



PUBLIC INFORMATION

INTERNAL AUDIT DEPARTMENT



Information Technology Audit: Assessor IT General Controls

For the Nine Months Ended
September 30, 2019

Audit No. 1844
Report Date: June 30, 2020

Number of Recommendations

- 1** Critical Control Weaknesses
- 4** Significant Control Weaknesses
- 7** Control Findings

OC Board of Supervisors

CHAIRWOMAN MICHELLE STEEL
SECOND DISTRICT

VICE CHAIRMAN ANDREW DO
FIRST DISTRICT

SUPERVISOR DONALD P. WAGNER
THIRD DISTRICT

SUPERVISOR DOUG CHAFFEE
FOURTH DISTRICT

SUPERVISOR LISA A. BARTLETT
FIFTH DISTRICT



INTERNAL AUDIT DEPARTMENT

Information Technology Audit:
Assessor IT General Controls

June 30, 2020

AUDIT HIGHLIGHTS

SCOPE OF WORK	Perform an Information Technology Audit of Assessor IT General Controls for the nine months ended September 30, 2019.						
RESULTS	<ul style="list-style-type: none"> • We concluded Assessor’s internal control over IT operations was sufficient to provide adequate protection of IT resources. • We concluded Assessor’s internal control over change management was sufficient to provide adequate protection of critical systems. • We concluded Assessor’s internal control over IT security should be improved. 						
RISKS	<p>As a result of our findings, potential risks include:</p> <ul style="list-style-type: none"> • Unauthorized access to data. • Unauthorized changes to data. • Lack of accountability for unauthorized access or changes. 						
<p>NUMBER OF RECOMMENDATIONS</p> <table border="1"> <tr> <td>1</td> <td>CRITICAL CONTROL WEAKNESSES</td> </tr> <tr> <td>4</td> <td>SIGNIFICANT CONTROL WEAKNESSES</td> </tr> <tr> <td>7</td> <td>CONTROL FINDINGS</td> </tr> </table>	1	CRITICAL CONTROL WEAKNESSES	4	SIGNIFICANT CONTROL WEAKNESSES	7	CONTROL FINDINGS	<p>Opportunities for enhancing internal control include:</p> <ul style="list-style-type: none"> • Reviewing access control responsibilities. • Performing periodic user access review certifications. • Maintaining and periodically updating an authorized software listing.
1	CRITICAL CONTROL WEAKNESSES						
4	SIGNIFICANT CONTROL WEAKNESSES						
7	CONTROL FINDINGS						

Report suspected fraud, or misuse of County resources by vendors, contractors, or County employees to 714.834.3608



INTERNAL AUDIT DEPARTMENT

Audit No. 1844

June 30, 2020

To: Claude Parrish
Assessor

From: Aggie Alonso, CPA, CIA, CRMA
Internal Audit Department Director

A handwritten signature in black ink, appearing to read "Aggie Alonso", written over the printed name in the "From:" field.

Subject: Information Technology Audit: Assessor IT General Controls

We have completed an Information Technology Audit of the Assessor's IT general controls for the nine months ended September 30, 2019. Due to the sensitive nature of specific findings (restricted information), only the results for Finding Nos. 11 and 12 immediately follow this letter. Results for the remaining findings are included in Appendix A (which is redacted from public release) and additional information including background and our objectives, scope, and methodology are included in Appendix B.

At the request of the Assessor, this restricted information report will not be distributed to the regular recipient list. However, members of the Board of Supervisors, the Chair of the Audit Oversight Committee, the County Executive Officer, and members of the Grand Jury may view this report in the office of the Internal Audit Department.

The Assessor concurs with all our recommendations and the Internal Audit Department considers the Assessor's management response appropriate to the recommendations in this report.

We will include the results of this audit in a future status report submitted quarterly to the Audit Oversight Committee and the Board of Supervisors. In addition, we will request your department complete a Customer Survey of Audit Services, which you will receive shortly after the distribution of our final report.

