

# Phase 1 Cyber & Privileged Access Audit

Audit Services

Issued July 26, 2022

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## Transmittal Letter

July 26, 2022

Pat Davis  
Chief Information Officer and VP, Business Technology  
74 West Seymour Street  
Kamloops, BC V2C 1E2

Dear Mr. Davis:

**Re: Phase 1 - Cyber & Privileged Access Audit**

The attached report provides the results and recommendations from the Cyber & Privileged Access Audit that was performed during April 2022 to May 2022. This is Phase 1 of the planned four-phase audit that will be conducted over the course of FY2022-2023.

The Phase 1 engagement focused on reviewing the levels of privileged access granted to Cyber Security employees in relation to five BCLC corporate systems. The audit also considered opportunities to improve controls, strengthen management oversight and generally improve IT governance where possible.

s 13(1), s 15(1)

We thank the management and staff for their cooperation and assistance during this audit.

Sincerely,  
s 22

Rao Wandawasi,  
Director, Audit Services

cc: Mark Lane, Director, Cyber Security  
Scott Baker, Manager, Information Security

## Introduction

Effective management of privileged access to Information Technology (IT) systems is a key component in the defense against risks related to the theft and exfiltration of information and is a good cybersecurity practice. Accounts with administrator privileges, such as the ability to create new roles or accounts or modify permissions of existing accounts, are normally assigned to designated IT personnel or non-IT superusers.

Privileged accounts are the prime target of cyber criminals because of their ability to create IDs and system accounts, elevate privileges, and access databases. To prevent inappropriate creation of access to these privileged accounts, many organizations implement a privileged account management tool or system to facilitate provisioning, administration, monitoring, and enforcement.

In BCLC, the Cyber Security Department staff are sometimes granted with higher-level access privileges to carry out investigations and incidents on a temporary basis. This increased level of access privileges should be closely monitored, reversed when required work is completed and restricted to the level needed to perform Cyber Department's daily activities. This four-phase audit engagement was initiated to review the user privileged access to various corporate, eGaming (PlayNow), Casino, and Lottery systems, and to assess whether Cyber Security Department staff's privileged access is appropriate.

## Statement of Scope and Objectives

Due to the substantial size of the overarching engagement, we have designed the audit to be carried out in four phases over the course of FY2022-2023:

- **Phase 1 – Corporate systems (current/Q1)**
- Phase 2 – eGaming (PlayNow) systems (planned for Q2)
- Phase 3 – Casino systems (planned for Q2)
- Phase 4 – Lottery systems (planned for Q2)

The objectives of the Phase 1 – Corporate systems Privileged Access audit were to:

- provide assurance that BCLC's Cyber Security department has adequate and effective controls for the management of privileged access to **s 15(1)** (collectively, Corporate Systems), and that these controls are operating effectively,
- verify that Cyber Security employees have the appropriate level of privileged access to Corporate Systems that is necessary to perform their day-to-day work,
- confirm that management is periodically reviewing users that have been granted privileged access to Corporate Systems and addressing access issues where required,
- validate that the passwords of service accounts are maintained in a secure location, periodically changed and only accessible to appropriate users, and
- ensure there are process and controls in place to log, monitor and escalate security events.

## Statement of Methodology

To complete the audit the following methods were used:

- reviewing supporting materials and artifacts, including policy and process documentation,
- conducting interviews with key personnel within the Business Technology division,
- performing process walk throughs, testing, and analytical reviews, and
- identifying and recommending opportunities for enhancements for the control environment.

## Statement of Audit Standards

We conducted our audit in accordance with professional standards issued by the Institute of Internal Auditors. These standards require that we plan and perform the audit to afford a reasonable basis for our judgments and conclusions regarding the organization, program, activity, or function under audit. An audit also includes assessments of applicable internal controls and compliance with requirements of laws, rules, and regulations when necessary to satisfy the audit objectives. We believe that our audit provides a reasonable basis for our conclusions.

