sandberg
[REDACTED]
[REDACTED]

Jon Stonbraker
[REDACTED]
[REDACTED]

December 23, 2024

VIA FEDEX OVERNIGHT DELIVERY AND EMAIL

Colorado Limited Gaming Control Commission
c/o Christopher Schroder, Director
Division of Gaming
Colorado Department of Revenue
1707 Cole Blvd., Suite 300
Lakewood, Colorado 80401
christopher.schroder@state.co.us

RE: Petition to the State of Colorado Limited Gaming Control Commission for Declaratory Order Pursuant to Regulation 30-601

Dear Director Schroder:

This firm represents No Limit Games, LLC, with its principal office located at 2012 Newgarden Road, Unit C, Greensboro, North Carolina 27410, that owns and operates YouBux Kiosks (“Petitioner”).

The purpose of this letter is to petition the State of Colorado Limited Gaming Control Commission (“Commission”) for a declaratory order with respect to Colorado Revised Statute (“C.R.S.”) § 18-10.5-101, *et seq.*, as related to Limited Gaming and the Division of Gaming (“Petition”). The precise issue to be answered by the declaratory order is: Are the YouBux Kiosks simulated gambling devices pursuant to C.R.S. § 18-10.5-101, *et seq.*, and, therefore, unlawful? A copy of this Petition will also be filed with the Colorado Attorney General’s Office.

The facts and circumstances which give rise to the issue to be answered by the Commission’s declaratory order are as follows:

ISSUE

In resolving this Petition, the Commission need address only one issue – are the YouBux Kiosks containing the Nudge and Follow Me games (“YouBux Kiosks”) simulated gambling devices as defined under C.R.S. § 18-10.5-102(6)(a)?

SUMMARY

As shown below, YouBux Kiosks are not simulated gambling devices because the Nudge and Follow Me games do not contain risk or chance. The Nudge and Follow Me games are games of skill that require the customer to demonstrate the skill necessary for a winning outcome. Customers use YouBux gift cards or vouchers to play the games of skill on the YouBux Kiosks and the value of the YouBux gift cards or vouchers will not be less when the customer stops using the YouBux Kiosks than when they began, even if the customer did not demonstrate the skill necessary for a successful outcome.

FACTS AND CIRCUMSTANCES

In June 2023, Petitioner and its counsel met with the Director of Liquor and Tobacco Enforcement, Michelle Stone-Principato, and the Chief of Investigations of Division of Gaming Enforcement and Investigations, Kirsten Gregg, to discuss the YouBux Kiosks being placed at liquor licensed establishments. At the conclusion of the meeting, Director Stone-Principato stated that this question presented should be addressed to the Division of Gaming.

Counsel for Petitioner thereafter met multiple times with the Division of Gaming and was ultimately informed by Ms. Gregg that the Division of Gaming believed the YouBux Kiosks are simulated gambling devices and that Petitioner would need to petition the Commission for a formal declaratory order. For sake of certainty regarding the issue presented by this Petition, please note that Petitioner is filing a separate Petition for Statement of Position with the Liquor and Tobacco Enforcement Division for a Statement of Position as it relates to C.R.S. § 44-3-901(6)(n) of the Colorado Liquor Code, and Regulation 47-922, Colorado Liquor Rules, 1 CCR 203-2.

A. INTRODUCTION

Petitioner is an online retail mart that offers and sells products to customers via YouBux.com. Petitioner specializes in software and e-book products in various categories. Currently, Petitioner sells approximately 3,500 – 4,000 products. The product line will soon be expanding to include a wide range

of non-fungible token (“NFT”) products¹ in various categories, including music, artwork, gaming, trading cards, avatars/icons, fashion, real estate, and sports, similar to other retailers. Customers may purchase gift cards or vouchers to be used at YouBux.com from the online website, over the phone, at physical retail locations, and at YouBux Kiosks.

YouBux Kiosks are automated kiosks that are approximately 2.5 feet wide by 2.5 feet deep by 6 feet tall, which contain games of skill platforms, such as the Nudge and Follow Me games. The YouBux Kiosks have various names of the gaming systems, which are displayed on the YouBux Kiosks, such as The Great Balls of Fire. YouBux Kiosks are located in various retail location in other states and would be placed in various retail locations in Colorado, some of which would be liquor licensed establishments.

Customers can use gift cards or vouchers purchased from the YouBux Kiosks, or use previously purchased YouBux gift cards or vouchers, to play the Nudge and Follow Me games for the opportunity to collect additional entries to then win prizes, which may be money or gift cards, as permitted.

If a customer decides to play the Nudge and Follow Me games, the customer is allocated entries based on the value of the gift card or voucher entered. The initially allocated entries have no associated prize value.

The customer will begin with the Nudge game, and then depending on the outcome, the customer may then move on to play the Follow Me game. The goal is to increase the total entries as the additional entries collected in excess of the entries initially allocated based on the gift card or voucher have an associated prize value.

For each play, the customer selects the number of entries to be revealed. Before playing, the customer can demonstrate skill by utilizing the prize preview function to obtain information regarding the potential outcomes of the play, thus providing the customer further control over the outcome of the play. If the customer demonstrates the necessary skill to have a winning outcome playing the Nudge game, then the customer recoups the entries selected to be revealed back, and the customer receives additional entries awarded, therefore increasing the customer’s total number of entries. If the number of additional entries awarded is less than the entries selected to be revealed, then the customer can play the Follow Me game to demonstrate the necessary skill for a winning outcome in order to gain additional entries. If the customer does not demonstrate the necessary skill for a winning outcome playing the Nudge game, then the customer no longer has those entries that were selected to be revealed, thus lowering the customer’s total number of entries.

¹ NFT products may include but are not limited to unique digital items, collectibles, and moments.

Not every play of the Nudge game is capable of a winning outcome as the possibility for a winning outcome is predetermined, and in those circumstances the customer can play the Follow Me game to demonstrate the necessary skill for a winning outcome in order to recoup the entries that were revealed so the customer's total number of entries remains the same after the play.

Whether the customer plays the Nudge or Follow Me game, the customer must demonstrate skill in their performance for a winning outcome.

B. THE NUDGE GAME

The customer will have to demonstrate skill while playing the Nudge game in order to recoup the entries selected to be revealed and to collect the additional entries awarded for a winning outcome. The Nudge game presents the customer with a display of various symbols. The symbols are arranged in three rows of three symbols, for a total of nine symbols. The customer must determine whether moving, or nudging, a symbol from the current location to a new location, such as from the top or bottom row into the center row, would result in a matching, or winning, combination. The customer must reposition the correct symbol to create a winning combination within a specific time limit.

C. THE FOLLOW ME GAME

Alternatively, if a winning outcome is not possible with the Nudge game, there are no additional entries that may be collected by the customer, then the customer will be required to demonstrate skill while playing the Follow Me game in order to recoup the entries that were selected to be revealed. Or, if a winning outcome of the Nudge game resulted in less entries being awarded than were selected to be revealed, then the customer can demonstrate skill while playing the Follow Me game to gain additional entries. A customer playing the Follow Me game will have to demonstrate skill by successfully repeating multiple rounds of increasingly difficult series of colors that light up in random sequence within a specific time limit. Each round will increase the number of colors in the repeating sequence. For example, the first round will have one color in the sequence, such as red. The second round will have two colors in the repeating sequence, such as red and then blue. The third round will have three colors in the repeating sequence, such as red, then blue, then green. The repeating sequence will total 14 rounds.

Attached (and incorporated by reference) to this Petition is an expert report prepared by Dr. Neil Mulligan that provides more in-depth information regarding the Nudge and Follow Me games and demonstrates that these are games of skill.

D. AFTER PLAYING THE NUDGE AND FOLLOW ME GAMES

When the customer decides to stop playing the Nudge and Follow Me games, the customer may redeem the additional entries collected in excess of the entries initially allocated based on the gift card or voucher, if any, for prizes. Moreover, the customer will still have the gift card or voucher for the same dollar amount as when the customer started playing the Nudge and Follow Me games contained within the YouBux Kiosks. The customer will have risked nothing.

E. THE NUDGE AND FOLLOW ME GAMES ARE NOT GAMBLING

Gambling is often characterized as having three (3) elements: (1) risk; (2) chance; and, (3) reward. Pursuant to C.R.S. § 18-10-102(2):

Gambling means risking any money, credit, deposit, or other thing of value for gain contingent in whole or in part upon lot, chance, the operation of a gambling device, or the happening or outcome of an event, including a sporting event, over which the person taking a risk has no control, but does not include:

- (a) Bona fide contests of skill, speed, strength, or endurance in which awards are made only to entrants or the owners of entries;
- (b) Bona fide business transactions which are valid under the law of contracts;
- (c) Other acts or transactions now or hereafter expressly authorized by law;
- (d) Any game, wager, or transaction that is incidental to a bona fide social relationship, is participated in by natural persons only, and in which no person is participating, directly or indirectly, in professional gambling;
- (e) Repealed by Laws 1984, S.B.217, § 2.
- (f) Any use of or transaction involving a crane game, as defined in section 44-30-103(9); or
- (g) Sports betting conducted in accordance with part 15 of article 30 of title 44 and applicable rules of the limited gaming control commission.

Here, it is respectfully submitted that the Nudge and Follow Me games contained within the YouBux Kiosks do not satisfy two of the three elements of gambling.