We appreciate the courtesy extended to us by Assessor personnel during our audit. If you have any questions, please contact me at 714.834.5442 or Assistant Director Scott Suzuki at 714.834.5509.

Attachments

- Members, Board of Supervisors
- Members, Audit Oversight Committee
- CEO Distribution
- Assessor Distribution
- Foreperson, Grand Jury
- Robin Stieler, Clerk of the Board of Supervisors
- Eide Bailly LLP, County External Auditor

INTERNAL AUDIT DEPARTMENT

RESULTS

**BUSINESS PROCESS
& INTERNAL
CONTROL
STRENGTHS**

Business process and internal control strengths noted during our audit include:

- ✓ Department-wide multifactor authentication substantially implemented.
- ✓ New user access requests are reviewed and signed by the Assessor.
- ✓ Central management system that deploys Operating System security updates to user workstations.
- ✓ Use of off-site data center for disaster recovery with strong physical security access controls observed.
- ✓ Multiple data redundancies ensuring completeness and integrity of system and data recovery.
- ✓ Strong controls over inventory management of IT hardware assets, e.g., barcode scanning system.
- ✓ Frequent (30-day) mandatory password change for a critical application.
- ✓ OCIT conducted a readiness assessment for a critical application and concluded the Assessor was fully capable of successfully managing operations and maintenance of the system.
- ✓ Mature integrated development environment and change management process for critical application.
- ✓ Inbound email attachments are blocked, sandboxed, and analyzed for malicious behavior prior to release.



INTERNAL AUDIT DEPARTMENT

FINDING NOS. 1 – 10 Removed due to the sensitive nature of the findings.

FINDING No. 11	<p>Department-Specific Incident Response Policy & Procedures</p> <p>The Assessor does not have department-specific policy and procedures for incident response and management tailored to the IT resources under its control.</p> <p>Cybersecurity incidents are becoming more common. Accordingly, to properly prepare and increase the opportunity for a department to understand, manage, and recover from a cybersecurity incident, customized procedures including data collection, team responsibilities, legal procedures, and communication strategies are important to have on-hand.</p> <p>While Assessor does not have customized procedures, Assessor management stated they leverage the County policy and OCIT cybersecurity risk plan for the purposes of incident response and management. While this may be sufficient for services provided by OCIT (e.g., voice/internet, ATS production servers), it does not provide specific details for Assessor-managed IT resources (e.g., Assessor server room, off-site backup).</p>
CATEGORY	Control Finding
RISK	<p>Without a customized incident response and management plan, a department may be delayed in discovering a cyber incident, may not follow proper response procedures (to contain damage, thwart the attacker's means, etc.), and may not recover in a secure manner. Other results of improper incident response may include greater impact, infection of additional systems, and damage or access to additional sensitive data.</p>
RECOMMENDATION	<p>Assessor management develop department-specific policy and procedures for incident response and management for IT resources under their control.</p>
MANAGEMENT RESPONSE	<p>[Concur.] Assessor IT is in the process of implementing a department-specific high-level procedure for incident management response.</p>