## Personnel Changes in Key Control Areas

BCLC's Audit Committee has requested that Audit Services include information about personnel changes to key control areas during all engagements related to BCLC's core functions. Personnel changes can impact the control environment, effectiveness of key controls, and institutional knowledge. During this engagement, we discussed personnel changes, retirements, and revisions to roles with management. During FY2021-2022, one employee left the Cyber Security department in February 2022; Cyber Security management advised that sufficient controls and processes were in place to transfer role responsibilities to other members of the department, and to ensure continuous service delivery and appropriate offboarding process. Audit Services corroborated management's statement by verifying that this personnel's access rights to Active Directory and the five corporate systems in scope for this audit were all removed.

## Audit Conclusions

As a result of our work, we conclude that the following controls are in place:

- upon examining the privileged access listings to all five (5) Corporate systems in scope, we found that privileged access was not granted to any of the Cyber Security staff at the time of testing, which was a good practice according to the Principle of Least Privilege where minimum level of access or permissions were given to the users to perform their job functions,
- passwords of Service Accounts used by the Cyber Security staff are maintained in a secure and centralized location and are only accessible to the Cyber Security staff, and
- process and controls are in place to log, monitor and escalate security alerts.

However, we also have three (3) findings that we recommend management to take actions to strengthen the control environment. Details of these findings, our recommendations and management responses are set out in the Key Issues and Recommendations section of this report.

s 13(1), s 15(1)

## Key Issues and Recommendations


Following are the most significant issues that we identified during our work along with associated recommendations to address these issues. To assist management in prioritizing action plans in response to our recommendations, we have categorized each issue based on the following criteria:

- High – Issue should be addressed and resolved immediately.
- Moderate – Issue requires management attention and should be addressed and resolved within a reasonable time period.
- Low – Issue is of lesser significance that is administrative in nature. Any low-risk findings have been discussed with management and therefore excluded from the report.

These rating levels are measured in the context of this audit and its objectives and does not reflect BCLC's risk criteria. Audit Services commits to conducting follow-up audits on all significant findings within a six-month period from the date this audit report is issued.

s 13(1), s 15(1)





s 13(1), s 15(1)

## Acknowledgements

We wish to thank management and staff for their participation, assistance, and cooperation during this review. Audit Services received full access to all resources and information required to complete this review.



# Prize Payout Review Process

Audit Services

September 7, 2022

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## Transmittal Letter

September 7, 2022

Peter ter Weeme  
Chief Social Purpose Officer and VP, Player Experience  
74 Seymour Street West  
Kamloops, BC V2C 1E2

Dear Mr. Peter ter Weeme:

**Re: Prize Payout Review Process**

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Attached is Audit Services' report on the Prize Payout Review Process completed on March 10, 2022.

Based on our review, no findings were noted.

We thank the management and staff for their cooperation and assistance during this engagement.

Sincerely,  
s 22

Rao Wandawasi  
Director, Audit Services

cc: Martin Lampman, Director, Customer Support Operations  
Kristin Galan, Manager, Customer Support Centre Accounts

## Introduction

BCLC's Player Services is responsible for processing and paying lottery prize claims. In December 2020, BCLC's Customer Support team began performing regular reviews of prize claims against Prize Payout Policy and Procedures. Audit Services assessed the review process employed by Customer Support and tested samples of Prize Claims Accuracy Evaluation Forms (PCAEF). No exceptions were noted during our review; however, Management requested Audit Services conduct another review of prize claims reviewed by Customer Support in FY2021-2022.

## Statement of Objectives

The objective of this engagement was to provide reasonable assurance that Customer Support's review process for prize claims is effective.

## Statement of Scope

Our scope included sample of prize claims with related PCAEF for the period November 1, 2021, to January 15, 2022.

## Statement of Methodology

The engagement is based on the premise that management is responsible for identifying its business risks and managing them by designing and maintaining a system of internal controls that mitigates these risks. The role of the auditor is to assess these management controls and determine whether they are adequate and effective.