When a customer plays the Nudge and Follow Me games, there is no risk of any money, credit, deposit, or other thing of value, as the customer's YouBux gift card or voucher does not lose value, no matter the outcome. Because there is no risk of anything of value the Nudge and Follow Me games cannot be gambling as defined by the statute.

Further, the gain is not contingent in whole or in part upon lot, chance, the operation of a gambling device, or the happening or outcome of an event, including a sporting event, over which the person taking a risk has no control. As previously described, and as more thoroughly set forth in Dr. Mulligan's attached report, the Nudge and Follow Me games rely on skill, not lot or chance. The happening or outcome of the event, in this case an outcome of a single play of the Nudge and Follow Me games, the customer playing has control as skill must be used for a successful outcome, and an unsuccessful outcome is due to the customer's lack of skill. The control over the outcome of the Nudge and Follow Me games is similar to a sporting event in which the player uses skill. See *Berckefeldt v. Hammer*, 44 Colo.App. 320, 322 (1980).

Also, playing the Nudge and Follow Me games within the YouBux Kiosks is not operating a gambling device, and is not professional gambling. Pursuant to C.R.S. § 18-10-102(3):

“Gambling device” means any device, machine, paraphernalia, or equipment that is used or usable in the playing phases of any professional gambling activity, whether that activity consists of gambling between persons or gambling by a person involving the playing of a machine; except that the term does not include a crane game, as defined in section 44-30-103(9).

Pursuant to C.R.S. § 18-10-102(8):

“Professional gambling” means:

- (a) Aiding or inducing another to engage in gambling, with the intent to derive a profit therefrom; or
- (b) Participating in gambling and having, other than by virtue of skill or luck, a lesser chance of losing or a greater chance of winning than one or more of the other participants.

Because the Nudge and Follow Me games are not gambling, the YouBux Kiosks do not meet the definitions of gambling device or professional gambling.

Similarly, YouBux Kiosks containing the Nudge and Follow Me games cannot be Simulated Gambling Devices. Pursuant to C.R.S. § 18-10.5-102(6)(a):

“Simulated gambling device” means a mechanically or electronically operated machine, network, system, program, or device that is used by an entrant and that displays simulated gambling displays on a screen or other mechanism at a business location, including a private club, that is owned, leased, or otherwise possessed, in whole or in part, by a person conducting the game or by that person’s partners, affiliates, subsidiaries, agents, or contractors; except that the term does not include bona fide amusement devices, as authorized in section 44-3-103(47), that pay nothing of value, cannot be adjusted to pay anything of value, and are not used for gambling. “Simulated gambling device” includes:

- (I) A video poker game or any other kind of video card game;
- (II) A video bingo game;
- (III) A video craps game;
- (IV) A video keno game;
- (V) A video lotto game;
- (VI) A video roulette game;
- (VII) A pot-of-gold;
- (VIII) An eight-line;
- (IX) A video game based on or involving the random or chance matching of different pictures, words, numbers, or symbols;
- (X) An electronic gaming machine, including a personal computer of any size or configuration that performs any of the functions of an electronic gaming machine;
- (XI) A slot machine, where results are determined by reason of the skill of the player or the application of the element of chance, or both, as provided by section 9(4)(c) of article XVIII of the Colorado constitution; and
- (XII) A device that functions as, or simulates the play of, a slot machine, where results are determined by reason of the skill of the

player or the application of the element of chance, or both, as provided by section 9(4)(c) of article XVIII of the Colorado constitution.

In accordance with C.R.S. § 18-10.5-102(7): “‘Simulated gambling device’ does not include any pari-mutuel totalizator equipment that is used for pari-mutuel wagering on live or simulcast racing events and that has been approved by the director of the division of racing events for entities authorized and licensed under article 32 of title 44.”

Finally, pursuant to C.R.S. § 18-10.5-102(3.5), “‘Gambling’, whether used alone or as part of the phrase ‘simulated gambling’ or ‘simulated gambling device’, has the meaning set forth in section 18-10-102(2); except that, for purposes of this article 10.5, the exception set forth in section 18-10-102(2)(a) does not apply.”

Here, when applying the law to the facts presented, the YouBux Kiosks are not simulated gambling devices, because unlike the simulated gambling devices, the Nudge and Follow Me games do not require risk or chance. The YouBux Kiosks are also distinguishable from a slot machine or a device that functions as, or simulates the play of, a slot machine, because the customer is in control of the outcome.

F. CONCLUSION

For the reasons stated, because the Nudge and Follow Me games are not gambling, then the YouBux Kiosks containing the Nudge and Follow Me games cannot be simulated gambling devices.

The Petitioner welcomes any questions and would be happy to further present at a hearing, including presenting the Nudge and Follow Me games for the Commissions’ review.

Very truly yours,

/s/ Brandon Sandberg

Brandon Sandberg

Enclosure

cc: Bradford Jones, Senior Assistant Attorney General, Colorado Attorney General’s Office, via email: bradford.jones@coag.gov
Matthew Lewis, Member of Petitioner

CERTIFICATION OF SERVICE

I hereby certify that on December 23, 2024, I have served the foregoing *Petition to the State of Colorado Limited Gaming Control Commission for Declaratory Order Pursuant to Regulation 30-601* upon the following parties:

VIA FEDEX OVERNIGHT DELIVERY AND EMAIL

Colorado Limited Gaming Control Commission

c/o Christopher Schroder, Director

Division of Gaming

Colorado Department of Revenue

1707 Cole Blvd., Suite 300

Lakewood, Colorado 80401

christopher.schroder@state.co.us

Bradford Jones, Senior Assistant Attorney General, Colorado Attorney General's Office, via email: bradford.jones@coag.gov

/s/ Brandon Sandberg _____

Brandon Sandberg

Neil W. Mulligan, PhD
Research Consultant Services
1508 Ainsworth Blvd
Hillsborough NC 27278
Tel 919-644-1356

November 22, 2024

No Limit Games
2012 Newgarden Road, Unit C
Greensboro, NC 27410

Re: Review and analysis of No Limit Games system

As requested, I have conducted a review and examination of the No Limit Games system. This review and examination has been undertaken on behalf of No Limit Games, LLC. As described in the body of the report, the No Limit Game system has two components: the *Nudge* games and the *Follow Me* game, both of which are analyzed in terms of skill and dexterity. The report has the following sections: (I) I describe my credentials and why they qualify me as an expert in this domain; (II) I define and discuss the concepts of skill and dexterity (noting that dexterity is a subcategory of the broader concept of skill); (III) I evaluate the *Nudge* games in terms of skill and dexterity; (IV) I report analyses of relevant data; (V) I evaluate the *Follow Me* component in terms of skill and dexterity; (VI) I discuss additional elements of skill and control in the No Limit Games system (the role of the number of entries and skilled play; and the Prize Preview function) (VII) I report an empirical investigation examining the reliance on skill of the two components of the game system; (VIII) I evaluate a new addition to the system – the Great Balls of Fire games – which also consists of the *Nudge* and *Follow Me* components; and (IX) I present my conclusions. **To summarize my analysis and conclusions, it first should be noted that if either the *Nudge* games or the *Follow Me* game is dependent on skill (including the skills inherent in dexterity), then the game system as a whole depends on skill. As discussed below, my analyses establish that outcomes from not just one but both components of the system depend on skill. The fact that both components of the system depend on skill makes it clear that outcomes of the system as a whole depend on skill. Furthermore, the player has complete control over the outcomes of the game such that chance does not play a role in game outcomes.**

SECTION I – CREDENTIALS

I am a Professor and Director of the PhD program in Cognitive Psychology at the University of North Carolina-Chapel Hill. I received a BS from Duke University with dual majors in Computer Science and Psychology. I received an MA and PhD, both from UNC-Chapel Hill, in Cognitive Psychology. Cognitive psychology focuses on the study of human memory, learning, language, attention, and perception. My research emphasis is memory,

attention and learning. I have published extensively on memory and cognition in the leading journals on these topics, and my research has won several awards and honors.

Throughout my career I have been selected for a number of important positions that involve evaluating the quality of scientific research. I have reviewed grant proposals for a number of federal agencies and was a regular member of a Scientific Review Panel for the National Science Foundation. In addition, I have served on the editorial boards of many of the top journals in cognitive and experimental psychology. I have previously served as Associate Editor for the journals *Memory & Cognition*, *Experimental Psychology*, and *Journal of Memory and Language*. I have recently finished a 6-year term as the Editor-in-Chief for *Memory & Cognition*. In my editorial role, I evaluated the research of other scientists on topics in memory, learning, and cognition, assessing whether this research meets the scientific requirements for publication in this leading, peer-reviewed journal. I was selected for this role after an international search by the publications committee of the Psychonomic Society, the world's largest scholarly organization in cognitive and experimental psychology. This selection signals my international reputation in this area of research. I have also served as a consulting editor for many of the top journals in cognitive and experimental psychology.

Prior to becoming a professor at UNC (an appointment begun in the fall, 2002), I was a professor in the Psychology Department at Southern Methodist University for five years and before that, in the Psychology Department at Illinois State University.

SECTION II – DEFINITIONS OF SKILL AND DEXTERITY

Before evaluating the game systems under consideration, the terms skill and dexterity are defined and discussed.

Skill

Skill – An ability learned through training, instruction or experience. Proficiency acquired or developed through practice.

