



January 26, 2018

Kip Memmott, Director
Secretary of State, Audits Division
255 Capitol St. NE, Suite 500
Salem, OR 97310

Dear Mr. Memmott,

This letter provides a written response to the Audit Division's final draft audit report titled "Oregon Liquor Control Commission: Cannabis Information Systems Properly Functioning but Monitoring and Security Enhancements are Needed."

The Oregon Liquor Control Commission (OLCC) appreciates the professional work of the Oregon Secretary of State's Office Audits Division (SOS Audit Division) and generally agrees with the recommendations.

The technology recommendations of the SOS Audit Division fall into two distinct categories: 1) Security and Functional Recommendations Concerning the Marijuana Licensing System (MLS) and Cannabis Tracking System (CTS); and, 2) Overall IT Security and Disaster Recovery Recommendations.

The OLCC will highlight the order of its most important technology priorities related to audit recommendations through a general response. The response will provide the necessary public safety context as it relates to the audit recommendations about the marijuana program. Last, the agency will detail actions specific to the marijuana program IT recommendations and then those related to overall IT security and disaster recovery.

General Response: Urgent Operational and IT Security Action Items

The agency is actively following up on all aspects of the audit and will be seeking budget limitation authority to move forward on the technology issues listed below during the 2018 Legislative Session. *These priorities for the OLCC are connected to the agency's immediate security improvement and urgent operational needs.*

1. **Evolving IT Management Expertise and Capacity:** The OLCC lacks the capacity for high-level IT planning and solutions implementation and needs to build internal expertise by hiring a Chief Information Officer (CIO). Execution of IT security remedies is but one important example underscoring the need for increased management oversight and expertise. Generally, the OLCC has antiquated IT systems throughout its operations and the need to modernize and create an overarching architecture integrating industry standard platforms for doing business has been



management's consistent priority since the agency's strategic plan which was created in 2015. The OLCC is managing four major IT projects; all started within the last two-and-half years. The OLCC recently hired a new IT program manager to continue daily operations. The OLCC continues to pursue legislative approval for a new position to hire a CIO to provide strategic leadership and address system-wide IT needs. This key position is related to specific findings of the SOS Audit recommendations concerning overall security management and to recommendations to improve oversight for managing marijuana program vendors. *Completion: 2nd quarter 2018.*

2. **Replacing Old Unsupported Servers and Switches:** The agency's antiquated servers and the lack of technical support of old switches by the manufacturer is a mission-critical issue. Like many businesses, the OLCC was waiting for product improvement solutions from the manufacturer that have not materialized; specifically the manufacturer has not upgraded switching capabilities or provided for the ability to integrate third-party solutions. The agency is requesting limitation from the 2018 Legislative Session to replace server and switching technology. This action specifically responds to the SOS Audit Division finding and recommendations that, "Servers and workstations are operating on unsupported platforms." The OLCC will seek \$400,000 in limitation to address this issue. *Completion: 3rd quarter 2018.*
3. **Proving Near-Term Redundancy for Disaster Recovery:** The OLCC intends to take immediate steps to establish a backup hot site for critical computer systems and has secured approval from Oregon's Chief Information Officer's Office to install fiber optic line connecting two OLCC warehouses that are within a half-mile of each other. This will establish near-term redundancy within the 2018 calendar year. The OLCC can achieve this objective if limitation is approved for new switches and servers. This project works in tandem with the server and switch replacement because it is dependent on the efficient redeployment and reuse of old servers (Item 2. above). Over the long-term, the fiber optic connection will not only serve the hot site, it will add value by extending enhanced interoperability between warehouses. The multiple benefits of this immediate action will enable OLCC to evaluate future options for geographically distributed redundancy. This is an immediate and urgent issue because weather and electrical events threatened operations of the liquor warehouse on multiple occasions last year. Because the OLCC ships out liquor daily with a retail value of \$2.2 million, recovery and redundancy of computer systems is critically important for continuity of operations. The SOS audit specifically identifies taking the step of establishing a warm-site. *Completion: 3rd quarter 2018.*
4. **Expanding IT Capabilities for Marijuana Program Management: Near Term Work and Making Choices about Vendor Contracting:** The OLCC is concerned about future provider services for licensing and for absorbing tracking responsibility for medical grow sites, processors, and dispensaries in the Cannabis Tracking System. The agency believes its Software as a Service (SaaS) providers have produced timely and quality services to date. Vendors have been flexible in working with the agency to establish and reset development priorities. The OLCC must now determine how to evolve licensing system capabilities and define the options it has for future systems