INTERNAL AUDIT DEPARTMENT

FINDING No. 12	<p>Testing Documentation</p> <p>We noted two of 10 (20%) change samples did not have supporting documentation to evidence whether testing was successfully performed prior to deploying the change into production.</p> <p>ATS (Assessment Tax System) is a mission-critical system managed in-part by the Assessor and used to record assessed property values and produce the property tax roll. As such, Assessor is responsible for properly managing changes to the ATS application. We noted certain change requests (e.g., minor break fixes) were tested by end users who did not document their testing results. The Assessor indicated testing results for these changes were communicated verbally or by phone call.</p>												
CATEGORY	Control Finding												
RISK	Lack of testing documentation could result in deploying changes into production with errors that could result in disruptions to business operations.												
RECOMMENDATION	Assessor management conduct periodic change-control meetings to discuss and document the status of critical system change requests to ensure appropriate and timely completion.												
MANAGEMENT RESPONSE	[Concur.] Assessor IT has implemented this finding.												
AUDIT TEAM	<table border="0"> <tr> <td>Scott Suzuki, CPA, CIA, CISA, CFE</td> <td>Assistant Director</td> </tr> <tr> <td>Jimmy Nguyen, CISA, CFE, CEH</td> <td>IT Audit Manager II</td> </tr> <tr> <td>Scott Kim, CPA, CISA, CFE</td> <td>IT Audit Manager I</td> </tr> <tr> <td>Gianne Morgan, CIA</td> <td>Audit Manager</td> </tr> <tr> <td>Zan Zaman, CPA, CIA</td> <td>Audit Manager</td> </tr> <tr> <td>Mari Elias, MA</td> <td>Administrative Services Manager</td> </tr> </table>	Scott Suzuki, CPA, CIA, CISA, CFE	Assistant Director	Jimmy Nguyen, CISA, CFE, CEH	IT Audit Manager II	Scott Kim, CPA, CISA, CFE	IT Audit Manager I	Gianne Morgan, CIA	Audit Manager	Zan Zaman, CPA, CIA	Audit Manager	Mari Elias, MA	Administrative Services Manager
Scott Suzuki, CPA, CIA, CISA, CFE	Assistant Director												
Jimmy Nguyen, CISA, CFE, CEH	IT Audit Manager II												
Scott Kim, CPA, CISA, CFE	IT Audit Manager I												
Gianne Morgan, CIA	Audit Manager												
Zan Zaman, CPA, CIA	Audit Manager												
Mari Elias, MA	Administrative Services Manager												



INTERNAL AUDIT DEPARTMENT

APPENDIX A: RESTRICTED INFORMATION

Content in Appendix A has been removed from this report due to the sensitive nature of the specific findings.



INTERNAL AUDIT DEPARTMENT

APPENDIX B: ADDITIONAL INFORMATION

OBJECTIVES	<p>Our audit objectives were to determine if the Assessor's internal control over:</p> <ol style="list-style-type: none"> 1. IT operations was sufficient to provide adequate protection of IT resources. 2. Change management was sufficient to provide adequate protection of critical systems. 3. IT security was sufficient to provide adequate protection of IT resources.
SCOPE & METHODOLOGY	<p>Our audit scope was limited to selected high-risk IT general controls related to operations, security, and change management at the Assessor for the nine months ended September 30, 2019. Our methodology included inquiry, observation, examination of documentation, and sampling of relevant items.</p>
EXCLUSIONS	<p>We did not examine application controls or any processes that involve OCIT, nor any services/activities performed or provided by the County's managed services vendors.</p>
PRIOR AUDIT COVERAGE	<p>There has not been an audit of information technology at the Assessor in the last ten years.</p>
BACKGROUND	<p>The Assessor is responsible for determining the value of all taxable property in Orange County for property tax purposes. The information is published on assessment reports and provided to property owners on valuation notices. The Assessor does not establish tax rates or collect property taxes.</p> <p>The Assessor's mission is to serve the citizens of Orange County by valuing all legally assessable property with uniformity and impartiality, producing property tax assessment rolls in accordance with the laws of the State of California, and helping property owners understand their property valuations.</p> <p>The Assessor has 300 employees and an annual budget of approximately \$42 million. The department is organized into six divisions: Business Property, Real Property, Roll Support, Quality Assurance, Computer Systems, and Management Services.</p>