Skill may be evaluated in terms of the accuracy with which one carries out a task or in terms of the speed with which the task is carried out (efficiency). Higher levels of skill are reflected by higher accuracy, greater speed, or a combination of both.

Dexterity

The term *dexterity* is used in two ways: physical dexterity and mental dexterity. I will begin with physical dexterity.

Physical Dexterity

Physical dexterity typically refers to abilities requiring physical movements of the body, especially the use of the hands, in carrying out a task. In the present case, it is critical to note that dexterous use of the hands is guided by visual perception (i.e., hand-eye co-ordination). The

extent to which dexterity is required for the present games is critically related to the interaction between visual information and hand movements.

Definition:

Physical Dexterity – The ability to perform a task involving visual acuity and physical motor skills, typically involving fine motor control of the hands.

Note that physical dexterity entails skill – specifically skills involving physical motor control. Consequently, physical dexterity is a subcategory of the broader concept of skill.

Mental Dexterity

In addition to physical dexterity, the term *dexterity* can also refer to mental dexterity. The definition of this term brings us back to the issue of skill.

Definition:

Mental Dexterity – Mental skill or adroitness.

Given that mental dexterity is defined in terms of skill – specifically, mental skill – then it is clear that the analysis of skill relates directly to the concept of mental dexterity. In addition, like physical dexterity, mental dexterity is a subcategory of the broader concept of skill.

SECTION III – EVALUATION OF THE NO LIMIT GAMES SYSTEM FOR SKILL AND DEXTERITY: NUDGE GAMES

There are two components of the No Limit Games (NLG) system, the *Nudge* games, described in this section, and the *Follow Me* game, addressed in **Section V**. There are 10 Nudge games¹ all of which operate in the same way, for purposes of analyzing skill and dexterity.

Do the Nudge games of the No Limit Games System rely on skill?

Each of the Nudge games presents the player with a display consisting of nine symbols in three rows of three. In order to win, the player must examine the display and determine whether moving a symbol from the top or bottom row into the center row would result in a winning combination. On average (across the 10 Nudge games in the system), there are 36 winning combinations for the player to consider. Furthermore, the player must reposition the correct symbol (by pressing the appropriate locations on the touch screen) to effect the winning combination. The player's response must be made within a stringent time limit of 4 seconds or the player loses the possibility of creating a winning pattern.

¹ The games are 3x3 Welcome to Vegas Royale, 3x3 Emerald 7s, 3x3 Money Vault, 3x3 Lucky Leprechaun, 3x3 Welcome to Super Vegas Royale, 3x3 Magic Potion, 3x3 Magic Rainbow, 3x3 Mr Money Bags, 3x3 Wonderland, and Atomic 7s.

There are two ways to analyze the question of whether the Nudge games rely on skill.

1. One can ask whether the entire task (finding and effecting winning combinations) is a skilled performance. This raises the question of whether a player would improve in accuracy and/or speed with experience.

Based on my expert opinion, and based on my experience playing the games, a novice player would certainly improve with experience both in accuracy and in speed of identifying and effecting winning patterns. For example, there is a large number of potential winning patterns. When a novice first begins playing one of the games, the player cannot keep all these patterns in mind and must resort to a time-consuming and laborious search of the patterns to consider whether a potentially winning pattern can be created out of the nine symbols on the screen. With additional experience, the player learns and remembers more and more of the winning patterns and can more accurately identify potential winning patterns without engaging in a visual search of the list of winners present at the left border of the screen.

Furthermore, some of the winning patterns are not explicitly given to the player on the screen but rather are represented by a rule which defines a set of winning patterns (e.g., a winning combination may be formed by any combination of several different symbols). The patterns that satisfy this rule are not all immediately obvious. That is, a novice player is unlikely to fully understand the nature of every possible winning combination subsumed by a winning rule at the outset, but may learn these patterns (which, again, are not all explicitly given to the player) with experience. To the extent that the player comes to remember the explicitly-presented winning patterns and to learn the winning patterns that are not explicitly given but merely implied by a winning rule, the player will more easily and quickly identify potentially winning patterns. These forms of learning are driven by experience with the game and will make the player more accurate and more efficient in playing the game.

Finally, the player's response must be made within a very brief time limit (e.g., 30 seconds). The need for a speeded response increases the reliance on skill needed to succeed in the game. For example, the ability to identify, compare and select winning patterns under substantial time pressure is sure to improve with increasing familiarity (i.e., practice) with the game.

2. A second way to assess skill in the context of this game is to consider some of the constituent cognitive processes required by this task and assess the extent to which these processes can be considered skills. Among the cognitive processes drawn on by this game are the following:
 - a. Visual discrimination
 - b. Manipulating mental images
 - c. Long-term memory
 - d. Logical reasoning
 - e. Visual search
 - f. Visual attention
 - g. Fine motor control

- h. Hand-eye co-ordination
- i. Impulse control (e.g., to avoid responding prematurely to near-matches of winning patterns).

These constituent cognitive processes are all highly amenable to training and thus clearly meet our definition of skill. In each domain, there is substantial evidence that people improve through practice on tasks that draw on each of these cognitive processes.² The contribution of skilled cognitive processing to overall task performance provides converging evidence that the game relies critically on skill.

Do the Nudge games of the No Limit Games System rely on physical dexterity?

It is clear that there is a requisite amount of dexterity required to play and win these games. In order to win in each game, the player must not only recognize the potential winning pattern but take actions to effect the winning combination: The player must reposition the correct symbols into the middle row by pressing the appropriate locations on the touch screen. Clearly, this requires both visual acuity and fine motor control of the hands. That is, both aspects of hand-eye co-ordination must be present to win in this game. If a player had sufficient visual impairment, the winning pattern could not be recognized or implemented correctly even if the player had unimpaired fine motor control. Likewise, a player with a sufficient disability in fine motor control (as might occur in neuromuscular diseases such as Parkinson’s disease) with otherwise unimpaired vision would have difficulty in implementing a winning move. These examples make clear that there is a requisite level of both visual acuity and fine motor control for winning in this game, indicating that the game relies on physical dexterity.

Do the Nudge games of the No Limit Games System rely on mental dexterity?

Given that mental dexterity is defined in terms of skill – specifically, mental skill, then it is clear that our prior discussion of skill relates directly to the concept of mental dexterity. We have already seen that these games rely on skill – the mental skills required to recognize and implement winning combinations. Thus, the games rely on mental dexterity.

SECTION IV – RELEVANT DATA FOR THE NUDGE GAMES OF THE NO LIMIT GAMES SYSTEM

I helped design and analyze a laboratory study which examined performance on a game system that operated in the same way as the Nudge games of the NLG System. This study provides

² e.g., Berkmen et al. (2014), Brown (1997), Candela et al. (2015), Cavallini et al. (2003), Chase & Ericsson (1981, 1982), Cheng et al. (1986), Chun, & Jiang (1998), Czerwinski et al., (1992), Dresler et al. (2017), Eversheim & Bock (2001), Flanagan et al. (2006), Gopher (1993), Jimura et al. (2014), Kail (1986), Karbach & Kray (2009), Karbach & Verhaeghen (2014), Kliegl et al., (1987), Kliegl et al., (1989), Kramer et al. (1999b), Lumsden et al. (2016), Mackey et al. (2013), Magill (1998), Minear, & Shah (2008), Monsell (2003), Morgan & Morgan (1953), Poldrack et al. (1998), Poulton (1957, 1974), Prowse Turner & Thompson (2009), Rogers et al. (1994), Rosser et al. (1997), Rutkowski et al. (2021), Sailer et al. (2005), Shapiro & Raymond (1989), Tullis & Finley (2018), Underwood et al. (2003), Uttal et al. (2013), von Bastian et al. (2022), Voyer (1995), Wallace & Hofelich (1992), Wright et al. (2008), Yeung & Monsell (2003), Zhao et al. (2022).

results relevant to issues of skill and dexterity, and which converge on the same conclusions of the prior section. In this study, a sample of adults played the games while being videotaped. I have analyzed the videotapes to assess the players' accuracy. For entries that provided an opportunity to create a winning pattern (which occurred on 22.4% of plays), players implemented the winning pattern 86% of the time. Alternatively stated, the error rate on these entries was 14%.

Relevance of the Accuracy Data

This dataset provides converging evidence that the games require skill. To understand the utility of this evidence, first, consider what the accuracy rate would be if the games were completely based on chance. If the games were based on chance, players would get the right answer 1 time in 6 by merely guessing which reel to move and in which direction. Consequently, the accuracy rate would be about 17%. The data make it clear that players are doing much better than that, demonstrating that the games must not be based on chance guessing. Rather, the players have some knowledge and skill in the game that allows them to have higher accuracy rates than would be expected by chance-level guessing. At the other extreme, we might wonder whether the game is so easy that skill has little role to play. If the game were trivially easy, then players would get the correct answer on each winning entry, yielding an accuracy rate of 100%. If accuracy were that high, we might conclude that the game is so easy that there is little contribution of skill. Of course, we can reject that possibility as well. Players are substantially below 100% correct, even though they are highly motivated to be accurate and win prizes. Therefore, the data indicate that players' accuracy is well above chance-level performance and below perfect performance, which is exactly what one would expect for games that rely on skill.