This review is expected to include the following key processes:

- interviews and inquiry, and
- perform selected testing on transactions/activities.

## Statement of Audit Standards

We conducted our engagements in accordance with professional standards issued by the Institute of Internal Auditors. Those standards require that we plan and perform the audit to afford a reasonable basis for our judgments and conclusions regarding the organization, program, activity or function under audit. An audit also includes assessments of applicable internal controls and compliance with requirements of laws, rules and regulations when necessary to satisfy the audit objectives. We believe that our audit provides a reasonable basis for our conclusions.

## Audit Conclusions

Customer Support completed a total of 602 PCAEF during the November 1, 2021, to January 15, 2022 period. Audit Services reviewed 62 (10%) of the evaluations completed together with related Prize Claims and noted no exceptions in the review process.

## Acknowledgements

We wish to thank management and staff for their participation, assistance and cooperation during this review. Audit Services received full access to all resources and information required to complete this review.

# Encore Rewards on PlayNow

Audit Services

September 07, 2022

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## Transmittal Letter

September 07, 2022

Peter ter Weeme  
Chief Social Purpose Officer and VP, Player Experience  
74 Seymour Street West  
Kamloops, BC V2C 1E2

Dear Mr. Peter ter Weeme:

**Re: Encore Rewards on PlayNow**

Attached is Audit Services' report on the Encore Rewards on PlayNow, which entailed reviewing the relevant processes to ensure the control environment is adequate and effective.

The results of our review, completed June 20, 2022, indicate that the control environment is adequate and effective.

We thank the management and staff for their cooperation and assistance during this engagement.

Sincerely,  
s 22

Rao Wandawasi  
Director, Audit Services

cc: Emily McDonald, Director, Marketing, CRM and Loyalty  
Jessica Hope-Ross, Manager, Player Loyalty  
Farouk Zaba, Director Corporate Finance  
Wendy Epp, Senior Manager, Financial Operations

## Introduction

As an oversight function and in support of our Annual Audit Plan for FY2021-2022, Audit Services performed an audit on the adequacy of the control environment pertaining to Encore Rewards on PlayNow.

Casino players can earn points from their PlayNow bets by linking their encore card numbers to their PlayNow account. Points are calculated and rewarded based on the dollar value of bets made and based on what games are played. The points earned from PlayNow can be redeemed at Casinos for slot, e-table, and table games or on PlayNow for slot and instant games which started on May 11, 2022.

## Statement of Scope and Objectives

The scope of this engagement included the assessment of the Encore Rewards process on PlayNow, and the review of sample points earned and redeemed between September 14, 2021 and June 2, 2022.

The objectives of this engagement were to determine whether the:

- controls around rewarding and redeeming encore points are adequate, and
- points are rewarded based on player's actual bet or play.

## Statement of Methodology

The engagement is based on the premise that management is responsible for identifying its business risks and managing them by designing and maintaining a system of internal controls that mitigates these risks. The role of the auditor is to assess these management controls and determine whether they are adequate and effective.

This review involved:

- performing interviews with key stakeholders and making inquiries as required,
- reviewing documents such as processes and procedures,
- developing a process flow to identify potential areas of risk for mitigation,
- identifying areas for potential improvement, and
- performing selected testing on transactions/activities.

## Statement of Audit Standards

We conduct our engagements in accordance with professional standards issued by the Institute of Internal Auditors. These standards require that we plan and perform the audit to afford a reasonable basis for our judgments and conclusions regarding the organization, program, activity, or function under audit. An audit also includes assessments of applicable internal controls and compliance with requirements of laws, rules, and regulations when necessary to satisfy the audit objectives. We believe that our audit provides a reasonable basis for our conclusions.

## Conclusions

The results of our review indicate that the control environment is adequate and effective. There were no improvement opportunities identified during the review.