development. The agency believes this requires building additional internal capacity and expertise to plan, negotiate and provide oversight for the deployment of more robust IT systems. Additionally, the agency must establish contractual requirements and work expectations with its vendor to extend capabilities to track medical registrants in the Cannabis Tracking System (CTS) by June 31, 2018. This body of IT work directly addresses audit findings and recommendations, and it provides a focus for immediately improving system security issues and oversight; it is specifically related to the audit recommendations to improve vendor management. The ability of OLCC to do this will be aided by the approval to hire a CIO (Item 1. above).
Completion: 2nd quarter 2018.

The OLCC must immediately manage the following four areas of urgent concern and the audit reinforces the need for timely action. To achieve success in these areas, OLCC must secure budget limitation authority and meet many required administrative approvals for purchasing and technology system development.

Response: Security and Functional Recommendations Concerning the Marijuana Licensing System (MLS) and Cannabis Tracking System (CTS)

The OLCC generally agrees with all recommendations and is complimentary of the SOS auditors for their input to a program for what overall, has been a successful launch of the recreational (medical) cannabis industry in Oregon.

Marijuana Regulation is a start-up business for the state: The regulation of marijuana is essentially a new business start-up and the OLCC has been as entrepreneurial as possible to deal with the unique challenges of standing up this regulatory enterprise. OLCC staff has had to focus on solving multiple issues in time to meet critical statutory deadlines.

Since voter approval in 2014 of Ballot Measure 91, three sessions of the legislature produced comprehensive legislative changes with substantial policy and system details. The rapid implementation of marijuana IT systems — within an ever changing legal environment — has been challenging. Consequently, the OLCC and its vendors focused on the delivery of required changes in programming to meet the fundamental requirements of the law, and regulations codified in newly adopted statutes. While the OLCC never missed a major operational deadline, the process led to rapid acceptance of completed development work and deferral of important analytical software development. Now that a developed legal framework and additional changes by Oregon lawmakers are expected to be less encompassing, the OLCC can revisit security issues raised by the audit, as well as other operational issues with its system vendors.

Marijuana IT system costs are financed through fees licensing the industry and do not utilize State General Funds in their development or operation. At this time, it appears the financial structure in place is sustainable and the OLCC will be able to refine and redevelop systems based on the knowledge and experience gained during the initial program implementation, along with the recommendations of this audit.

The Marijuana Licensing System (MLS) and the Cannabis Tracking System (CTS) are delivering results: In this unique area of endeavor, without blueprints or a playbook, the current condition of OLCC's IT systems related to marijuana can be characterized as, "state-of-the-art imperfection." The audit confirms several shortcomings of the systems, all of which require fixing, and all of which will help to perfect the quality of the program and IT security. *While the audit has identified several important issues, those issues do not suggest that the functioning of the IT systems compromise OLCC's ability to provide for public safety oversight of the marijuana industry through its use.* The audit does make recommendations that would improve the IT systems' effectiveness.

Many of the issues identified in the audit were well known to OLCC, however the work accomplished by vendors and the OLCC has created a strong knowledge base, a solid framework to build upon with IT systems that provide a greater degree of accountability and licensee oversight. Because of the major commitment of staff time, these IT systems have served the state well and at a moderate expense.

The marijuana license system has been utilized to license about 2,000 marijuana business that are forecasted to generate, by the end of the current biennium, a total of about \$210 million dollars in tax revenue to be used for state and county services. Annual retail marijuana sales now exceed \$500 million dollars.

The Cannabis Tracking System (CTS) has identified thousands of discrepancies, small and large, that have led to investigations, administrative charges, and warnings or sanctions.

Licensees that fail to accurately record data do so at the jeopardy of losing their licenses and other sanctions: The SOS audit makes several findings about data quality within the CTS that are accurate but require contextual explanations. CTS is essentially an accounting ledger where all licensees must account for daily sales and activity. A ledger in and of itself does not guarantee that businesses are accurately reporting data nor that they understand the laws and rules governing their regulated industry. However, a ledger does create a paper trail for later enforcement action, so even "bad" data in CTS is meaningful data.