Reliability of Performance

Another characteristic of skills is that they vary across individuals but are consistent within an individual. This means that if one person outperforms another at time 1, he/she is likely to outperform the other person at time 2, all other things equal. Contrast this with performance on a chance-based activity. On a chance-based activity, if one person outperforms another at time 1, this gives us no information about who is likely to prevail at a later time. If the task is chance-based then only random factors dictate the score a person receives and no consistency is to be expected. A person's performance at time 1 gives us no information about that person's performance at time 2.

One can measure this type of consistency with the split-half reliability. This was done for the laboratory study described above. This study allowed us to measure the performance of the players on each play. To compute this quantity, the plays from each player are split into two halves, the first half of plays vs. the second half of plays. The accuracy is computed for the first half of plays and for the second half of plays for each player. The first-half and second-half accuracy scores are then used to compute a measure of consistency (the Spearman-Brown split-half coefficient, a form of correlation). If there is little consistency, this measure will be near 0, consistent with a chance-based task. If there is consistency in task performance, this number will take on a significant positive value (with a maximum value of +1.0), indicating the presence of a consistent ability or skill. The Spearman-Brown split-half coefficient for the laboratory study was +.90. This value is highly significant ($p < .001$) and represents a high degree of reliability or

consistency in the task.³ This value is in the range expected for standardized measures of psychological and cognitive attributes, and represents a value that is about as high as can be reasonably expected for measures of human behavior.

Summary Regarding Relevant Data

The foregoing analyses indicate that Nudge games that operate on the same principles as the Nudge games of the NLG system require skill; these games clearly exhibit the hallmarks of skill in terms of average accuracy and in terms of reliability. More evidence on this point is provided by a new empirical study reported in **Section VII**.

SECTION V – EVALUATION OF THE NO LIMIT GAMES SYSTEM FOR SKILL AND DEXTERITY: *FOLLOW ME* COMPONENT

In the *Nudge* games, not every play is capable of producing a winning combination. For these plays, the player can then play an additional game, called *Follow Me*. If the player is successful in this game, the player is guaranteed to win 100% of the entries selected for that round. In the *Follow Me* game, the player is presented with a circular array of buttons of different colors that light up in a random sequence. The goal of this game is to recreate the random sequence of colored buttons presented by the game. Specifically, the game begins with a sequence of one, in which one of the buttons is highlighted on the screen. The player then recreates the initial sequence by selecting the correct button on the touch screen. The sequence then increases to two, with the game presenting the same initial button followed by another button. The player responds by recreating the sequence of two, and so on. This game is similar to the electronic game, *Simon*, which likewise requires the player to repeat a sequence of colored buttons each in a unique spatial location. There is a time limit during the reproduction of the sequence of 20 seconds. The sequence continues to increase until the player loses a round (either by making an error by hitting a button out of sequence or failing to respond within the time limit), or until the player succeeds in correctly repeating a sequence of 14. At this point, the player recoups the original entries played and the *Follow Me* game is over. The screen then returns to the original *Nudge* game. Because prizes accrue from the *Nudge* games and from the *Follow Me* game, outcomes from the system as a whole depend on the characteristics of these two components. If either component relies on skill or dexterity, then outcomes from the system as a whole can be said to rely on skill or dexterity. In this section, I analyze the *Follow Me* component.

Does the Follow Me component of the No Limit Games System rely on skill?

³ There is nothing critical about computing the split-half coefficient based on the first and second halves of the plays. A nearly identical result is found if the plays are halved in other ways. For example, if the plays are grouped in sets of 10, the accuracy value can be computed for the odd-numbered sets of plays and the even-numbered sets of plays. This likewise yields two accuracy measures for each player, one for the odd sets and the other for the even sets. Computing reliability on this basis yields a SB coefficient of +.89, essentially identical to the first-half—second half analysis.

As with the analysis of the *Nudge* games, there are two ways to analyze the question of whether the *Follow Me* component relies on skill.

1. One can ask whether the entire task (correctly repeating the increasing sequence) is a skilled performance. This raises the question of whether a player would improve in accuracy and/or speed with experience, and whether the task would exhibit the type of consistency (i.e., reliability) described in the previous section.

Based on my expert opinion, and based on my experience playing the game, a novice player would certainly improve with experience. I also believe the game taps abilities that would demonstrate high reliability. In particular, the *Follow Me* game is what psychologists refer to as a test of working memory (more technically, visuo-spatial working memory). As noted above, this game is similar to the game *Simon* which itself has been used as a test of working memory.⁴ In addition, the *Follow Me* game is very similar to another standard test of (visuo-spatial) working memory, the Corsi Block Test (CBT). The original version of the CBT used a set of nine actual (that is, physical) blocks arranged in a spatial array. The test proceeds as follows: First, an experimenter taps on a sequence of the blocks and then the person taking the test attempts to recreate the sequence by tapping the blocks in the same order. In the (now more common) computerized version of the task, a set of nine colored squares (the “blocks”) are presented in a spatial array on a computer screen. On each trial, a sequence of squares “lights up” and the subject tries to recreate the sequence by tapping the squares on a touchscreen in the same order. Clearly, the computerized version of the CBT is very similar to the *Follow Me* game. Critically, the CBT (along with the Simon game when it has been evaluated as a working memory test) exhibit the two key characteristics of skill-based tasks: (1) performance improves with training and practice; and (2) the tasks exhibit high reliability (that is high consistency within individuals).⁵

Clearly, performance on the *Follow Me* game enlists the skills of working memory. However, to succeed with longer sequences, working memory abilities are often supplemented with other strategies. There are two common strategies: (1) the development of mnemonic devices for grouping subsets of symbol sequences; and (2) supplementing working memory by recording the symbols/spatial locations (which can be done in multiple ways, as described momentarily). In the former case, a player develops ways to group together sequences so they are easier to remember. For example, symbols or locations might be associated with verbal labels, and the player attempts to remember the verbal labels as opposed to the symbols and locations, per se. Alternatively, the player might attempt to use visual imagery mnemonics to re-code the information on the screen (the sequence of symbols) into a form more easily maintained in memory. Research shows that people can learn effective mnemonic strategies to remember large amounts of unrelated information as presented in memory games such as *Follow Me*. Critically, experience with a game is required to develop effective strategies.⁶

⁴ Gendle & Ransom (2006), Wan et al. (2021).

⁵ e.g., Boot et al. (2008), Brunetti et al. (2014), Farrell Pagulayan et al. (2006), Kessels et al. (2000), Kessels et al. (2008), Zinke et al. (2012).

⁶ e.g., Chase & Ericsson (1981, 1982). Dresler et al. (2017), Kliegl et al., (1987), Kliegl et al., (1989).

Consequently, the beneficial effects of mnemonic devices slowly emerge with increasing experience, indicating that such strategies are a form of skill that is acquired through practice with the game.

The other strategy is to record the sequence of symbols and to use this record to recreate the sequence. This type of recording might be done in multiple ways. First, the player might try to write down the sequence of symbols/locations that are presented. It is important to note that such a recording amounts to another type of re-coding, in which one type of stimulus (the symbol/location presented by the computer) is converted into another code (e.g., a verbal label or number, perhaps written on a piece of paper). This re-coding is then carried out in reverse when it is time to recreate the sequence: the written code (e.g., verbal label or number) is converted into a motor response (touching the correct location on the screen).

Acts of recoding, such as these, form the basis of several tests of executive control. Executive control refers to our ability to develop action plans, initiate and sequence actions, monitor behavior for errors, and inhibit distracting or competing stimuli that might detract from accomplishing goals. One common test of executive control maps on quite clearly to the type of strategy described here: the Digit-Symbol Substitution Test (also called the Digit-Symbol Coding Test). In this test, the participant is presented with a key that specifies how items from one set of stimuli (e.g., a set of pictures) is to be converted into items from a second set of stimuli (e.g., a set of digits). Each item in the first set is arbitrarily paired to a stimulus in the second set (e.g., the picture of the cat is paired with the number 1; the picture of the dog with the number 2; etc.). Participants are then presented with a set of stimuli from set one (e.g., a sequence of pictures) and the participant must recode each into the appropriate response from set two (e.g., a sequence of letters). Performance is assessed in terms of the numbers of errors made and in the speed of responding, and people vary in their ability to carry out the task accurately and efficiently. Both speed and accuracy on this task increase with practice, and the test exhibits high reliability.⁷ Most importantly for present purposes, this task maps on perfectly to a common recording strategy that can enhance performance in the *Follow Me* game. This indicates that the addition of this strategy to game play should be thought of as the addition of a skill-based behavior because this strategy has the characteristics of a skill, as research with the Digit-Symbol Substitution Test demonstrates.

Another way that the symbol sequence might be recorded is with a video recording (as with a smart phone). It is important to note that this strategy also entails re-coding of the stimuli when it is time to recreate the sequence. That is, each recorded symbol must be converted into an appropriate motor response. This type of re-coding, like that exhibited by the Digit-Symbol Substitution Test, is affected by experience: people become quicker and more accurate at the conversion with increasing practice. Likewise, performance in tasks requiring this type of re-coding demonstrate substantial consistency (reliability) in performance. Finally, it should be noted that either of the recording strategies described above also entails another substantial contribution of executive control. In particular, when the recorded sequence is converted into a sequence of motor actions, one of the important challenges is keeping track of the location in the

⁷ e.g., Erber et al. (1981), Heinzl et al. (2014), Ingram et al. (2021), Joy et al. (2003), Joy et al. (2004), McLeod et al. (1982).

sequence, to avoid skipping or repeating responses. This challenge, and the contribution of executive control to this challenge, is heightened as the sequence becomes longer.