INTERNAL AUDIT DEPARTMENT

PURPOSE & AUTHORITY	We performed this audit in accordance with the FY 2019-20 Audit Plan and Risk Assessment approved by the Audit Oversight Committee (AOC) and the Board of Supervisors (Board).
PROFESSIONAL STANDARDS	Our audit was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing issued by the International Internal Audit Standards Board.
FOLLOW-UP PROCESS	<p>In accordance with professional standards, the Internal Audit Department has a process to follow-up on its recommendations. A first follow-up audit will generally begin six months after release of the initial report.</p> <p>The AOC and Board expect that audit recommendations will typically be implemented within six months or sooner for significant and higher risk issues. A second follow-up audit will generally begin six months after release of the first follow-up audit report, by which time all audit recommendations are expected to be implemented. Any audit recommendations not implemented after the second follow-up audit will be brought to the attention of the AOC at its next scheduled meeting.</p> <p>A Follow-Up Audit Report Form is attached and is required to be returned to the Internal Audit Department approximately six months from the date of this report in order to facilitate the follow-up audit process.</p>
MANAGEMENT'S RESPONSIBILITY FOR INTERNAL CONTROL	In accordance with the Auditor-Controller's County Accounting Manual No. S-2 Internal Control Systems: "All County departments/agencies shall maintain effective internal control systems as an integral part of their management practices. This is because management has primary responsibility for establishing and maintaining the internal control system. All levels of management must be involved in assessing and strengthening internal controls." Internal control should be continuously evaluated by management and weaknesses, when detected, must be promptly corrected. The criteria for evaluating internal control is the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework. Our audit complements but does not substitute for department management's continuing emphasis on control activities and monitoring of control risks.
INTERNAL CONTROL LIMITATIONS	Because of inherent limitations in any system of internal control, errors or irregularities may nevertheless occur and not be detected. Specific examples of limitations include, but are not limited to, resource constraints, unintentional errors, management override, circumvention by collusion, and poor judgment. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or the degree of compliance with the procedures may deteriorate. Accordingly, our audit would not necessarily disclose all weaknesses in the department's operating procedures, accounting practices, and compliance with County policy.



INTERNAL AUDIT DEPARTMENT

APPENDIX C: REPORT ITEM CLASSIFICATION

Critical Control Weakness	Significant Control Weakness	Control Finding
<p>These are audit findings or a combination of audit findings that represent critical exceptions to the audit objective(s) and/or business goals. Such conditions may involve either actual or potential large dollar errors or be of such a nature as to compromise the department's or County's reputation for integrity. Management is expected to address Critical Control Weaknesses brought to its attention immediately.</p>	<p>These are audit findings or a combination of audit findings that represent a significant deficiency in the design or operation of internal controls. Significant Control Weaknesses require prompt corrective actions.</p>	<p>These are audit findings concerning the effectiveness of internal control, compliance issues, or efficiency issues that require management's corrective action to implement or enhance processes and internal control. Control Findings are expected to be addressed within our follow-up process of six months, but no later than twelve months.</p>