To clarify, *the dependency, burden, and interest of data accuracy falls on the licensees whose product on hand must match, upon inspection, their self-reporting into the CTS. The reporting of inaccurate data can lead to the loss of license and sanctions that include fines and business closures.* The simple correction of minor mistakes is also a frequent remedy of unintentional inaccuracies. Nevertheless, the OLCC will work to reduce the ability of licensees to make errors by inputting incorrect data. Data quality and overall regulatory compliance will improve as the system is populated with data, additional training is provided for licensees and staff, and overall user experience catches up with the deployment of system features. As the marijuana program stabilizes, this system will vastly improve as a regulatory tool. It is already producing good results today.

To determine data quality and the accuracy of reporting in the system, field investigations and/or forensic auditing of records in the data tracking system must take place. This type of analysis helps to understand the relative accuracy or inaccuracy of data reported and provides proof of compliance and violations. The process of accountability is powered by people: inspectors, fiscal analysts, and data analysts who monitor transactions and carry out field inspections.

The possibility of inspection is the deterrent to willful and systemic data manipulation and inaccuracies, ensuring that the systemic recording of data must match transactions and inventories is in itself important. However, the technical focus of an audit is meaningful as well, the system should not allow users to manipulate data in ways that it is not intended to be reported. Developing more extensive user training and limiting opportunities for the misuse of core features, including creating “startup inventory” entries long after initial licensure will improve data quality.

The audit points to several data reporting compliance issues related to timely entry of data. The OLCC will be systematically issuing fines based on violations that can be proven by data recorded in the CTS system or the absence of data by failing to record it, such as not meeting a requirement to account for a marijuana crop’s moisture loss within 45 days of a harvest. Further build out of CTS will provide staff the ability to be routinely alerted to this type of violation, and potentially trigger a licensee user alarm. The OLCC is exploring how modifying the IT system and requirements under the Administrative Procedures Act (APA), that protect due process, can be integrated to auto-generate citations based on compliance failures to properly and timely record data. Similar to a “speeding ticket,” with this type of sanction the accumulation of too many tickets would result in the loss of license. In the meantime, the OLCC is manually monitoring data for timely entry and analyzing it for potential action against violators.

Also described in this audit are important but less urgent issues. The audit identified that some data entry measurement and rounding errors resulting from measurement conversion issues could lead to systemic misreporting of marijuana quantities. Specifically, the audit is critical that the system allows both imperial (ounces) and metric (grams) measurements. While an important issue, today the OLCC is focused on efforts to stop diversion of large amounts of marijuana through overall regulatory efforts. Because the method of measurement is also an issue within the marijuana supply chain of commerce, the OLCC is confident that measurement conventions and uniformity can be achieved.

The CTS is one part of a three-part strategy for strong oversight and enforcement: CTS is proving to be a solid tool for triggering enforcement actions and providing proof of violations. To date, OLCC has only been able to focus on the most serious violations. As the functionality of the data tracking system is enhanced, and OLCC adds trained staff, the overall performance will improve. Recommendations of the audit will contribute to strengthening the system.

The OLCC is putting in place a robust regulatory regime to ensure public safety. *Citizens and policy makers need to know that as important as the issues identified in this audit*

are, the OLCC is not dependent on the CTS system alone to identify licensees that are attempting to use the state system as a cover for diversion. The CTS system is one fundamental tool for successful enforcement and compliance. Readers of the audit should not have the impression that the CTS system is defective or is the sole method for detecting compliance issues, rather the audit recommendations focus on improving the overall effectiveness of the system which the audit acknowledges is *properly functioning*. The OLCC appreciates this audit insight and for acknowledging the potential need for staff to carry out monitoring and compliance inspections to ensure operational efficiency.

Robust compliance and enforcement is being established. The effectiveness of the OLCC enforcement regime depends upon the CTS, field inspections, forensic financial and data audits, reported observations by the public or employees about licensee activity, and continuous coordination with law enforcement. Additionally, security measures required by regulation for on-site gates, locks, safes, alarms, and fencing also help to prevent diversion. Lastly, camera coverage of grow sites, processing activity, and of the entryways and exits of all facilities on the licensed premises are additional tools for licensee accountability. The CTS system supports all of this enforcement activity and is one leg of the three-legged stool comprised of CTS tracking, premises inspections, and premise security regulations.