We have reviewed strategies that are used to enhance performance on the *Follow Me* task, and shown that the use of each strategy brings to bear skill-based behaviors. More generally, it should be noted that no matter which strategy (or mix of strategies) is used to supplement working memory in this task, the selection of effective strategies has itself the characteristics of skill. That is, experience with the game is required to both develop potential strategies and discern which strategies are most useful. Thus, the mere presence of supplemental strategies in the task signals the development of skill with the task, irrespective of which particular strategy the player ultimately relies on.

In sum, the *Follow Me* task is certainly a skill-based game. As a challenge that relies on working memory and ancillary strategies, it is bound to demonstrate the characteristics of a skill-based task.

2. A second way to assess skill in the context of the *Follow Me* game is to consider some of the constituent cognitive processes required by this task and assess the extent to which these processes can be considered skills. Among the cognitive processes drawn on by this game are the following:
 - a. Visuo-spatial working memory
 - b. Executive control
 - c. Long-term memory
 - d. Logical reasoning
 - e. Vigilance
 - f. Visual attention
 - g. Fine motor control
 - h. Hand-eye co-ordination

These constituent cognitive processes are all highly amenable to training and thus clearly meet our definition of skill. In each domain, there is substantial evidence that people improve through practice on tasks that draw on each of these cognitive processes.⁸ The contribution of skilled cognitive processing to overall task performance provides converging evidence that the game relies on skill.

Does the Follow Me component of the No Limit Games System rely on physical dexterity?

As with the *Nudge* games, it is clear that there is a requisite amount of dexterity required to play and win the *Follow Me* game. In order to win in the game, the player must distinguish the differing locations when presented with the sequence and take motor actions to respond with the

⁸ Attwood & Wiener (1969), Blacker et al. (2014), Brown (1997), Candela et al. (2015), Cavallini et al. (2003), Chase & Ericsson (1981, 1982), Cheng et al. (1986), Chun, & Jiang (1998), Colquhoun & Edwards (1970), Dresler et al. (2017), Eversheim & Bock (2001), Flanagan et al. (2006), Flehmig et al. (2007), Gopher (1993), Jaeggi et al. (2011), Karback & Kray (2009), Karbach & Verhaeghen (2014), Kliegl et al., (1987), Kliegl et al., (1989), Klingberg (2010), Kramer et al. (1999a), Kray & Lindenberger (2000), Mackey et al. (2013), Magill (1998), Morgan & Morgan (1953), Poldrack et al. (1998), Poulton (1957, 1974), Prowse Turner & Thompson (2009), Rosser et al. (1997), Sailer et al. (2005), Shapiro & Raymond (1989), Tullis & Finley (2018), Underwood et al. (2003), von Bastian et al. (2013), Wiener & Attwood (1968).

appropriate sequence of buttons by pressing the appropriate locations on the touch screen. Clearly, this requires both visual acuity and fine motor control of the hands. That is, both aspects of hand-eye coordination must be present to win in this game. If a player had sufficient visual impairment, the sequence could not be recognized when presented or implemented correctly in response even if the player had unimpaired fine motor control. Likewise, a player with a sufficient disability in fine motor control (as might occur in neuromuscular diseases such as Parkinson’s disease) with otherwise unimpaired vision would have difficulty in responding with the appropriate sequence of motor actions. These examples make clear that there is a requisite level of both visual acuity and fine motor control for winning in this game, indicating that the game relies on physical dexterity.

Does the Follow Me component of the No Limit Games System rely on mental dexterity?

Given that mental dexterity is defined in terms of skill – specifically, mental skill, then it is clear that our prior discussion of skill relates directly to the concept of mental dexterity. We have already seen that the *Follow Me* game relies on skill – the mental skills required to reproduce the correct sequence of symbols/locations. Thus, the game relies on mental dexterity.

Summary regarding the role of skill in the Follow Me component of the No Limit Games System.

The *Follow Me* component of the No Limit Games system relies on skill and furthermore, there is no role for chance to dictate the outcome of the game. To win, the player must remember and implement an increasingly long sequence of responses under strict time limits, and the abilities required for this have the hallmarks of skill. Without exercising skill in the game, no winnings can be obtained. Thus skill not only predominates over chance, there is simply no role for chance in this game.

SECTION VI – ADDITIONAL ELEMENTS OF SKILL AND CONTROL IN THE NO LIMIT GAMES SYSTEM

Number of Entries and Skilled Play

Before playing one of the *Nudge* games, the player selects the number of entries to play. For example, the player may select 25 entries. The player can modify this entry level at any time, in increments from 25 to 500. The entry level dictates which fixed pool sweepstake is accessed. When the play is made, the number of entries (e.g., 25) is drawn from that pool. The total prize value of the entries is then exhibited on the screen as a potentially winning pattern that the player may then complete as described in the prior sections. If the entries do not contain a prize, and thus no winning pattern can be implemented, then the player may recoup the entries by winning the *Follow Me* game (also described earlier).

The nature of the fixed-entry pools provides yet another way that skill can be deployed to maximize winnings. In particular, when a round of a *Nudge* game is played, the entered number of entries is removed from the pool. For example, after playing a round at the 50-entry level, the fixed pool for that entry level is now 50 entries smaller than before the play was made. Likewise,

if a round is played at the 500-entry level, the fixed pool for that level is now 500 entries smaller than before the round was played. Importantly, the pool for 50-entries and 500-entries are separate pools of entries (as are all the pools, 25-entry, 50-entry, 75-entry, etc.). That is, playing at the 50-entry level does not decrease the number of entries in the 500-entry pool and vice versa.

If a player plays a round at a particular level (e.g., 50 entries) and loses, that losing round removes (e.g., 50) zero-value entries from the pool. After losing, the player can then recoup their entries by winning the *Follow Me* game. If the player then plays another round at the same level (e.g., at the 50-entry level again), the sweepstakes pool now has a higher chance of producing a winning result than on the prior play because the pool has had (e.g., 50) losing entries removed, leaving behind a higher percentage of winning entries in the pool. So, playing, losing and recouping entries causes the probability of winning to go up on the next play at the same level. The skill exhibited in the *Follow Me* game permits the player to face a more advantageous sweepstakes pool on subsequent rounds. This is another way that skill in the game is translated into winnings.

Furthermore, this increase in winning probability is greater at higher entry levels. For example, playing a round at the 500 entry level (then losing and recouping those entries) causes more losing entries to be removed from the 500-entry pool, than playing 50 entries (and losing and recouping those entries) causes to be removed from the 50-entry pool. In both cases, the probability of winning on the subsequent round is greater than originally, but the increase in the winning probability is greater for the 500-entry plays than the 50-entry plays. Consequently, the advantage that accrues to the player for winning the *Follow Me* game is greater when it occurs at higher entry levels.

This means that a player can increase their likelihood of winning by playing consistently within the same entry-level pool, to capitalize on every losing round that is followed by a successful play of *Follow Me*. Furthermore, this benefit is greatest at the highest level of play (500 entries). Learning how the payoffs are affected by entry level is another way that experience and skill with the game system can increase performance.

The Prize Preview Function

It is clear from the foregoing sections that the *Nudge* games rely on skill. These games also have a *Prize Preview* function, which constitutes an additional contribution of skill and control to the system's gameplay. *Prize Preview* shows the player the exact number of entries that can be won on the next play. This allows the player to decide ahead of time if they would like to continue with a particular round of play. If the player chooses not to continue, they can access another play by switching to a different entry level or a different *Nudge* game. Across all of the *Nudge* games and configured entry levels, the player can access 330 prize previews at any one time, allowing the player to select among a very large number of potential plays.

The *Prize Preview* function is another way for the player to apply skill to the game. First, skilled performance implies control over outcomes, and the *Prize Preview* function allows the player to control game outcomes. Using *Prize Preview*, the player can obtain knowledge about the outcomes of subsequent plays, giving the player the ability to avoid losing plays and find winning plays. Indeed, this function allows complete control on the part of the player – the player knows ahead of time whether the next play has a winning pattern and exactly what the prize will be. This allows the player to choose this play, switch to a different game/entry level in

pursuit of a better option, or to forego playing entirely. In this way, the player can completely control the outcome of the *Nudge* game.

Second, skilled performance is marked by improvement with experience or practice. Based on my expert opinion, and based on my experience playing the game system, a novice player would certainly improve with experience in the effective use of the *Prize Preview* option. A novice player is unlikely to fully appreciate the utility of *Prize Preview* at the outset of game play. It is my opinion that increasingly effective use of *Prize Preview* requires increasingly greater experience with the game. For example, *Prize Preview* can give the player information about many different potential plays but only if the player knows to switch entry levels or games. This great utility of *Prize Preview* has to be discovered as the player acquires greater experience with the game. Thus, effective use of the *Prize Preview* function would certainly increase with experience, a hallmark of skilled performance.

It should be emphasized that the *Prize Preview* function is not necessary for the *Nudge* games to be considered skill games – the prior sections makes clear that all the *Nudge* games rely on skill. Rather, *Prize Preview* is an *additional* skill component, increasing the amount of skill that can be brought to bear on the game. By allowing the player complete information about upcoming plays, *Prize Preview* allows the player complete control over game outcomes.