## Acknowledgements

We wish to thank management and staff for their participation, assistance, and cooperation during this review. Audit Services received full access to all resources and information required to complete this engagement.



# Transmittal Letter

September 7, 2022

Peter ter Weeme  
Chief Social Purpose Officer and VP, Player Experience  
2940 Virtual Way  
Vancouver, BC V5M 0A6

Dear Mr. Peter ter Weeme:

**Re: GameSense Performance Assessment – Playtime Kelowna Casino**

Attached are the results of the GameSense Performance Assessment conducted by Audit Services that occurred on June 21, 2022, at Playtime Kelowna Casino.

The focus of the audit was to test certain elements of both locational and GameSense Advisor (GSA) criteria, as set out in this report. The testing elements are determined by whether the GSA is onsite or not. For this audit, the GSA was not onsite, therefore only locational criteria were assessed. The audit found no issues and all testing criteria were met.

During FY2021-2022, Audit Services introduced a new and streamlined process (Report Card) to communicate potential or actual issues identified during the audit to all interested stakeholders. Audit Services plans to conduct additional GSA Performance Assessments throughout FY2022-2023.

We thank the management and staff of the Player Health department for their cooperation and assistance during this audit.

Sincerely,

s 22

Rao Wandawasi  
Director, Audit Services

cc: Tamara Morgan, Interim Director, Player Health

# Report Card

## GSA Location Assessment

### SUMMARY FOR PLAYTIME KELOWNA CASINO:

#### Report Parameters:

Performed on: June 21, 2022

Performed by: Matt Froh, Senior Internal Auditor

#### Testing Summary:

GameSense kiosk at the casino meets the furnishing requirements	✓
GameSense kiosk is stocked with appropriate materials	✓
GameSense kiosk is easy to locate within casino property	✓
All available QR (quick response) codes are functioning as expected	✓
GSA availability schedule easy to locate for patrons	✓
<i>If GSA on shift during the audit period:</i>	
GSA is within close proximity of the GameSense Information Center (GSIC) and/or is easy to locate	N/A
GSA is easy to identify and is fitted with clothing that distinguishes them from other casino gaming staff	N/A
GSA appeared available and approachable	N/A

#### Testing Notes:

Personal items and storage bins are located underneath the GSA's desk.

#### Follow-up:

Not required	Required
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# Transmittal Letter

September 7, 2022

Peter ter Weeme  
Chief Social Purpose Officer and VP, Player Experience  
2940 Virtual Way  
Vancouver, BC V5M 0A6

Dear Mr. Peter ter Weeme:

**Re: GameSense Performance Assessment – Lake City Casino Vernon**

Attached are the results of the GameSense Performance Assessment conducted by Audit Services that occurred on June 22, 2022 at Lake City Casino Vernon.

The focus of the audit was to test certain elements of both locational and GameSense Advisor (GSA) criteria, as set out in this report. The testing elements are determined by whether the GSA is onsite or not. For this audit, the GSA was not onsite, therefore only locational criteria were assessed. The audit found no issues and all testing criteria were met.

During FY2021-2022, Audit Services introduced a new and streamlined process (Report Card) to communicate potential or actual issues identified during the audit to all interested stakeholders. Audit Services plans to conduct additional GSA Performance Assessments throughout FY2022-2023.

We thank the management and staff of the Player Health department for their cooperation and assistance during this audit.