Committed to improve data accuracy and establish enforcement routines: The start-up business the OLCC now operates to regulate cannabis in Oregon is still evolving. In December 2017, the OLCC conducted its first minor decoy operations to test if businesses were making retail marijuana sales to anyone under the age of 21 (age 18 with a medical card). It took a while to develop the protocols and to find the time to deploy an inspection staff, with competing priorities, to do these operations in every region of the state. In the coming year or two, this compliance work will become routine. The same is true for training and protocols for field inspections and CTS data analysis. This audit was insightful in its observation on the need for training.

The recreational marijuana program is still growing with more than 1,200 new applications moving through our licensing approval process. Applicant interest in licensing continues to exceed expectations, cannabis supply is robust, and low consumer market prices are directly challenging illegal market sales in Oregon. As well, the recreational system's growth in sales to people who hold medical cards shows the regulated system can play an important role in providing reliable access to medical marijuana products.

In 2016, the OLCC's focus moved from meeting demand for licenses to enforcement of regulations. Security of the IT systems for licensing and tracking cannabis is vital to this work. OLCC is committed to make IT system improvements identified by the audit as rapidly as possible.

Response: Overall IT Security and Disaster Recovery Recommendations

The shortcomings of OLCC's overall IT security is not particularly surprising as OLCC continues to rely on legacy systems and generally has not modernized its agency-wide

systems at the same pace as the rest of state government. Over the years, the focus of IT staff has been to maintain fragile IT systems that operate vital warehouse inventory, orders, and financial processes. It was only a year ago, the agency retired the last of its COBOL systems.

In addition to marijuana IT systems, the OLCC is in process of deploying a Software as a Service (SaaS) alcohol licensing system and a SaaS system to improve the efficiency of privilege tax collections and auditing for beer and wine tax collections. The scoping, design and implementation of these projects have spanned the past two budget cycles. The agency has embraced the need to utilize industry standard IT across the entirety of the OLCC enterprise.

The IT security auditor's findings reflect a symptom of a general lack of management proficiency and capacity to maintain a focus on state requirements and practices. Executive staff have made it clear that they do not have the necessary expertise to manage the many specialized facets of IT that are critical to agency operations. Over the past two years, the agency and the executive team have pursued strategies to increase capacity, relieve staff of additional work by contracting for services, and providing the business case for securing approval for the position of a high-level CIO to oversee a rapidly growing portfolio of IT concerns.

The OLCC has a talented IT staff. The agency has hired a new IT division director and is positioned to get approval for a Chief Information Officer by the Legislature in 2018. In our response to the audit report, you will see that the staff has capably and quickly responded to many of the issues identified in the audit. With increased management, expertise, and direction, agency leadership expects this staff to excel.

The OLCC deeply appreciates the work of the audit team to clearly identify weaknesses in our security management program and to make specific recommendations for disaster recovery. The agency does not believe this is a difficult objective to meet. What the audit highlights is the fact that plans, inventories and procedures are not well documented. This is of concern to the agency, and the OLCC will work to ensure that complete plans and documentation for IT security and disaster recovery are created, used, and regularly updated.

The OLCC will be asking the Legislature to provide limitation for the agency to address two concerns highlighted by the report: \$400,000 to replace unsupported servers and switches; and, position authority for a CIO (\$197,000).

The following are OLCC's responses to the specific SOS audit recommendations concerning Overall IT security planning.

Detailed response to specific SOS Audit Division recommendations.

RECOMMENDATION 1

Develop and implement standards and protocols for on-site inspections and investigations.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug. 1, 2018 & Ongoing	Shannon Hoffeditz, Director of Compliance, Tel. 503-872-5212

Narrative for Recommendation 1

The OLCC is working to update the Public Safety Division Compliance manual to include standards and protocols for marijuana inspections, and follow up on compliance issues. The Compliance Program wants to be proactive by developing a “feet on the street” approach so inspectors are inspecting businesses on a regular randomized basis. A different set of inspection standards will be established for the different types of licenses. In addition to the proactive inspections, the Compliance Division also conducts minor decoy operations, follows up on complaints generated from a variety of sources that includes but not limited to: citizen complaints, industry complaints, detected by Regulatory Specialists or referred by law enforcement. This process, however, will be ongoing as new rules and regulations are developed, the marijuana industry continues to evolve, and resources provided to the agency are adjusted.