SECTION VII – AN EMPIRICAL STUDY OF THE NO LIMIT GAMES (NLG) SYSTEM DESIGNED TO ASSESS ITS RELIANCE ON SKILL

The earlier sections provide compelling reasons based on scientific research to conclude that the *Nudge* and *Follow Me* games rely on skill and not chance. Importantly, empirical data also support this conclusion. I designed a laboratory study which examined performance on the NLG system, and I analyzed the resulting data. This study was designed to assess the reliance on skill of the two components of this system. As will be seen, the data from this study wholly substantiates the need for skill in both the *Nudge* and *Follow Me* games.⁹

Background and Goals

The present study evaluated whether the games in the system depend on skill. Specifically, the three critical features of skill were assessed. First, as noted in the definition of skill (**Section II**), skill is a developed ability. Skill refers to proficiencies that are developed through practice or experience. Consequently, if performance in a game depends on skill then performance should show improvement with practice or experience. Second, skill implies consistency in performance, measured with a reliability metric (detailed below). Third, a meaningful contribution of skill in a game entails performance levels that are greater than chance-level performance but less than perfect performance. Average measures of game accuracy allow us to assess this issue. The evaluation of these issues allows us to determine if the *Nudge* and *Follow Me* games rely on skill.

As a secondary matter, mental skill or proficiency often builds on the existing cognitive abilities of the individual. This should be especially so in the case of the *Follow Me* game. As

⁹ **Section IV** described an earlier study with a system similar to the NLG system. This study provides supporting evidence for skill in games similar to the current *Nudge* games. The study described in this section extends these results by examining the NLG system directly, and providing evidence on both the *Nudge* and *Follow Me* games.

detailed in the **Section V**, this task should draw heavily on working memory ability (the ability to store and manipulate mental information). In turn, working memory ability is related to fluid intelligence (or reasoning ability). Consequently, performance in the *Follow Me* game should be related to working memory ability such that individuals with greater working memory ability (technically, greater working memory capacity) should demonstrate better game performance. Likewise, performance in the *Follow Me* game is likely to be related to intelligence, such that those with greater intelligence should demonstrate better game performance.¹⁰ Finally, skilled performance is often enhanced by the development and implementation of strategies, especially relevant to the *Follow Me* game as described in **Section V.1**. The last phase of the current experiment encourages participants to experiment with and implement strategies for game play in the *Follow Me* game. Enhancements in performance due to increased strategy use are an additional hallmark of skill acquisition.

Details of Study and Rationale

Procedures:

The study took approximately 2.5 hours for each subject. In phase 1 of the study, the subject played a *Nudge* game. Different players played different *Nudge* games, but each player played the same *Nudge* game throughout the study. Although all of the *Nudge* games operate by similar rules, there are differences in appearance, symbols and winning patterns. Consequently, if a subject were to switch between *Nudge* games, the subject would have to learn information about the new game, potentially disrupting their ongoing performance and obscuring skill acquisition. Consequently, a single game was played by each subject so that a single learning curve could be observed. At the beginning of phase 1, the researcher explained to the subjects how the game is played, and then the subject was instructed to read the instructions on the screen. The subjects were asked to try their best and to maximize their scores. They were told that the subjects with the highest point totals would win a cash prize (\$100 for the top score, \$50 for second, and \$25 for third). This was designed to ensure that subjects were motivated to do their best just as players in commercial settings are motivated. After this, the timed portion of game play began. The subject played for 10 minutes. The point value for each play was set to the same amount for each subject and was not changed across plays.

After phase 1, the subject took a brief break (of approximately 5 minutes) before returning to game play for another 10 minutes (phase 2). After phase 2, subjects took another short break (again, of approximately 5 minutes). Phase 3 followed in which subjects continued to play the *Nudge* game but were now instructed to play the *Follow Me* game on each play that it was available (that is, on each play that the *Nudge* game did not return 100% or more of the entries played). Phase 3 was primarily intended to evaluate play on the *Follow Me* game but also yielded additional data on the *Nudge* games.

Phase 3 was followed by another short break after which the cognitive tests were administered. The subjects took a test of working memory and a reasoning test (both described below). The tests were computer-administered and each took approximately 15 minutes. Another

¹⁰ In the case of the *Nudge* game, it is less likely that game performance will correlate with these cognitive abilities because the game does not clearly draw on working memory ability but rather draws on a broad array of cognitive abilities, making it less likely that tests of any single cognitive ability will strongly or clearly correlate with *Nudge* game performance.

break (of approximately 10 minutes) ensued before the beginning of phase 4. In this phase, the subject again played the same *Nudge* game for 10 minutes. During this phase, the subjects were instructed to play only the *Nudge* game and not to play the *Follow Me* game. Following another brief break (of approximately 5 minutes), phase 5 commenced. In this phase, the subjects were told to continue to play the *Nudge* game but to also play the *Follow Me* game on each play that it was available (as in phase 3). The only difference with phase 3 is that subjects were informed that the *Follow Me* game could now be played with the use of any strategy that the subject deemed useful, including the use of external aids to record the sequence of colored lights. Subjects were informed that they were allowed to use any additional strategy they wished or no such strategies at all. Furthermore, they could experiment with different strategies and change strategies as they saw fit. They were reminded of the prizes for top performers and were encouraged to try their best.

After completing game play, subjects were given a short questionnaire on their familiarity with the NLG system and with similar games. They also completed a short set of questions on demographic information.

Cognitive Measures:

Working Memory Capacity: Working memory refers to the ability to store and manipulate mental information. This ability is sharply limited – that is, the amount of information we can temporarily store, retrieve or process at any one moment is limited. This limitation is referred to as working memory capacity (WMC), and WMC is related to a number of important cognitive abilities, including reasoning, reading comprehension, learning, and problem solving. WMC is measured with standard assessments requiring participants to store information in memory while simultaneously engaging in processing tasks. The test used in the present study was the digit-recoding task (Was, Rawson, Bailey, & Dunlosky, 2011; Was & Woltz, 2007). Each trial in this test consists of a sequence of six digits presented one at a time on the computer screen. Each digit was presented for 2 s. The sequence was followed by one or two questions about the digit string (e.g., “What is the difference between the middle two numbers?” or “How many odd numbers are there?”). Answering these questions requires the storage and manipulation of information in working memory. The number correct provides an assessment of WMC. The digit-recoding task provides excellent reliability and validity in a relatively short test.

Raven’s Progressive Matrices (RPM): This is a traditional, standardized test of fluid intelligence and inductive reasoning (e.g., Fry & Hale, 1996; Gray, Chabris, & Braver, 2003). This task consists of a set of problems on series completion, in which sequences of geometric (or other) figures are presented and the participant has to select the figure (from a provided set of options) that correctly completes the series. The short form of the RPM provides very good reliability and validity.

Subjects:

Forty-four subjects took part in the study, 22 Males and 22 Females, with an average age of 42 ($SD = 16$) and a range of educational attainment (High school degree: 5; Some college: 10, College degree: 17; Post-graduate education: 12). The large majority of subjects reported no familiarity with the NLG system (9 reported playing the system before the study; the other 35

reported no experience with the game system). Twenty-eight of the 44 subjects reported playing similar game systems. In sum, few subjects had experience with the current system but a majority (64%) reported at least some experience with a similar system. Analyses comparing subjects with and without experience with similar systems yielded no significant differences indicating that the results described below apply generally to all subjects in the study.

Results and Discussion

Nudge games:

Subjects were free to play the game at their own speed (as players are in commercial settings). Consequently, different subjects played more or fewer rounds of the *Nudge* game. Across the 5 phases of the experiment, subjects played an average of 314 plays ($SD = 39$). For plays that provided an opportunity to create a winning pattern, players implemented the winning pattern 84% of the time. Alternatively stated, the error rate on these plays was 16%. This proportion correct was computed for each subject on each phase, and is the accuracy measure for this game.

Performance improves with practice: The first attribute of a skill is that it increases with practice or experience. To assess whether the *Nudge* games possess this attribute, the accuracy measure was assessed for each phase of the experiment, and a statistical analysis was implemented to determine if accuracy significantly improved over phases. The mean accuracy for each phase is depicted in Figure 1. The accuracy measure was analyzed with an Analysis of Variance statistical test, using phase (1 through 5) as a within-subjects factor.¹¹ The effect of phase was significant, $F = 13.63, p < .001$. Follow-up tests revealed a significant linear effect of phase on accuracy, $F = 17.76, p < .001$, as well as a significant quadratic effect, $F = 28.52, p < .001$ (no higher order [e.g., cubic] effects were significant). The effect of phase indicates that accuracy rates significantly differed across phases, and the linear and quadratic effects revealed exactly how accuracy changed: accuracy increased across phases, reaching approximately equal levels by the last 2 phases (that is, reaching asymptote by phase 4). This means that accuracy showed improvement across phases, as the subject accrued more and more experience with the game.¹² In sum, performance improved with practice for the *Nudge* games.

¹¹ Statistical analyses are required to determine if the differences in averages across conditions (e.g., the difference in proportion correct across the phases in Figure 1) are large enough to be meaningful (or significant), or whether they are too small to be significant. To compare more than two means (as in the present analysis of the proportion correct across the five phases of the experiment), the *Analysis of Variance* is the appropriate statistical test, and it produces a statistic referred to as the F statistic along with an associated probability (or p) value. If the F statistic is low, this indicates that the means are all very similar and do not significantly differ from one another. If the statistic is large, this indicates that the means are significantly different from one another. For technical reasons, the statistical test actually focuses on the p value, which is inversely related to the F statistic. Specifically, if the p value is low (below .05), then one concludes that the means differ from one another. More sophisticated statistic tests (e.g., tests of linear effects), allow us to detect more specific patterns in the data.