Sincerely,

s 22

Rao Wandawasi  
Director, Audit Services

cc: Tamara Morgan, Interim Director, Player Health

# Report Card

## GSA Location Assessment






### SUMMARY FOR LAKE CITY CASINO VERNON:

#### Report Parameters:

Performed on: June 22, 2022

Performed by: Matt Froh, Senior Internal Auditor

#### Testing Summary:

GameSense kiosk at the casino meets the furnishing requirements	
GameSense kiosk is stocked with appropriate materials	
GameSense kiosk is easy to locate within casino property	
All available QR (quick response) codes are functioning as expected	
GSA availability schedule easy to locate for patrons	
<i>If GSA on shift during the audit period:</i>	
GSA is within close proximity of the GameSense Information Center (GSIC) and/or is easy to locate	N/A
GSA is easy to identify and is fitted with clothing that distinguishes them from other casino gaming staff	N/A
GSA appeared available and approachable	N/A

#### Testing Notes:

N/A

#### Follow-up:

Not required	Required
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# Return to Player Settings Audit – Q1 Playtime Casino Kelowna

Audit Services

Issued September 12, 2022

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## Transmittal Letter

September 12, 2022

Dan Beebe  
Chief Operating Officer  
2940 Virtual Way  
Vancouver, BC V5M 0A6

Dear Mr. Beebe:

**Re: Return to Player (RTP) Settings Audit – Playtime Casino Kelowna**

Attached is the Audit Services' report on the RTP setting testing that took place at Playtime Casino Kelowna on June 21, 2022. The scope of our audit focused specifically on the RTP settings of 199 of the 431 slot machines located on the gaming floor at Playtime Casino Kelowna.

The result of our audit concludes that there was one exception noted with the 199 slot machines tested.

We thank the management and staff of the Playtime Casino Kelowna for their cooperation and assistance during this audit.

Sincerely,  
s 22

Rao Wandawasi  
Director, Audit Services

cc: Tom Maryschak, Interim Director, Casino Operations  
Kevin Sweeney, Director, Enterprise Security and Compliance  
Brett Lawrence, Regional Manager, Operations  
Richard Frater, Manager, Business Operations

## Introduction

Audit Services has allocated resources in its FY2022-2023 Annual Audit Plan (AAP) for engagements related to RTP audits, which focusses on providing assurance that the RTP settings in slot machines located in Casino and Community Gaming Centres (collectively, Casinos) across the province are accurate. RTP means the percentage of all the wagered money a slot machine will pay back to players over a given period.

## Statement of Objectives

The objective of this engagement was to test the RTP settings of 199 randomly selected slot machines located at Playtime Casino Kelowna on June 21, 2022.

## Statement of Scope

This audit is one of the four RTP engagements scheduled to occur during the fiscal quarter. The scope of these engagements is limited to reviewing slot machine RTP settings at select Casinos across the province.

## Statement of Methodology

Our methodology and approach included:

- selecting a sample of slot machines to test based on the size of the facility (population size of 431 machines yielded a selected sample of 50% of total machines),
- testing the RTP settings of randomly selected slot machines by verifying their accuracy against the information contained in the casino database, which is considered the master data,
- performing additional testing in the event that there are discrepancies found in the information contained in the master data and RTP setting. This would encompass comparing the master data to the probability accounting reports (PAR) or RTP change communication, which would confirm the proper RTP setting, and
- identifying process weaknesses, risks, and controls.

## Statement of Audit Standards

We conducted our audit in accordance with professional standards issued by the Institute of Internal Auditors. These standards require that we plan and perform the audit to afford a reasonable basis for our judgments and conclusions regarding the organization, program, activity or function under audit. An audit also includes assessments of applicable internal controls and compliance with requirements of laws, rules and regulations when necessary to satisfy the audit objectives. We believe that our audit provides a reasonable basis for our conclusions.

## Personnel Changes in Key Control Areas

BCLC's Audit Committee has requested that Audit Services include information about personnel changes and vacancies to key control areas during audit engagements. Personnel changes and vacancies can impact the control environment, control effectiveness, and institutional knowledge. The BCLC staffing at Playtime Casino Kelowna is comprised of one Manager Business Operations, one Senior Technician and two Site Technicians. We note that there has been no BCLC staff changes during the last fiscal quarter.



## Conclusion

Audit Services found one (1) exception in the 199 machines tested on June 21, 2022. The root cause of this error was a manual variance between the required variation per the payable and the designated variation on the physical machine settings. The Senior Technician on site corrected the setting immediately, and we validated the remediation.