RECOMMENDATION 2		
Evaluate the need and provide for an adequate number of trained OLCC inspectors commensurate with number of licensed marijuana businesses.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug. 1, 2018 & Ongoing	Shannon Hoffeditz, Director of Compliance, Tel. 503-872-5212

Narrative for Recommendation 2

The OLCC will continually evaluate the adequacy of enforcement resources dedicated to marijuana. The OLCC has twenty-three regulatory specialist assigned to marijuana enforcement for 1,700 issued licenses. Currently the number of license applications is growing and OLCC expects to issue more than 2,000 license by the end of the 2018. The addition of new enforcement resources will require OLCC to go through the legislative budget process. OLCC is currently developing its budget request for the 2019-2021 biennium which will be submitted in July 2018. An evaluation of the need for additional inspectors will be in the agency’s requested budget submission.

RECOMMENDATION 3
Perform risk-based on-site monitoring and inspections to ensure that licensees are reporting accurate information in the CTS and complying with applicable laws.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug. 1, 2018 & Ongoing	Shannon Hoffeditz, Director of Compliance, Tel. 503-872-5212

Narrative for Recommendation 3

The OLCC is currently monitoring information in the Cannabis Tracking System, conducting follow up and issuing notices of warning and violations. There are currently some staff who are better versed in how to monitor the tracking system. The Regulatory Specialists are scheduled to be trained on the tracking system so they can adequately conduct inspections and follow up on tracking violations. The legislature provided additional resources to OLCC during the last legislative session for monitoring and compliance and those resources are currently being deployed. Risk based criteria will be developed and documented in the compliance manual.

RECOMMENDATION 4		
Develop and implement policies and procedures for effectively monitoring software of service vendors to ensure they are meeting security and hosting requirements defined in contracts and service level agreements.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug. 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC’s new IT Director is hired in February 2018

Narrative for Recommendation 4

The OLCC IT Director will consult with the Department of Administrative Services Office of the State Chief Information Officer and other agencies to formalize a process for monitoring software service vendors to ensure that they are meeting hosting requirements defined in the contracts and service level agreement.

RECOMMENDATION 5		
Develop and implement reconciliation processes to ensure that data is appropriately transmitted by the Marijuana Licensing System and received by the Cannabis Tracking System.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation

Agree	Aug. 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056
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*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 5

The data transfer process from the Marijuana Licensing System to the Cannabis Tracking System is undergoing review, and processes and reports will be developed as necessary to enable reconciliation of key data (e.g. licenses by status type) in the two systems by Marijuana program and/or Finance department personnel. The OLCC IT Director will develop and document a process once the review is completed.

RECOMMENDATION 6 Establish processes for granting and reviewing access to the Marijuana Licensing System and the Cannabis Tracking System.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Dec. 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 6

The OLCC IT Director will develop a process for granting access to the Marijuana Licensing System (MLS) and to the Cannabis Tracking System (CTS). This process will require review and possible amendments to OLCC Policy PP 845-155-004 (Employee Access to Information Assets) and be included in revision to the agency information security plan under recommendation 8.

RECOMMENDATION 7 Implement change management processes in line with industry best practices, including measures that ensure test data remains segregated from the production environment.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Feb 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 7

Policies and processes relating to third-party systems development and change management will be formalized by the OLCC IT Director, and will address test and production environment segregation and related issues. OLCC will work with the vendor to delete or segregate test data in the current system.

RECOMMENDATION 8		
Update and test OLCC's information security plan to ensure the plan reflects the agency's current business and IT environment.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug 1, 2018	Bill Schuette, Economist/CAE/ASO 503-872-5023

Narrative for Recommendation 8

OLCC's information security plan will be updated to include the addition of the new marijuana licensing and tracking systems. OLCC will test the updated plan in this year's Business Continuity exercise.

RECOMMENDATION 9		
Establish a process to maintain an up-to-date inventory of authorized hardware and software allowed on OLCCs network.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	June 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 9

The OLCC IT Director will formally document the software approved for use on the agency network. All hardware is currently authorized for use, but an inventory of IT hardware will be developed for use in monitoring obsolescence. OLCC will utilize MDM (mobile device management) and other client applications to keep an up-to-date inventory of authorized hardware and software allowed on the OLCC network. OLCC will also implement SOPHOS (<https://www.sophos.com/en-us.aspx>) and utilize its application control feature to block certain legitimate applications from running on work computers.