¹² There are a number of alternative analyses to assess the effect of practice on accuracy. For example, one could compare the first half of plays with the second half of plays (collapsed across phases) or compare performance during phase 1 (when the player is new to the game) with performance during phase 5 (after the player has obtained substantial experience with the game). These analyses were conducted and produced the same results as the analysis reported in the body of the report: accuracy is significantly better for performance in the later compared to earlier time period.

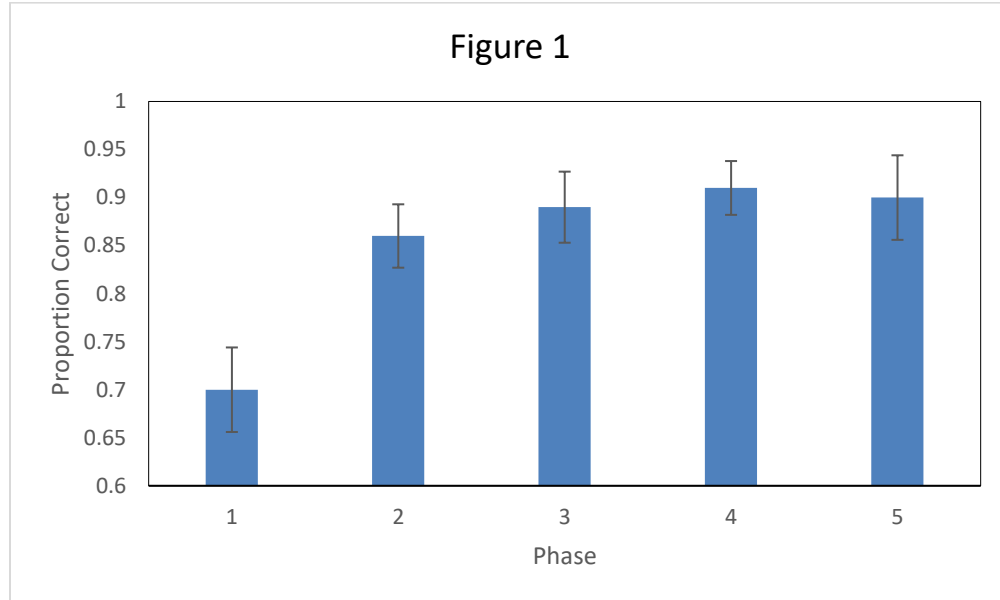


Figure 1: Mean proportion correct (\pm Std Error) on the *Nudge* games as a function of study phase.

Performance exhibits reliability: The second characteristic of skills is that they vary across individuals but are consistent within an individual. This means that if one person outperforms another at time 1, he/she is likely to outperform the other person at time 2. Contrast this with performance on a chance-based activity. On a chance-based activity, if one person outperforms another at time 1, this gives us no information about who is likely to prevail at a later time. If the task is chance-based then only random factors dictate the score a person receives and no consistency is to be expected. A person's performance at time 1 would give us no information about that person's performance at time 2.

This type of consistency is measured with the split-half reliability. To compute reliability, the plays from each player are split into two halves and performance on the two halves are compared to each other. This is typically done by numbering the plays consecutively and then dividing the plays in half depending on whether the play is an odd-numbered or an even-numbered play. Accuracy is computed for the odd-numbered half of plays and separately for the even-numbered half of plays for each player. The odd-half and even-half accuracy scores are then used to compute a measure of consistency (the Spearman-Brown split-half coefficient, a form of correlation). If there is little consistency, this measure will be near 0, consistent with a chance-based task. If there is consistency in task performance, this number will take on a significant positive value (with a maximum value of +1.0), indicating the presence of a consistent ability or skill. The Spearman-Brown split-half coefficient for the *Nudge* game was +.98. This value is highly significant ($p < .001$) and represents an extremely high degree of reliability or consistency in the task. This value is even higher than the reliability expected for standardized measures of psychological and cognitive attributes, and represents a value that is as high as can be reasonably expected for measures of human behavior. Indeed, as will be seen

below, this level of reliability is even higher than that found with the working memory and RPM tests, two standard tests of cognitive function.

Average accuracy levels: The third characteristic of skill relates to the average level of accuracy across players. If skill makes a meaningful contribution to game performance, then performance levels should be greater than chance-level performance but less than perfect performance. The average accuracy rate allows us to assess this issue. To understand the utility of this evidence, first, consider what the accuracy rate would be if the games were completely based on chance. If the games were based on chance, players would get the right answer 1 time in 6 by merely guessing which reel to move and in which direction. Consequently, the accuracy rate would be about 17%. The actual accuracy rate (84% as reported above) is significantly higher than that, $t = 21.59, p < .001$.¹³ The data make it clear that players are doing much better than chance, demonstrating that the games must not be based on chance guessing. Rather, the players have knowledge and skill in the game that allows them to have higher accuracy rates than would be expected by chance-level guessing. At the other extreme, we might wonder whether the game is so easy that skill has little role to play. If the game were trivially easy, then players would get the correct answer on each of these plays, yielding an accuracy rate of 100%. If accuracy were that high, we might conclude that the game is so easy that there is little differentiating contribution of skill. Of course, we can reject that possibility as well. Player accuracy is substantially (and significantly) below 100% correct, $t = 5.43, p < .001$, even though the players are highly motivated to be accurate and win prizes. Therefore, the data indicate that players' accuracy is well above chance-level performance and below perfect performance, which is exactly what one would expect for games that rely on skill.

Finally, it should be noted that only 5 of the 44 subjects had perfect accuracy. This means that in this data set, only 11.4% of the players were able to maximize their winnings. All other players (88.6%) were not able to maximize their winnings. This indicates that not only is average performance less than perfect, it is also the case that only a few subjects were able to achieve perfect play. This is another demonstration that skill, and differences in skill, play a critical role in determining the degree of success that players obtain.

Summary regarding Nudge games: The foregoing analyses indicate that the *Nudge* games require skill. They clearly exhibit the hallmarks of skill in terms of (1) improvement with practice; (2) reliability; and (3) average accuracy.

Follow Me game:

Players were required to play the *Follow Me* game in two of the phases but were asked not to play *Follow Me* in the other phases (and none did). The average number of plays for the *Follow Me* game was 25.0 ($SD = 7.5$).¹⁴

¹³ As described earlier, a statistical test is required to determine if two quantities are significantly different. In the present case, the mean accuracy rate is compared to the accuracy rate expected by chance. The appropriate statistical test in this case is the t test which produces a t statistic and associated p value. A high value of t , along with a low value of p (below .05), shows that the quantities are significantly different from one another.

¹⁴ A complete round of *Follow Me* takes substantially longer than a round of the *Nudge* game and the *Nudge* game was played in all phases, which is why the number of plays is lower for the *Follow Me* game.

Performance improves with practice and the use of strategies: The first attribute of a skill is that it increases with practice or experience. In the case of the Follow Me game, there is an additional factor to consider. This game permits the player to make use of any strategy they wish (including recording strategies) or no strategy at all. In the present study, we compared performance in phase 3 with performance in phase 5 to determine if players improve as they gain experience with the game, and are free to implement and gain experience with any strategy they wish to use.

The score for each round of *Follow Me* is the longest sequence that was correctly repeated. The average score was computed for each subject separately for phase 3 and phase 5. The results are presented in Figure 2. Performance was significantly greater in phase 5 than phase 3, $t = 3.88, p < .001$. Thus, performance improved with practice and when strategy use and experimentation were encouraged.

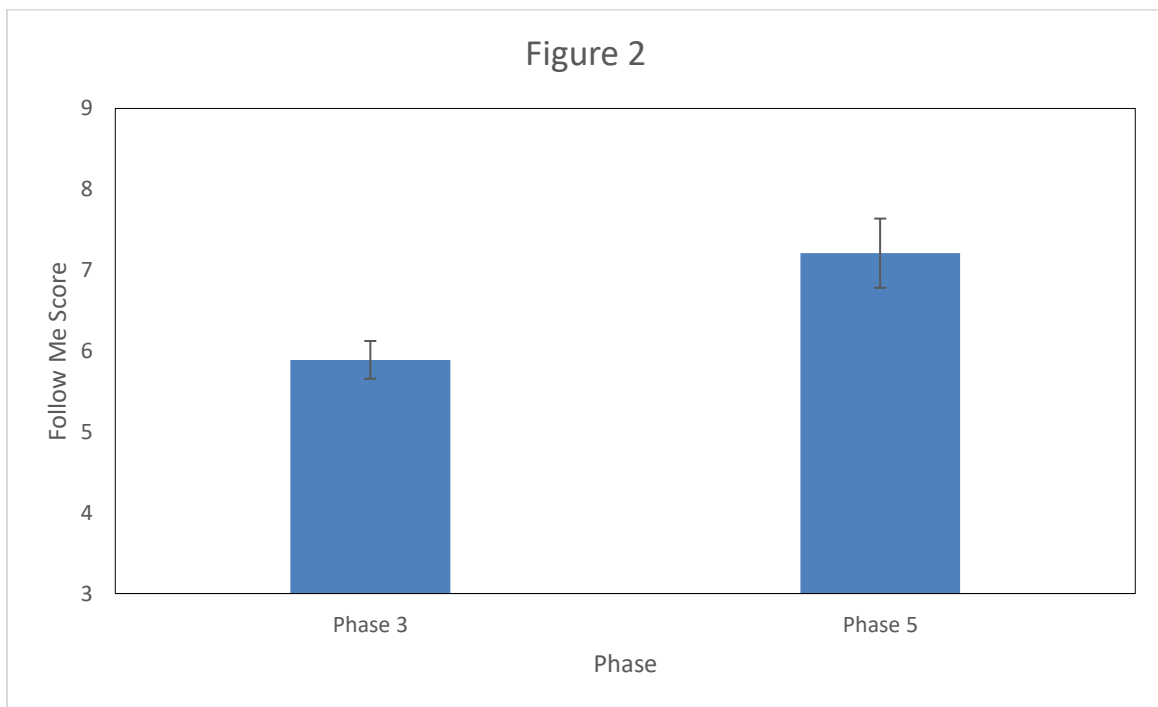


Figure 2: Mean score (\pm Std Error) on the *Follow Me* game across Phases 3 and 5.