INTERNAL AUDIT DEPARTMENT

APPENDIX D: ASSESSOR MANAGEMENT RESPONSE

Office of the Assessor
County of Orange

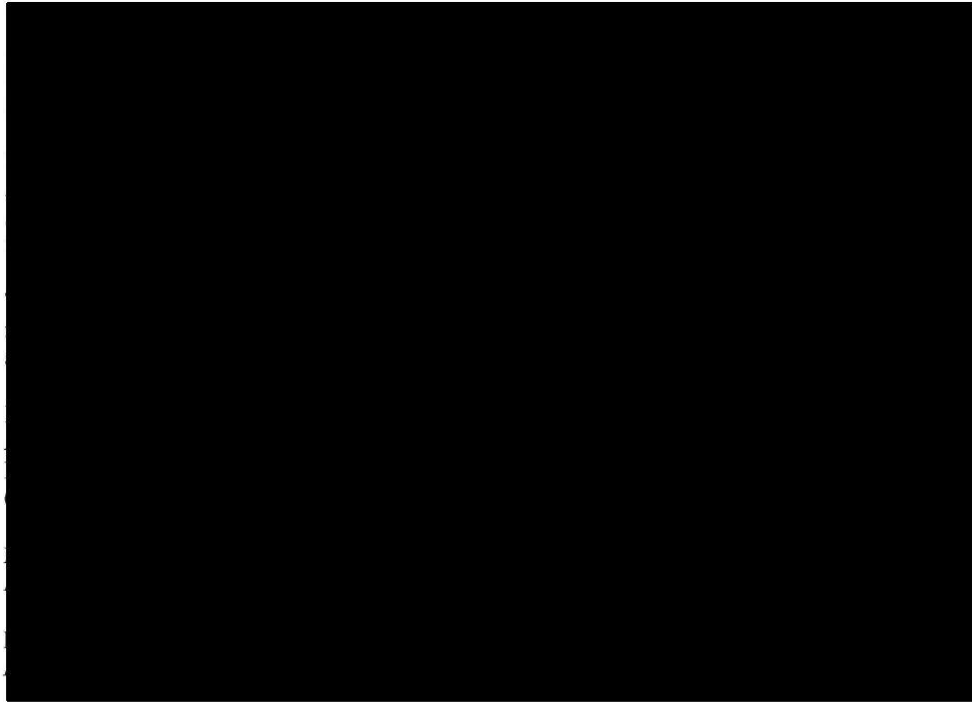


CLAUDE PARRISH
COUNTY ASSESSOR

OFFICE MEMORANDUM

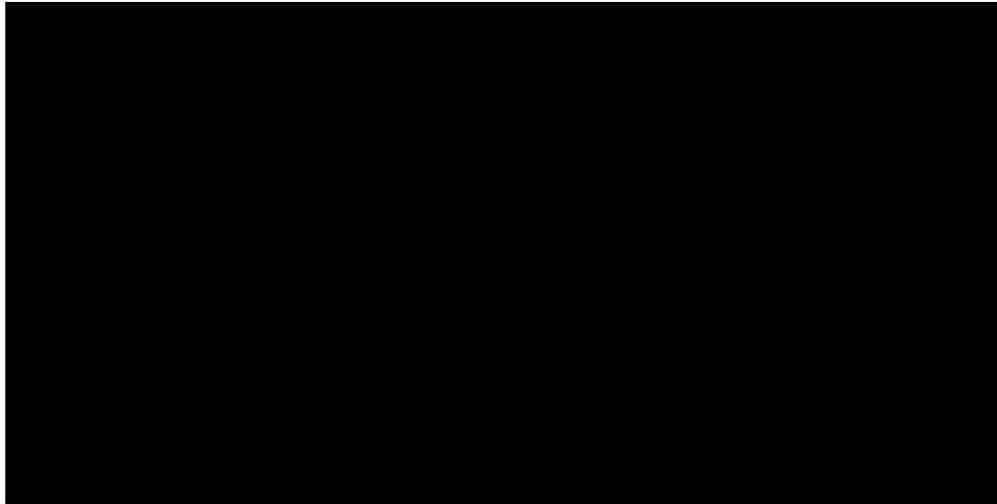
Date: June 4, 2020
To: Aggie Alonso, Director, Internal Audit 
From: George Singletary, Division Manager, Computer Systems
Subject: Information Technology Audit: Assessor IT General Controls

Thank you for the opportunity to review the Final Draft Report for the Audit of IT General Controls of the Assessor Department. We concur with all your findings identified in your document and please find below our responses for each of the findings.



INTERNAL AUDIT DEPARTMENT

Page 2, Information Technology Audit: Assessor IT General Controls



Finding No. 11 Department-Specific Incident Response Policy & Procedures

Assessor IT is in the process of implementing a department-specific high level procedure for incident management response.

Finding No. 12 Testing Documentation

Assessor IT has implemented this finding.

Finally, I wish to offer my sincere appreciation to your staff for their professionalism and the manner they conducted themselves.

If you have any question regarding our response, please call me at: (714) 834-4762.

cc: Hon. Claude Parrish, Orange County Assessor