RECOMMENDATION 10		
Develop and implement a configuration management process, including establishing configuration baselines, maintaining an up-to-date repository of configuration items, and monitoring configuration status changes to detect any unauthorized changes.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 10

The OLCC IT Director will develop and implement a configuration management process, including establishing configuration baselines, maintaining an up-to-date repository of configuration items, and monitoring configuration status changes to detect any unauthorized changes. OLCC is in the process of updating and creating server and computer configuration baselines. OLCC currently has baseline configurations for all client laptops, desktops, and servers. OLCC will utilize SOPHOS (<https://www.sophos.com/en-us.aspx>) to help with monitoring configuration changes and to detect any unauthorized changes.

RECOMMENDATION 11		
Develop and implement a process to scan for vulnerabilities on devices on the network.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 11

The OLCC IT Director will develop, implement, and document a process to scan for vulnerabilities on devices on the network. The current plan is to implement Sophos Device Control which allows an administrator to manage the use of storage devices, network interfaces and media devices connected to all managed endpoints.

RECOMMENDATION 12
Develop and implement an effective antivirus solution on servers and workstations, and monitor to ensure all servers and workstations have an up-to-date antivirus solution.

Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 12

In consultation with DAS CIO, the OLCC IT Director will develop processes and obtain software as necessary to monitor device vulnerability on the OLCC network. OLCC is in the process of procuring Sophos. [Sophos Endpoint Protection](#) integrates a range of innovative technologies to secure Windows, Mac and Linux systems against malware and advanced threats such as targeted attacks.

RECOMMENDATION 13		
Transition software off obsolete platforms. If that is not possible, ensure unsupported servers are appropriately segregated on the network.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Feb. 1, 2019	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 13

OLCC will work on a strategic plan to either procure, build or replace the older platforms. Replacement of obsolete platforms will require resources that will have to be procured through the budget process. OLCC will develop the request in the 2019-21 budget as a policy option package but implementation will not likely occur until next biennium. Segregation of unsupported servers will also require a strategic plan and resources. OLCC will develop a plan and costs for segregating servers and make a determination for the best course of action. Segregation of servers, given sufficient resources is expected to take six to twelve months to complete.

RECOMMENDATION 14		
Review physical access procedures to ensure access is appropriate, and require PINs to be periodically changed.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation

Agree	June 1, 2018	Bill Schuette Economist/CAE/ASO 503-872-5023
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Narrative for Recommendation 14

The keypad (PIN) functions for physical access to the OLCC headquarters will be disabled, and entry will only be permitted with an OLCC issued badge swiped at the access point.

RECOMMENDATION 15 Develop and implement a process to remediate weaknesses identified in risk assessments and audits, and routinely evaluate and assess the agency's security posture.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug. 1, 2018	Bill Schuette Economist/CAE/ASO 503-872-5023

Narrative for Recommendation 15

Weaknesses identified in risk assessments and audit findings will be tracked by the Chief Audit Executive (CAE) and brought to the agency's internal audit committee for report and review. The agency's security plan and posture will be reviewed annually by the agency security officer, administrative services manager and the information technology manager.

RECOMMENDATION 16 Develop and document an entity-wide disaster recovery plan.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug. 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 16

The OLCC IT Director will develop a formal disaster recovery plan for IT from existing documentation which will be incorporated to the agency's Emergency Plan (PP 845-155-009) and Business Continuity Plan (PP 845-155-008).

RECOMMENDATION 17		
Perform periodic tests of backups to ensure usability.		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 6 months)	Name and phone number of specific point of contact for implementation
Agree	Aug. 1, 2018	Kai Nakashima, Acting IT Director* 503-872-5056

*Note that the contact point will change when OLCC's new IT Director is hired in February 2018

Narrative for Recommendation 17

The OLCC IT Director will create a backup and restore strategy, as well as testing backup and restore schedule. OLCC will verify the entire backup and restore process for disaster recovery purposes.

Conclusion:

The OLCC would like to thank the SOS Audit Division for its professional assessment of the OLCC Marijuana IT systems and of the agency's overall IT security measures. The recommendations are essential to program improvement and acknowledged by this thorough response. The recommendations are important to our future operations and the OLCC has offered detail plans and responses to identified issues.

We are taking immediate action to obtain the necessary approvals to help us remedy issues as rapidly as possible. As resource stretched as the agency is with the high profile implementation of the marijuana program and improving overall IT management, we look forward to a complete marijuana program performance audit in 2018.

Our agency's primary contact on the audit is Bill Schuette, OLCC Economist and Chief Audit Executive. He can be contacted at bill.schuette@oregon.gov , phone: 503-872-5023.

Sincerely,



Steve Marks
Executive Director
Oregon Liquor Control Commission