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To: J. Winston Krause, Chairman
Carmen Arrieta-Candelaria, Commissioner
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Doug Lowe, Commissioner
Robert Rivera, Commissioner

From: Mike Fernandez, Administration Division Director *MKT*

Date: December 1, 2016

Re: Report, possible discussion and/or action on the biennial security study of the lottery

Texas Government Code §§ 466.020(e)-(f) states:

(e) At least once every two years, the executive director shall employ an independent firm that is experienced in security, including computer security and systems security, to conduct a comprehensive study of all aspects of lottery security, including:

- (1) lottery personnel security;
- (2) sales agent security;
- (3) lottery operator and vendor security;
- (4) security against ticket counterfeiting and alteration and other means of fraudulent winning;
- (5) security of lottery drawings;
- (6) lottery computer, data communications, database, and systems security;
- (7) lottery premises and warehouse security;
- (8) security of distribution of tickets;
- (9) security of validation and payment procedures;
- (10) security involving unclaimed prizes;
- (11) security aspects of each lottery game;
- (12) security against the deliberate placement of winning tickets in lottery games that involve preprinted winning tickets by persons involved in the production, storage, transportation, or distribution of tickets; and
- (13) other security aspects of lottery operations.

(f) The executive director shall provide the commission with a complete report of the security study conducted under Subsection (e). The commission shall provide the governor and the legislature, before the convening of each regular legislative session, with a summary of the security study that shows the overall evaluation of the lottery's security.

The 2016 Security Study was conducted by Barry Dunn and an overview of the study will be presented to the Commissioners.



Lottery Security Study

Public Report



October 24, 2016

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EXECUTIVE SUMMARY

Introduction

The Executive Director of the Texas Lottery (Lottery or Agency) is responsible for employing an independent firm to conduct a comprehensive Study of all aspects of Lottery security at least once every two years in accordance with the State Lottery Act, Texas Government Code Chapter 466, specifically §§ 466.020(e). The State Lottery Act identifies 12 specific aspects of security to be included in the Study along with other security aspects based on risk. This Study covers fiscal years 2015 and 2016 (specifically, September 1, 2014 – August 31, 2016).

BerryDunn was engaged to perform a Security Study Risk Assessment and subsequent Study of controls that mitigate significant Lottery security-related risks. The results of the Risk Assessment (Phase II) provided input for determining where to focus our efforts in evaluating controls that help mitigate significant risks to the achievement of the Lottery's objectives (Phase III).

Our Risk Assessment identified 194 controls which were reviewed during our Phase III Assessment. The identified controls are the core of the Lottery's mission of incorporating the highest security and integrity standards into its products and operations and demonstrates the Lottery's commitment to reducing risks through an established and mature control environment.

Our Phase III Assessment was completed through interviews with key stakeholders at the Lottery and their critical vendors, observation of controls, systems, and Lottery operations, and detailed inspection of documentation, system configurations, and evidence of the completion of controls throughout the audit period.

Overall, the Lottery has an excellent security posture and experienced, well-trained staff managing the security program and key business processes. Lottery claims processing, ticket warehousing and distribution, retailer services, security, compliance, consumer protection activities, and draw management are mature operations supported by strong leadership; comprehensive and detailed policies and procedures; segregation of duties; and control monitoring activities. In addition, Lottery, IGT Global Solutions Corporation (IGT), and Elsym systems are designed and operating to greatly reduce the likelihood of fraudulent winning.

APPROACH

The goal of the Security Study is to help the Commission ensure the security and integrity of all Lottery games and agency operations. This Security Study involves, but is not limited to, the Commission, the Lottery's gaming system operator IGT, the Lottery's scratch ticket manufacturers (IGT, Pollard and Scientific Games International), and other prime services contracts/vendors of the Lottery as needed. In accordance with the State Lottery Act, Texas Government Code Chapter 466, specifically §§ 466.020(e), the Study shall include:

- a. Lottery personnel security
- b. Sales agent security
- c. Lottery operator and vendor security
- d. Security against ticket counterfeiting and alteration and other means of fraudulent winning
- e. Security of lottery drawings
- f. Lottery computer, data communications, database, and systems security
- g. Lottery premises and warehouse security
- h. Security of distribution of tickets
- i. Security of ticket validation and payment procedures
- j. Security involving unclaimed prizes
- k. Security aspects of each lottery game
- l. Security against the deliberate placement of winning tickets in lottery games that involve preprinted winning tickets by persons involved in the production, storage, transportation, or distribution of tickets
- m. Other security aspects of lottery operations

Project Approach Overview

Our approach was developed based on our understanding of the Texas Lottery's specific requirements, extensive experience in the lottery industry, knowledge of risk management and IT governance standards, and long history of successful IT control and security evaluations. Our approach was broken down into four phases, which are presented below.

LOTTERY SECURITY STUDY SERVICES

Texas Lottery Commission



The objective of this engagement is to perform a comprehensive review and security evaluation of the Lottery in accordance with the State Lottery Act, Texas Government Code Chapter 466, specifically §§ 466.020(e)-(f) and Texas Administrative Code, Title 1, Part 10, Chapter 202.