## Acknowledgements

We wish to thank management and staff for their participation, assistance, and cooperation during this audit. Audit Services was given full access to all resources and information required to complete this audit.

# Return to Player Settings Audit – Q1 Lake City Casino Vernon

Audit Services

Issued September 12, 2022

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## Transmittal Letter

September 12, 2022

Dan Beebe  
Chief Operating Officer  
2940 Virtual Way  
Vancouver, BC V5M 0A6

Dear Mr. Beebe:

**Re: Return to Player (RTP) Settings Audit – Lake City Casino Vernon**

Attached is the Audit Services' report on the RTP setting testing that took place at Lake City Casino Vernon on June 22, 2022. The scope of our audit focused specifically on the RTP settings of 181 of the 396 slot machines located on the gaming floor at Lake City Casino Vernon.

The results of our audit conclude that there were three (3) exceptions noted with the 181 slot machines tested.

We thank the management and staff of the Lake City Casino Vernon for their cooperation and assistance during this audit.

Sincerely,

s 22

Rao Wandawasi  
Director, Audit Services

cc: Tom Maryschak, Interim Director, Casino Operations  
Kevin Sweeney, Director, Enterprise Security and Compliance  
Brett Lawrence, Regional Manager, Operations  
Richard Frater, Manager, Business Operations

## Introduction

Audit Services has allocated resources in its FY2022-2023 Annual Audit Plan (AAP) for engagements related to RTP audits, which focusses on providing assurance that the RTP settings in slot machines located in Casino and Community Gaming Centres (collectively, Casinos) across the province are accurate. RTP means the percentage of all the wagered money a slot machine will pay back to players over a given period.

## Statement of Objectives

The objective of this engagement was to test the RTP settings of 181 randomly selected slot machines located at Lake City Casino Vernon on June 22, 2022.

## Statement of Scope

This audit is one of the four RTP engagements scheduled to occur during the fiscal quarter. The scope of these engagements is limited to reviewing slot machine RTP settings at select Casinos across the province.

## Statement of Methodology

Our methodology and approach included:

- selecting a sample of slot machines to test based on the size of the facility (population size of 396 machines yielded a selected sample of 50% of total machines),
- testing the RTP settings of randomly selected slot machines by verifying their accuracy against the information contained in the casino database, which is considered the master data,
- performing additional testing in the event that there are discrepancies found in the information contained in the master data and RTP setting. This would encompass comparing the master data to the probability accounting reports (PAR) or RTP change communication, which would confirm the proper RTP setting, and
- identifying process weaknesses, risks, and controls.

## Statement of Audit Standards

We conducted our audit in accordance with professional standards issued by the Institute of Internal Auditors. These standards require that we plan and perform the audit to afford a reasonable basis for our judgments and conclusions regarding the organization, program, activity or function under audit. An audit also includes assessments of applicable internal controls and compliance with requirements of laws, rules and regulations when necessary to satisfy the audit objectives. We believe that our audit provides a reasonable basis for our conclusions.

## Personnel Changes in Key Control Areas

BCLC's Audit Committee has requested that Audit Services include information about personnel changes and vacancies to key control areas during audit engagements. Personnel changes and vacancies can impact the control environment, control effectiveness, and institutional knowledge. The BCLC staffing at Lake City Casino Vernon is comprised of one Manager Business Operations, one Senior Technician, and two Site Technicians. We note that there has been no BCLC staff changes during the last fiscal quarter.

## Conclusion

Audit Services found three (3) exceptions in the 181 machines tested on June 22, 2022. The root cause of these errors was a manual variance between the required payable ID and the designated payable IDs on the physical machine settings. The Senior Technician on site corrected the settings immediately, and we validated the remediation.

## Acknowledgements

We wish to thank management and staff for their participation, assistance, and cooperation during this audit. Audit Services was given full access to all resources and information required to complete this audit.