Performance exhibits reliability: The second characteristic of skills is reliability as described earlier. The standard split-half reliability was computed for the *Follow Me* game by splitting the rounds in half based on whether the round was odd- or even-numbered. The odd-half and even-half accuracy scores were then used to compute the Spearman-Brown split-half coefficient, yielding a value for the *Follow Me* game of $+0.85$. This value is highly significant ($p < .001$) and represents a substantial degree of reliability or consistency in the task. This value is in the range expected for standardized measures of psychological and cognitive attributes, and represents a value that is nearly as high as can be reasonably expected for measures of human behavior.

Average accuracy levels: As described earlier, the third characteristic of skill entails that the average level of accuracy is greater than chance and lower than perfect performance. The

average *Follow Me* score over all phases is 6.7 ($SD = 1.8$). In the case of the *Follow Me* game, chance level performance can be thought of as random responding during the repetition cycle. This means that for the first sequence (of length one), there is a 1 in 8 chance of randomly guessing the correct answer (that is, of correctly repeating the initial sequence of one). Alternatively stated, there is a 1 in 8 chance of getting a score of 1 and a 7 in 8 chance of getting a score of 0. Taken together, this yields a chance-level score of .125.¹⁵ In contrast, perfect performance in this task is a score of 14. Obviously, the obtained scores lie between these two extremes. The actual average is greater than chance, $t = 23.97, p < .001$, and less than perfect performance, $t = 26.59, p < .001$. The same results obtain if the analysis is restricted to phase 3 or to phase 5. As was the case with the *Nudge* games, the data show that players' accuracy is well above chance-level performance and below perfect performance, exactly what is expected for games that rely on differential levels of skill.

Summary regarding the Follow Me game: The foregoing analyses indicate that the *Follow Me* game requires skill. The game clearly exhibits the hallmarks of skill in terms of (1) improvement with practice (and strategy use); (2) reliability; and (3) average accuracy.

Relationship between cognitive abilities and the Follow Me game:

Before reporting the relationship between the cognitive measures and the *Follow Me* game, it is important first to note that the two cognitive tests exhibited the robust reliability expected of established tests of cognitive ability. The Spearman-Brown split-half coefficient was computed for the digit-recoding task (the measure of working memory) and for the RPM (fluid intelligence) measure, yielding values of .96 and .90, respectively (both $ps < .001$). These values represent very high levels of reliability and are consistent with typical values of reliability for these tests.¹⁶ Also, as expected based on prior research, performance on the digit-recoding and the RPM tasks were significantly correlated, $r = +.39, p = .011$, consistent with the common finding that working memory capacity is related to fluid intelligence (e.g. Conway, Cowan, Bunting, Theriault, & Minkoff, 2002; Unsworth & Engel, 2005). The foregoing results demonstrate that these standard measures of cognitive abilities functioned appropriately in the present study.

Scores on the *Follow Me* game were strongly correlated with scores from the two cognitive ability measures. Specifically, the correlation between total scores from the *Follow Me* game and scores from the digit-recoding task was significant, $r = +.37, p = .015$. The correlation between *Follow Me* total scores and RPM scores was likewise strong and significant, $r = +.49, p = .001$. These results indicate that players who achieve higher scores on the *Follow Me* game

¹⁵ Technically, chance level is just slightly higher than this. After randomly guessing the correct answer for the first sequence (with a 1 in 8 probability), the player might then randomly guess the correct answer for the succeeding sequence of two, producing a score of 2 for this round rather than a score of 1. However, this combination of events (randomly guessing a sequence of 1 and then randomly guessing a sequence of 2) only occurs with a probability of 1 in 512 (that is, 1 in 8^3), or .00195. The probability of randomly guessing your way to a score of 3 on a particular round is even more remote (1 in 8^6 or .00000381). Thus, consideration of the probability of randomly guessing sequences greater than 1 has very little effect on the chance-level score, only affecting the chance-level computation in the third significant digit (.125 vs. .129) and having no material effect on the statistical analyses.

¹⁶ Another common measure of reliability, which cannot be used with the data from the *Nudge* and *Follow Me* games for technical reasons, is Cronbach's α . This alternative measure of reliability is quite consistent with the reported SB coefficients: .92 and .84, for the digit-recoding and RPM tasks, respectively.

have higher working memory capacity and greater fluid intelligence. This is consistent with the analysis of the *Follow Me* game as a game of skill that builds on existing cognitive abilities, such as working memory and intelligence.

Summary and Conclusions from the Empirical Study

The study was designed to determine if the *Nudge* and *Follow Me* components of the NLG system display the empirical characteristics of skill. The results of the study conclusively demonstrate that both components exhibit these characteristics. Performance in both components (1) improves with practice and experience; (2) demonstrates high reliability; and (3) displays levels of average accuracy indicative of meaningful contributions of skill. The relationship between the *Follow Me* game and other cognitive abilities (of working memory and fluid intelligence) provides converging evidence for its skill basis. Thus, both components of the NLG system depend critically on skill.

SECTION VIII – EVALUATION OF THE NO LIMIT GAMES SYSTEM FOR SKILL AND DEXTERITY: THE GREAT BALLS OF FIRE GAMES

The latest NLG system also contains an additional set of games – the Great Balls of Fire games – that contain both the *Nudge* and *Follow Me* components. Despite some superficial differences in appearance and game play from the earlier games, the Great Balls of Fire games operate by similar rules, and thus implicate the same cognitive processes and the same analyses of skill and dexterity as described in the earlier sections. Given this commonality, this section is relatively brief to avoid unnecessary repetition.

There are eight Great Balls of Fire games. Each game begins with the presentation of a 3 x 5 array of symbols that may contain one or more winning patterns. If a winning pattern is present, this initiates a sub-game in which a 3 x 3 array of symbols is presented, and the player must move a symbol from the bottom or top row into the middle row to create a winning pattern. That is, this sub-game is the same as the *Nudge* game described earlier. If the player completes the *Nudge* pattern correctly within 5 seconds, then the player wins the prizes corresponding to the winning patterns in the initial 3 x 5 array. If there is no winning pattern in the original 3 x 5 array, or the player wins an amount less than the number of entries played, the player may then play the *Follow Me* game. The visual appearance of this version of the *Follow Me* game is slightly different than the appearance described in the earlier section on *Follow Me*, but the rules of operation are identical. The participant is presented with increasingly longer sequences of colored blocks and must reproduce the sequence, up to a sequence of 14 to win the game. The amount to be won is equal to the original number of entries minus any winnings from the *Nudge* portion of the game. For example, imagine the original amount is 50 entries. If the initial 3 x 5 array reveals no winning patterns, then the *Follow Me* game is worth 50 entries. If the initial 3 x 5 array reveals a winning pattern worth 20 entries, and the player succeeds on the *Nudge* portion of the play, then the *Follow Me* portion is worth 30 entries.

For the analysis of skill and dexterity, it is important to point out that the initial 3 x 5 array is not relevant – the player does not interact with that portion of the play, and that portion of the play does not determine whether the player wins. Rather, the player must succeed in the *Nudge* portion and/or the *Follow Me* portion to win. Consequently, these are the two aspects of

the game that are relevant to our analysis. With respect to skill and dexterity, the analysis of these games is identical to the foregoing analyses. Specifically, the *Nudge* portion has the same reliance on skill and dexterity as described in Section III, the *Follow Me* portion has the same reliance on skill and dexterity as described in Section V, and these analyses are validated by the results of the study described in Section VII.

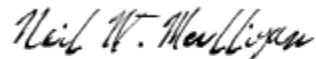
In sum, I conclude that the Great Balls of Fire games rely on skill.

SECTION IX – CONCLUSIONS FOR THE NO LIMIT GAMES SYSTEM

The NLG system (including the Great Balls of Fire games) has two components, the *Nudge* games and the *Follow Me* game. If either component relies on skill or dexterity, then the outcomes for the game system as a whole rely on skill or dexterity. As has been made clear, not just one but both components of the system rely on both skill and dexterity. Finally, the Prize Preview function (Section VI) provides the player with complete control over the game outcomes, such that chance does not play a role in game outcomes.

If you have any questions or require additional information, please feel free to contact me at (919) 644 – 1356.

Sincerely,

A handwritten signature in cursive script that reads "Neil W. Mulligan".

Neil W. Mulligan, PhD

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