Maintaining the public's trust and providing quality customer service is critical to the Lottery's mission. To help achieve that goal, BerryDunn's Security Assessment Approach is presented below.



Phase I: Planning

BerryDunn met with the Lottery's Project Sponsor and confirmed the Security Study scope and timing, established project milestones, discussed expectations and assigned responsibilities in a planning meeting with the Lottery executive team on June 2, 2016. In addition, we identified status reporting requirements, identified key stakeholders, and developed an initial schedule of interviews and discussions.

Phase II: Risk Assessment

The Risk Assessment Phase incorporated a review of the Lottery's risk environment as well as identification of controls that mitigate the risks identified. The risks and controls "discovered" during this phase provided the foundation for a more comprehensive review of mitigating controls performed in Phase III of this Study. During the course of this phase of the project, BerryDunn performed the following:

- Inspected and assessed documentation including: policies and procedures, process documentation, prior reports and third party reviews
- Reviewed documentation evidence to confirm the existence of controls to mitigate Lottery risks ("test of one" to determine that the control was in place)
- Observed key processes and operations
- Performed inquiry of key personnel to enhance our understanding of Lottery processes
- Periodically met with Lottery Executive management to provide progress updates and communicate project status.

Assessment reports we considered included:

- Service Organization Controls (SOC) 1 and 2 reports for Lottery vendors
- ISO 270001 Certification Report for a Lottery vendor
- Quarterly Lottery vendor Contract Compliance Reports
- Internal Audit Reports on various topics

Phase III: Security Study Assessment

Based on the results of Phases I and II, BerryDunn performed a Study of Security and Controls. During the course of this phase, the following activities were performed:

- Inspected and assessed documentation including: security policies and procedures, process documentation, prior reports, and third party reviews
- Performed inquiry of key personnel to enhance understanding of Texas Lottery processes
- Observed key processes and operations
- Randomly selected and inspected representative samples to confirm the existence of controls to mitigate Texas Lottery risks
- Assessed processes and controls associated with the Texas Lottery's personal, sensitive, and confidential data and information resources identified during the risk assessment
- Communicated concerns to the assigned Project Manager as they were identified, and performed additional analysis as required
- Periodically met with Division management to provide progress updates and communicate preliminary findings

We identified 194 controls that we evaluated based on the assigned risk rankings. Testing procedures included inquiry with key stakeholders, observation of controls in place, inspection of documentation and configurations, and performance of transactions within test systems.

We identified opportunities for improvement and provided recommendations to the Lottery to further enhance the strong security environment of the agency. The basis for our identified opportunities for improvement and the related recommendations include:

- Our experience within the Lottery industry. In the past five years we have worked with over 20 state lotteries.
- Government Code Chapter 466, State Lottery Act
- Texas Administrative Code Chapter 202 (TAC 202)
- Multi-State Lottery Association (MUSL) Security Rule 2
- World Lottery Association (WLA) Security Control Standard (WLA-SCS:2012)

OPPORTUNITIES FOR IMPROVEMENT AND RECOMMENDATIONS

Overall, the Lottery has an excellent security posture and experienced, well-trained staff managing the security program and key business processes. Lottery operations are mature and supported by comprehensive and detailed policies, procedures, segregation of duties, and internal controls. Lottery and vendor systems are designed and operating to greatly reduce the likelihood of fraudulent winning.

No findings were identified that in our opinion would materially impact the accuracy, fairness, security or integrity of the Lottery's operations or gaming services. We note that management already had plans to address certain findings in our report through additional training and education, system upgrades, or system replacements.




Strengths Observed

In assessing the Lottery's security processes in detail as part of the Phase III Study, we identified the following overall security process strengths including, but not limited to the following:

- Well established and mature control environment
- Compliance Programs
- Consumer Protection controls
- Internal Audit Programs
- Contract Compliance of the central gaming system provider
- Focused and experienced Security Department
- Focused and experienced Enforcement Department
- Independent Auditing of 100% of Lottery draws

Scoring

Our opportunities for improvement are classified by a high, medium, and low risk ranking to provide the Lottery with the ability to prioritize opportunities (see below for key). In addition to noting opportunities for improvement, we have provided recommended remediation actions the Lottery may consider.

Risk	Description
 High	High – Represents a significant security risk or non-compliance with a regulatory requirement or law. High risk areas require immediate management attention.
 Medium	Medium – Represents a security improvement or issue that may pose a moderate risk to the Lottery. Medium risks should be addressed within six months.
 Low	Low – Represents a process or best-practice improvement. Low risk areas can be addressed within one year.

Our assessment identified a total of 24 opportunities for improvement. Of the 13 areas of assessment, opportunities for improvement were noted in the following areas:

- Lottery operator and vendor security
- Security of Lottery drawings
- Lottery computer, data communications, database, and systems security
- Lottery premises and warehouse security
- Security of ticket validation and payment procedures
- Security aspects of each Lottery game
- Security of Texas Lottery and linked websites

We identified a total of 3 high risk, 5 moderate risk, and 16 low risk opportunities for improvement. A detailed report with the specific opportunities for improvement and associated recommendations was provided to the Lottery Executive Team.